

4805. Also, petition of Cadillac Automobile Co. of Boston, Boston, Mass., favoring an appropriation for the Bureau of Foreign and Domestic Commerce; to the Committee on Interstate and Foreign Commerce.

4806. Also, petition of American Board of Commissions for Foreign Missions, Boston, Mass., favoring the passage of the Jones-Miller bill (H. R. 14500) prohibiting traffic in morphia, etc.; to the Committee on Ways and Means.

4807. Also, petition of David Barry, Boston, Mass., favoring an appropriation for carrying on the work of steam gauging; to the Committee on Appropriations.

4808. Also, petition of William A. L. Bazeley, State forester, Statehouse, Boston 9, Boston, Mass., urging appropriation of \$1,000,000 for cooperation with the States in fire protection; to the Committee on Appropriations.

4809. By Mr. WINSLOW: Petition of Local Union No. 180, International Union of United Brewery, Flour, Cereal, and Soft Drink Workers, Worcester, Mass., favoring a repeal of the wartime sedition laws and favoring amnesty for all political prisoners; to the Committee on the Judiciary.

4810. By Mr. ZIHLMAN: Petition of Home Interest Club, of Takoma Park, Md., and the Women's Club, of Friendship Heights, Md., favoring the passage of the Sheppard-Towner bill; to the Committee on Interstate and Foreign Commerce.

## SENATE.

TUESDAY, January 4, 1921.

Rev. J. J. Muir, D. D., of the city of Washington, offered the following prayer:

Our Father, we thank Thee for another day and its privileges and opportunities. Enable us to realize how better we can understand the obligations of the hour and so serve Thee acceptably that Thy well done shall be received. For Thy name's sake. Amen.

The reading clerk proceeded to read the Journal of yesterday's proceedings when, on request of Mr. CURTIS and by unanimous consent, the further reading was dispensed with and the Journal was approved.

### REPORT ON PETROLEUM INDUSTRY IN WYOMING.

The VICE PRESIDENT laid before the Senate a letter from the chairman of the Federal Trade Commission, transmitting a report of the Federal Trade Commission of an inquiry into the petroleum industry in Wyoming, which was referred to the Committee on Interstate Commerce.

### PETITIONS AND MEMORIALS.

Mr. CURTIS presented a petition of the Abraham Lincoln Branch of Friends of Irish Freedom, of Topeka, Kans., favoring the recognition of the republic of Ireland as a de facto government, which was referred to the Committee on Foreign Relations.

He also presented a petition of sundry citizens of Concordia, Kans., favoring an amendment to the bill to provide for the promotion of physical training in the United States, which was referred to the Committee on Education and Labor.

He also presented a petition of the Chamber of Commerce of Newkirk, Okla., praying for the enactment of legislation appropriating sufficient funds to furnish necessary buildings to accommodate 300 more children in the Indian school on the Chilocco Reservation, Okla., which was referred to the Committee on Indian Affairs.

He also presented a petition of the board of directors of the Chamber of Commerce of Ottawa, Kans., and a petition of the Pittsburg Chamber of Commerce, of Pittsburg, Kans., praying for an increased appropriation for the Weather Bureau station at Topeka, Kans., which were referred to the Committee on Agriculture and Forestry.

He also presented a memorial signed by sundry citizens of Otis, Kans., remonstrating against the enactment of legislation for the protection of maternity and infancy, which was ordered to lie on the table.

Mr. TOWNSEND presented petitions of District No. 24 of the United Mine Workers of America, of Saginaw, Mich., and International Brotherhood of Electrical Workers, Local Union No. 352, of Lansing, Mich., praying for the enactment of legislation granting amnesty to all political prisoners, which were referred to the Committee on the Judiciary.

He also (for Mr. NEWBERRY) presented a petition of the Washington Grange, No. 1655, of Washington, Mich., favoring the so-called French-Capper truth in fabric bill, which was referred to the Committee on Interstate Commerce.

He also (for Mr. NEWBERRY) presented a petition of the Washington Pomona Grange, No. 7, of Ypsilanti, Mich., favoring the so-called French-Capper truth in fabric bill, which was referred to the Committee on Interstate Commerce.

He also (for Mr. NEWBERRY) presented a memorial of the Catholic Study Club, of Detroit, Mich., remonstrating against the enactment of legislation to create a department of education, which was referred to the Committee on Education and Labor.

### CALL OF THE ROLL.

Mr. SMOOT. Mr. President, I suggest the absence of a quorum.

The VICE PRESIDENT. The Secretary will call the roll. The reading clerk called the roll, and the following Senators answered to their names:

Ashurst	Gronna	McLean	Smith, Ariz.
Ball	Harris	McNary	Smith, Ga.
Beckham	Harrison	Nelson	Smith, Md.
Borah	Heflin	New	Smith, S. C.
Brandegee	Henderson	Norris	Smoot
Calder	Hitchcock	Nugent	Spencer
Capper	Jones, N. Mex.	Overman	Stanley
Culberson	Jones, Wash.	Page	Sterling
Curtis	Kellogg	Penrose	Sutherland
Dial	Kendrick	Phipps	Thomas
Dillingham	Kenyon	Pomerene	Underwood
Edge	Knox	Reed	Wadsworth
Fletcher	Lenroot	Sheppard	Wolcott
Glass	McKellar	Simmons	

Mr. PAGE. I wish to announce that the Senator from Washington [Mr. POINDEXTER], the Senator from Maine [Mr. HALE], the Senator from Virginia [Mr. SWANSON], the Senator from Montana [Mr. WALSH], the Senator from Nevada [Mr. PITTMAN], and the Senator from Rhode Island [Mr. GERRY] are engaged in a meeting of the Committee on Naval Affairs.

Mr. FLETCHER. I announce that my colleague [Mr. TRAMMELL] is unavoidably absent.

Mr. HARRISON. I was requested to announce the absence of the Senator from South Dakota [Mr. JOHNSON], the Senator from Oregon [Mr. CHAMBERLAIN], and the Senator from Utah [Mr. KING] on account of illness, and the necessary absence of the Senator from Tennessee [Mr. SHIELDS].

The VICE PRESIDENT. Fifty-five Senators have answered to the roll call. There is a quorum present.

### BILLS AND JOINT RESOLUTIONS.

Bills and joint resolutions were introduced, read the first time, and, by unanimous consent, the second time, and referred as follows:

By Mr. NELSON:

A bill (S. 4762) to authorize the improvement of Red Lake and Red Lake River, in the State of Minnesota, for navigation, drainage, and flood-control purposes; to the Committee on Commerce.

By Mr. CURTIS:

A bill (S. 4763) granting a pension to Lucy A. Richards;  
 A bill (S. 4764) granting a pension to Alvin E. Owens;  
 A bill (S. 4765) granting an increase of pension to George M. Younger;  
 A bill (S. 4766) granting an increase of pension to Julia S. Webb;  
 A bill (S. 4767) granting a pension to John H. Riley;  
 A bill (S. 4768) granting a pension to Melissa S. Lemon;  
 A bill (S. 4769) granting an increase of pension to Eveline Washington;

A bill (S. 4770) granting a pension to Mary E. Martin;  
 A bill (S. 4771) granting a pension to Harry Hawkes;  
 A bill (S. 4772) granting a pension to Caldona Doan; and  
 A bill (S. 4773) granting an increase of pension to Maggie Moss (each with accompanying papers); to the Committee on Pensions.

By Mr. FLETCHER:

A bill (S. 4774) granting an increase of pension to Sarah V. Cribb (with accompanying papers); to the Committee on Pensions.

By Mr. UNDERWOOD:

A bill (S. 4775) to authorize Louis M. Tisdale to construct and operate a ship canal or channel from Mon Louis Island, Mobile County, State of Alabama, to the deep-water basin in Mobile Bay, between Fort Morgan and Fort Gaines, Ala., through the lands and waters of the United States, and to grant to said Louis M. Tisdale the right of way for that purpose, and for other purposes; to the Committee on Commerce.

By Mr. ASHURST:

A bill (S. 4776) for the establishment and maintenance of a forest experiment station in Arizona; to the Committee on Agriculture and Forestry.

By Mr. COLT:

A bill (S. 4777) granting a pension to Elizabeth M. Reynolds (with accompanying papers); to the Committee on Pensions.

By Mr. TOWNSEND:

A bill (S. 4778) granting a pension to Belva Furgason (with accompanying papers); to the Committee on Pensions.

By Mr. SPENCER:

A bill (S. 4779) for the relief of Philippine Scout officers; to the Committee on Military Affairs.

By Mr. NELSON:

A joint resolution (S. J. Res. 235) prohibiting the Commissioners of the District of Columbia from obstructing the parks, reservations, streets, avenues, and sidewalks in said District, and for other purposes; to the Committee on the District of Columbia.

By Mr. NEW:

A joint resolution (S. J. Res. 236) directing the Secretary of War to cease enlisting men in the Regular Army of the United States until the number of enlisted men shall not exceed 175,000; to the Committee on Military Affairs.

#### AMENDMENT TO IMMIGRATION BILL.

Mr. FLETCHER submitted an amendment intended to be proposed by him to the bill (H. R. 14461) to provide for the protection of the citizens of the United States by the temporary suspension of immigration, and for other purposes, which was referred to the Committee on Immigration and ordered to be printed.

#### AMENDMENTS TO REVENUE ACT OF 1918.

Mr. HENDERSON submitted two amendments intended to be proposed by him to the bill (H. R. 14198) to amend and simplify the revenue act of 1918, which were referred to the Committee on Finance and ordered to be printed.

#### AMENDMENT TO ATMOSPHERIC NITROGEN BILL.

Mr. HARRIS submitted an amendment intended to be proposed by him to the bill (S. 3390) to provide further for the national defense; to establish a self-sustaining Federal agency for the manufacture, production, and development of the products of atmospheric nitrogen for military, experimental, and other purposes; to provide research laboratories and experimental plants for the development of fixed-nitrogen production; and for other purposes, which was ordered to lie on the table and be printed.

#### AMENDMENT TO SUNDRY CIVIL APPROPRIATION BILL.

Mr. NELSON submitted an amendment proposing to appropriate \$13,000 for buildings, equipment and machinery, etc., at the Duluth (Minn.) station of the Bureau of Fisheries, intended to be proposed by him to House bill 15422, the sundry civil appropriation bill, which was referred to the Committee on Appropriations and ordered to be printed.

#### WITHDRAWAL OF PAPERS—SCHUYLER C. MORGAN.

On motion of Mr. THOMAS, it was

*Ordered*, That the papers accompanying the bill (S. 2642, 66th Cong., 1st sess.) granting a pension to Schuyler C. Morgan be withdrawn from the files of the Senate, no adverse report having been made thereon.

#### RECRUITING FOR MILITARY SERVICE.

Mr. DIAL. I submit a resolution, which I ask to have read. The resolution (S. Res. 418) was read, as follows:

Whereas during the year 1920 there were recruited into the Army of the United States 162,484 men, into the Navy 76,342, and into the Marine Corps 14,156, a total of 252,982; and  
Whereas the army of occupation, now stationed in Germany, now numbers 500 officers and 15,000 men; and  
Whereas the cost of securing and maintaining such enlistments in the Navy and Marine Corps and recruits for the Army is a heavy burden upon the taxpayers of this country; and  
Whereas the enlistment now is much greater than the appropriations; and  
Whereas a very large deficit already exists; and  
Whereas the people of the country are overburdened with taxation; and  
Whereas it behooves the Congress to dispose of the services of any unnecessary officials and employees and to curtail expenses in every manner consistent with efficiency; and  
Whereas many of those now being taken into the different branches of the military service of the United States are drawn from the farms, causing thereby a serious lack of help and creating much trouble by their absence at a time when all available farm help is necessary in order to produce our crops that we may raise more of the necessities of life at home: Therefore be it

*Resolved*, That upon the adoption of this resolution all enlistments or recruiting for any and all branches of the military service of the United States shall immediately cease.

The VICE PRESIDENT. The resolution will lie over for one day.

#### INAUGURAL EXPENSES.

Mr. KNOX. Mr. President, I am instructed by the Joint Inaugural Committee to introduce a joint resolution, and I ask for its present consideration.

The joint resolution (S. J. Res. 237) to enable the Secretary of the Senate and Clerk of the House of Representatives to pay the necessary expenses of the inaugural ceremonies of the

President of the United States on March 4, 1921, was read the first time by its title and the second time at length, as follows:

*Resolved, etc.*, That to enable the Secretary of the Senate and Clerk of the House of Representatives to pay the necessary expenses of the inaugural ceremonies of the President of the United States, March 4, 1921, in accordance with such program as may be adopted by the joint committee of the Senate and House of Representatives, appointed under a concurrent resolution of the two Houses, including the pay for extra police, there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, \$50,000, or so much thereof as may be necessary, the same to be immediately available.

The VICE PRESIDENT. The Senator from Pennsylvania asks unanimous consent for the present consideration of the joint resolution. Is there objection?

There being no objection, the joint resolution was considered as in Committee of the Whole.

Mr. KNOX. Mr. President, I think I ought to state to the Senate that the amount arrived at here is after a thorough investigation of the cost and after having adopted a program of procedure that complies literally with the precedents of the past. Four years ago the appropriation was \$35,000, or so much thereof as might be found to be necessary. We have allowed an additional \$15,000 to cover the increased cost of material, the increased cost of labor, and the increased cost of the wages of such extra policemen and watchmen as may be necessary for the function. The committee hopes and feels that perhaps it can perform its duties well within the limit prescribed, but believes that it is not asking an undue amount to have intrusted to its discretion an additional \$15,000 over and above what was appropriated for the last inauguration.

I may state for the benefit of the Senate that this has nothing whatever to do with the civic functions which may be incident to the inauguration. The Congress of the United States for over 100 years has taken upon itself the conduct of the actual installation of the President of the United States into office. It has nothing to do with the civic parade or the erection of stands or the giving of balls or anything of that nature. This is to cover the expense incident to the inauguration proper. After the oath of office is administered the President elect will be turned over to the civic authorities, and all expenses incident to and relating to it are to be borne by them or from some other separate fund.

Mr. NORRIS. Mr. President—

The VICE PRESIDENT. Does the Senator from Pennsylvania yield to the Senator from Nebraska?

Mr. KNOX. Certainly.

Mr. NORRIS. I did not hear the reading of the entire joint resolution. I wish to inquire of the Senator from Pennsylvania whether the expenses mentioned in it includes the transportation expenses, for instance, of different branches of the military service that may be brought here?

Mr. KNOX. Not at all.

Mr. NORRIS. It has nothing to do with that?

Mr. KNOX. Not at all. The main item of expense is for the construction of the great stand in front of the Capitol that will seat as many people as have been heretofore seated there. The fact is, we are not increasing the size of the stand at all; it is to be just the same size that it was at the last inauguration four years ago.

Mr. NORRIS. Does it include the turning over of any building of the Government for the so-called inaugural ball, or anything of that kind?

Mr. KNOX. Not at all; it has nothing whatever to do with any ceremonies after the actual administration of the oath of office to the President elect.

Mr. BORAH. Mr. President, I think I ought to say that when I called attention to this matter some days ago, suggesting that some amount ought to be fixed for this purpose, I had no intention of criticizing the committee or suggesting that the committee would not act as economically as it could. As I understand the pending resolution, it covers but one item, and that is the erection of the stand here at the Capitol to provide for seating the audience. It does not cover the item with reference to bringing the cadets from the Military Academy or of the midshipmen from the Naval Academy. There is already an estimate of \$37,000 for bringing the cadets here, which has been sent in by the Secretary of War. I presume the cost of bringing the midshipmen to Washington may be estimated as being twenty-five or thirty thousand dollars; and the proposition to turn over the Pension Building for inaugural purposes, it is estimated, will cost, when there are taken into consideration the delay in the service, the interruption of public business, the moving out and moving in, something like \$200,000. So the joint resolution covers but a single item, while we see some \$300,000 in view which must inevitably follow if we start the program. If we could confine the entire expenditure to \$50,000, it would be a different matter, but we shall not be able to do that.

Mr. THOMAS. Mr. President, may I ask the Senator whether a great portion of the expense to which he has just referred will not be liquidated by the inaugural committee, which is composed of citizens of Washington?

Mr. BORAH. No part of it will be, I think.

Mr. THOMAS. Then, what becomes of the fund which the newspapers say that committee is raising by subscription?

Mr. BORAH. It is finally returned to those who raise it.

Mr. THOMAS. They secure reimbursement through the levy upon visitors?

Mr. BORAH. I understand that they try to protect themselves by proper methods, but nevertheless in a business way; but no part of the expenses to which I have called attention, as I understand, are to be taken care of by the citizens. The expenses which I have mentioned will be taken care of out of the public funds, as they always have been. A great many other additional expenses also will be incurred which will be taken care of out of the public funds.

Mr. THOMAS. Mr. President, if the newspapers are to be credited at all, a veritable army of men and women, who propose to serve their country, if possible, under the new administration, is about to invade Washington. Does not the Senator think it would be a good idea to levy a toll of about \$5 a head upon these gentlemen and ladies, and by that means to safeguard the Treasury?

Mr. NORRIS. That will be levied all right.

Mr. BORAH. Mr. President—

Mr. NEW. Will the Senator from Idaho yield to me for just a moment?

Mr. BORAH. Yes.

Mr. NEW. In order that there may be a full understanding on the part of the Senate in regard to this matter, I desire to say that I have been informed by the local committee having the inauguration celebration in charge that there will be additional appropriations asked for amounting to something like \$60,000. That will include the cost of all extra police, of whom there must, of course, be a large number at that time.

Mr. BORAH. The pending resolution refers to extra police.

Mr. KNOX. Those are only the additional Capitol police, and have nothing to do with the matter to which the Senator from Indiana refers.

Mr. NEW. The police of whom I speak are to be in addition to the police force of the District. Of course, a large number of extra police will be required to handle the crowds which will be here on that occasion. Then, it will also be necessary to erect comfort stations, information booths, and things of that kind; and while I do not know the exact amount that will be asked for in order to cover those items, I think it will be somewhere in the neighborhood of \$60,000. That will be in addition to the amount which is carried by the resolution offered by the Senator from Pennsylvania.

Mr. BORAH. Then, we have the \$50,000, the \$60,000, the \$37,000 for the cadets, the \$25,000 for the midshipmen, and \$200,000 for the Pension Office. Mr. President, that is a good beginning for an administration which is pledged, or you might say consecrated, to economy.

Mr. NORRIS. The Senator from Idaho must not omit from those expenses the cost of bringing to Washington various branches of the Army to participate in the inaugural parade, which will cost several hundred thousand dollars more.

Mr. BORAH. I have a list of 10 governors who are going to bring the State militia here, which, it is estimated, will cost \$100,000 in each instance.

I anticipate, Mr. President, that out of the public funds, the Federal funds and the State funds—which are all paid by the same citizens after all—there will be a million dollars expended upon the inauguration under the present program.

Mr. NELSON. Mr. President, will the Senator from Idaho yield to me?

Mr. BORAH. Yes; I yield.

Mr. NELSON. Mr. President, for the protection of the American public and to put all citizens of the United States attending the inauguration ceremonies on a footing of equality I have introduced a resolution, which has been referred this morning to the Committee on the District of Columbia, prohibiting the District Commissioners from allowing the streets and sidewalks and parks of the city to be encumbered with platforms and stands, in order that there may be no opportunity afforded those desiring to erect such structures to speculate upon the public. We who have been here for years know that the citizens of the District form themselves into committees, secure control and possession of the public streets and sidewalks of the city, erect platforms and stands, and sell the seating space thus provided at speculative prices to the American public attending the inauguration. Nor is that the worst of it, for the tickets frequently

pass into the hands of speculators, as in the case of theater tickets in some of our cities, and are sold to the public at exorbitant advances over the original prices.

We all know that the people who occupy seats in the stands which are erected constitute only a small portion of the public. The remainder of the people have to stand behind the structures erected and are unable to see the parade as well as those occupying the seats, notwithstanding the fact that those who stand constitute the bulk of the people who come here. I wish an investigation could be made to ascertain what profits the speculators to whom I refer made at the last inaugural ceremony upon the sale of space in the stands and platforms in the city. I trust that the District Committee, of which the Senator from Indiana [Mr. New] is a member, will put a stop to this species of speculation, to the end that the American people who come to attend the inaugural ceremonies may be placed on a footing of equality, without being bled by ticket and other speculators in Washington.

Mr. BORAH. Mr. President, there are not many American people who can afford to come at this time, owing to railroad rates and other conditions, so that the number from outside the immediate vicinity of Washington will not be large.

We have all served here with Senator HARDING, and we know that his severest critic would not charge Senator HARDING with being fond of ostentation and display. I have not a particle of doubt, if he could be consulted and could be permitted to have his way about it, that the inaugural ceremonies would be conducted along very simple and dignified lines and in accordance with the conditions which are now confronting the country.

Mr. President, I should never have said a word about this matter if the condition of affairs in which we find ourselves had been an ordinary one, but we have \$24,000,000,000 of indebtedness, we have \$4,000,000,000 of current expenses, and we have \$2,000,000,000 of deficit staring us in the face. The business men of the country, even those who are supposed to be men of competency, are greatly disturbed as to how they shall continue to meet the burdens which must be imposed upon them by the Government. The mere \$50,000 or \$100,000 or \$300,000 or the \$1,000,000 which we may appropriate is not alone the objection, but it is the psychology of the public mind in regard to these matters. They expect something, and, regardless of party, they feel that those who represent them here ought to take into consideration the conditions at home.

I have before me a statement, coming out of Marion, which is interesting to me in view of the discussion of this matter. It says:

The plans for the HARDING inauguration, as outlined here to-day, contemplate the most dazzling celebration in the memory of the present generation. Senator HARDING, it is said, was originally in favor of a severely simple inaugural ceremony—

And I have no doubt at all that that is true—

but has been prevailed upon to accept a program which he was assured would bring the greatest amount of pleasure to the greatest number of people.

I am interested to know whence the influence comes that prevailed upon the President elect to depart from his idea of a simple and dignified inauguration to that of the most dazzling display "within the memory of the present generation" and one designed to serve the pleasure of the greatest number of people.

Mr. President, I am going to vote against the joint resolution which has been reported. I will vote against it because I know that if we set the pace that which will follow in connection with the inauguration will involve an expenditure of a million dollars to be paid out of public funds. I venture to say that when it is over the items for the inauguration presented here, together with the items which will come out of the State treasuries of the different States, will aggregate a million dollars. I look upon it as almost a crime; there is no defense for it.

Mr. KNOX. Mr. President, I regret very much that in presenting one proposition my distinguished friend from Idaho has seen fit to discuss another and entirely different one. The committee of which I have the honor to be chairman was created by the Houses of Congress, and it was instructed to take proceedings necessary to conduct the inaugural ceremonies of the President of the United States. When we were instructed to take the necessary steps we had but one lamp to guide our feet, and that was to find out what were the customary steps. I have taken the trouble since I discovered that there was likely to be some opposition to the passing of the necessary appropriation to run back as far as 1817, and I have found that from that date down to this the Congress of the United States, of its own volition and without any logical relation thereto, has taken upon itself the inauguration of the various Presidents.

The President of the United States needs to do but one thing in order to be able to discharge the functions of that high office, and that is to take the oath prescribed by the Constitution. He could send out from his hotel room—if that is where he will lodge before induction into office—for a notary public and, perhaps for 50 cents, subscribe the oath which clothes him with all the powers.

I had the honor to be connected at one time with the simplest inauguration that has ever transpired, and that was after the death of the lamented McKinley, when the Cabinet were discussing great ceremonies to be held in the city of Washington for the inauguration of Mr. Roosevelt. Upon my calling attention to the provisions of the Constitution and showing that the devolution of office had been automatic, and that all that was required was to take the oath, they followed my advice and the oath was administered in a private house at no cost whatever.

But, Mr. President, Congress has taken this step, and this committee, in obedience to the mandate received from Congress, has proceeded to do the usual thing. We are not building a stand seats upon which are to be sold to the public at an extravagant or at any other price. We are building a stand that will accommodate 10,000 people, who will be seated there without charge upon the invitation of the Members of the Senate and House of Representatives. It is decent and appropriate, in a great ceremony of this kind, that a number—not all of the American people, because all of the American people could not assemble, and only an infinitesimal percentage of the American people could witness the ceremony under the most favorable circumstances—but that at least 10,000 of the American people, a number that the grounds of the Capitol will accommodate, may, without money and without price, at the invitation of the Congress of the United States, which has taken charge of the ceremony, witness that ceremony. In order that the thing may be done decently and in order expensive engraved invitations and tickets have to be circulated in order to convey the wishes of Congressmen to their constituents or to their friends. An adequate number of policemen have to be employed in order to protect the crowds that may assemble around the Capitol. Provision must be made for the members of the press, so that that portion of the public who can not witness the ceremony may read accurate accounts of it. And, indeed, Mr. President, we have studied simplicity even to the degree that we have shorn the incoming President of some of the prerogatives and privileges that have in the past attached to that ceremony.

Why, I read from a description of the ceremony of 1861 that after Mr. Lincoln had delivered his inaugural address, and Chief Justice Taney had administered the oath, Mr. Lincoln turned and kissed the 34 young ladies representing the 34 States. We provide nothing of that kind for Mr. HARDING. [Laughter.]

I hope, Senators, that you will stand by your committee that has endeavored to carry out your mandate; and I hope that this particular proposition will not be involved with anything pertaining to the civic ceremonies or anything pertaining to any ostentation or display, if you may choose to call it so, which may follow the inauguration.

Mr. FLETCHER. Mr. President, I find myself very much in sympathy with the views expressed by the Senator from Idaho [Mr. BOBAH]. It seems to me that now, when the whole world is staggering under debt, and there is suffering and distress everywhere, when our own people are complaining about taxes, and properly so, many of them unescapable as the necessary consequences of a world upheaval and the greatest war in all history, we ought to endeavor to hold down these expenditures out of the Public Treasury to the very last limit.

This is no time, Mr. President, to indulge in these extravagant parades and demonstrations and celebrations, costing the people an enormous sum, approaching, as the Senator from Idaho has said, in this instance, before we are through with it, a million dollars.

It is all right for the people of Washington, the merchants, the street car companies, the taxicab companies, the hotels, and that sort of thing, to raise a fund. The more people they can have here, and the longer they can keep them, the better for them. It is perfectly proper, and a manifestation to some extent of public spirit—I do not mean to say it is entirely selfish—for them to arrange to entertain the people who come here, and take care of them, even though they get back what they contribute to that end. But it is a different proposition to go into the pockets of the taxpayers of the country at large and ask them to pay this enormous sum of money for this inauguration.

The Senator from Idaho has said, and I quite concur with him, that he does not believe that Senator HARDING himself wants this proposed tremendous demonstration. It is a bad ex-

ample to set to the country. We have been talking here on this floor for some time, and in the press, and elsewhere, about waste and saturnalia of extravagance, and rather scolding the people for their lack of thrift. We claim that the high cost of living and a good many of our troubles have been due to the extravagance that prevailed in 1919 and previous years. Now, the Government undertakes to set an example of unparalleled extravagance at the very opening of a new administration. It seems to me unthinkable.

The Senator from Pennsylvania [Mr. KNOX] refers to past history. Let me at this moment call attention to an administration that was ideal, that accomplished great results, that was perhaps the most historic and important in many respects in the lifetime of the Republic; and let me admonish that we now, under existing circumstances and in view of conditions prevailing here and throughout the world, hark back as far as we can to Jeffersonian simplicity.

I hold in my hand a work which is very interesting and instructive, by a distinguished Member of this body, the senior Senator from Mississippi [Mr. WILLIAMS]—a series of lectures delivered by him at Columbia University on "Thomas Jefferson, his permanent influence on American institutions," and I beg to read just a few extracts from these lectures.

At page 228 he says:

Earlier in his life, when about to take his seat as Vice President, Jefferson had illustrated his dislike of public scenes. He wrote to Senator Tazewell, of Virginia, saying that he had heard that on the former elections of President and Vice President "gentlemen of considerable office were sent to notify the parties chosen," and expressed the hope that in his case "the Senate would adopt that form of notification which would always be least troublesome and most certain," the post office.

On page 230 he says:

The Republicans were more rejoiced at Jefferson's abolition of pomp, ceremonies, parade, and cavalcades than they were in consequence of many other more important things. The Federalists viewed what they called "a Jacobin wreck" with alarm and despair. Little things that seem to us now, with the glamor of the past about them, interesting, if not beautiful, meant more then than they would mean now and would have grown by now to mean more than they did then. Adams, unfortunately, did not see what Jefferson did, that George Washington constituted a whole class by himself.

In a chapter headed "Jeffersonian simplicity," evidently put in quotation marks with a view of ridiculing the subject matter and Jefferson, Curtis opens: "The inauguration of Jefferson as President of the United States was attended with as much pomp and ceremony as the conditions would permit." I submit that this is beneath the dignity of history. If the statement had been true, it would not have made much difference; but it is not true. Jefferson carefully eschewed all pomp and ceremony and did it for a purpose—the purpose of demolishing the "frénésie quasi monarchique." He walked from his boarding house, which was on New Jersey Avenue north and not far from the Capitol, and a few friends, among them some Senators and Representatives, accompanied him to the Senate Room to be sworn in. It is idle to say that he could not have ridden in his own coach, sent up from Monticello, or in any sort of a state coach he might have fancied to have built. It is equally idle to say that he could not have had a thousand men on horseback if he had wanted them.

Curtis very properly exposes the story of Jefferson's going to the Capitol on horseback and "tying his horse to the fence." This was not true for three reasons: First, because the distance was too short to make it necessary to have his horse; and, secondly, because, from the best information I can get, there was no fence there at that time; and, third, because a good horseman—and Jefferson was about the best—would not hitch his horse to a fence if he could find a swinging limb or even a hitching post under a shed.

After Jefferson had taken the oath he went back to his boarding house, taking his old seat, and declining amid laughing protest to go to the head of the table. He stayed there several days before he went to Monticello. He rode meantime freely and unattended around Washington. Afterwards, when President, if he wanted to see a Senator or a Member of Congress, he rode up to the Capitol and saw him, hitching his horse under one of the construction sheds on the uncompleted House wing side of the Capitol; hence, perhaps by confusion, the horse was given him at the inauguration.

Jeffersonian simplicity was a real thing and not a thing to put in quotation marks.

His "democratic simplicity," as Curtis calls it, was not "affectation," as he stigmatizes it. Jefferson was trying to teach a useful lesson to officeholders in a Republic—to show that a plain man who was elected President had nothing to do except to go on being just what he had been—a plain man—a man "for a' that." It was the very contrary of affectation. He saw no reason why he should "affect" something new to him and therefore unnatural, just because he had been elected President. The people hadn't sent him to Washington to "put on airs."

Unfortunately, these troublesome, expensive inaugural processions that Jefferson thought to do away with have gradually come back to plague us. It is to be hoped that some strong, wise man on being elected President will do away with them. They do no good and result generally in several deaths from pneumonia caused by exposure to the weather. They are, at best, an "idle, foolish parade"—a weak imitation of "coronation" proceedings—resulting in nothing of any benefit to anybody except a temporary increase of revenues to Washington hotels and boarding houses and saloon keepers and street cars.

Jefferson did not want the image of a President impressed on the coinage. He did not want birthdays celebrated, and never would permit his own to be celebrated where he could help it.

He seemed to be afraid of the effects of hero worship of any description. It is the great danger of democracy. It will remain so until the end of time. Men ought to be taught more and more to reverence laws and institutions and less and less to reverence offices and men.

I shall quote from page 122 of Merwin's Thomas Jefferson: "The ascendancy of Jefferson and the Republican Party produced a great change in the Government and in national feeling; but it was a change the most important part of which was intangible, and is therefore hard to describe. It was such a change as takes place in the career of an individual when he shakes off some controlling force and sets up in life for himself. The common people felt an independence, a pride, an elan which sent a thrill of vigor through every department of industry and adventure. "The simplicity of the forms which President Jefferson adopted were a symbol to the national imagination of the change which had taken place. . . ."

Now, for substantial results of Jeffersonian simplicity in the public business. There must be, to use the words of his inaugural address, "a wise and frugal Government." It behooved him first, then, to simplify our bookkeeping and to unmythify our finances, to render all plain of comprehension to the people. It was their right, because it was their money. Let us, then, instruct our Secretary of the Treasury.

The outcome of Jeffersonian simplicity, the results following the putting into operation of his plans and ideas throughout his administration, are indicated in the summary at the conclusion of that chapter, so admirably expressed by the author of this book, to wit (p. 242):

Meanwhile his administration had paid off thirty-three millions of the public debt, which had been somewhat increasing before he came in; it had reduced taxes very much; it had reduced patronage, thereby simplifying the Government a great deal, and had added to the national domain the vast area of the Louisiana Territory and put down Burr's conspiracy without war or bloodshed so adeptly that the Federalists were beginning to deny that there ever had been a conspiracy at all; it had laid the foundations for the future successful contention for the possession of the Oregon country; it had benefited its own commerce and that of the civilized world by putting down the Barbary powers; it had kept the peace amid untold difficulties and with un-speakable benefit; it had captured the common sense and imagination of the country; it had destroyed quasi-monarchical forms, ceremonials, cavalcades, and "demnition nonsense" generally; it had given a practical illustration of the fact that government can be carried on successfully without tying to itself the monied or any other special interest, and that it could be carried on by those who regarded it as a public trust; he had given practical demonstration of the fact that a democracy is not irresponsible or dangerous and that restraints upon freedom of speech and of the press are not necessary to make a government strong; he had put the example of George Washington in declining a third term upon a basis of reason and general principle, destined to appeal for all time to the American people, and although his embargo policy had pressed hard upon the navigating States the pressure had been no harder nor the dissatisfaction any greater than war would have brought in its train, as was afterwards demonstrated.

Mr. KNOX. Mr. President, may I ask the Senator a question?

Mr. FLETCHER. I yield.

Mr. KNOX. Will the Senator from Florida be good enough to bring Jeffersonian simplicity down to date by reading the expense account of Mr. Wilson in Paris?

Mr. FLETCHER. I have not that expense account at hand; but it has nothing in the world to do with this situation here. We are discussing the inauguration of a President. That was an occasion when the affairs of the whole world were being adjusted around the table at Versailles—1,700,000,000 people were involved in it—the economic conditions and questions of vital significance arising throughout the unsettled world were being considered and adjusted and, of course, considering the people involved and the questions which arose, necessitating a sitting of six months 3,000 miles from home and the number of men required, and the force of assistants needed in dealing with those problems we ought to expect the expenses would be necessarily large. Here it is a question of a few hours, when the President is to be inaugurated, and the wheels of the Republic go on moving just the same whether you spend a million dollars in display or whether you spend a hundred dollars to bring the incoming President to the Capitol and administer the oath.

I am not in favor of any parsimony or any picayunish affair. I am in favor of a dignified, proper inauguration; but I am opposed to taxing the people of this country in order that we may have an extravagant display and an unnecessary demonstration.

Mr. OVERMAN. Mr. President, this discussion has gone very far afield. Congress has done at this session what it has done every four years for a hundred years. It has provided a committee to take steps to provide for the inauguration of the President of the United States, one of the greatest events in this country. We have nothing to do with, and have never considered, the question of a ball in the Pension Building; we do not intend to deal with a parade, or seats, or anything of the kind, because those things are out of our jurisdiction. All we have done is to estimate the actual cost of providing for seats in front of the Capitol, for the invitations to be sent out to the friends of Senators, and also to provide the necessary policemen here in front of the Capitol on that day. That is the only question before us.

Mr. BORAH. May I suggest to the Senator that that is not the only question before us, if I may be permitted to say so. Nobody desires to criticize the committee; nobody has sought to

criticize the committee. Congress is responsible for whatever takes place, and we know that the moment we start this program we will follow it up item by item, expense by expense, until it will reach the sums I have suggested.

Mr. OVERMAN. Mr. President, I join with the Senator in some of the things he has said, in stopping expense when it is unnecessary; but this is a necessary expense, and Congress has already acted in appointing this committee and putting this responsibility upon us. We have estimated for a simple inauguration, just as has taken place for a hundred years, and we ask the necessary funds to pay for it. That is the only question raised by this joint resolution.

As to the other questions raised, that will be a matter for the consideration of Congress, and this committee will have nothing in the world to do with it; each Senator can vote hereafter as he desires upon these great questions of appropriating money for bringing here the midshipmen or bringing the West Pointers or having a parade or erecting seats on the sidewalks or in parks. This is simply to pay the necessary expenses of inaugurating the President at the Capitol, right here, and that is all there is in it.

Mr. REED. Mr. President, I believe in the exercise of economy in the affairs of Government. I wish we might return to the example of Thomas Jefferson. I wished that about eight years ago, but I saw no evidence of it. I wished it about four years ago, but I was not impressed with the fact that the spirit of Thomas Jefferson was hovering over the inaugural ceremony. I did not then hear on this side of the Chamber any protest against building a stand in front of the Capitol on which some citizens could sit and from which the President could deliver his address. It seems to me that the Jeffersonian eruption appears on the skins of some Democrats only when they are in the minority. We vote away \$150,000,000, we put it into the hands of one man, we tell him to expend it in Europe for the benefit of starving people, and we sit quiescent while with unblushing effrontery the same gentleman in substance tells us that he expended—I have not the exact figures, but I think something like \$40,000,000—of that money for the support of Poland and the Polish army while engaged in a war we never authorized, with a nation with which we were in a condition of profound peace, as far as the action of the Congress was concerned, and Congress is the only body authorized to declare war.

Mr. BORAH. Mr. President, may I ask the Senator a question?

Mr. REED. Yes.

Mr. BORAH. Do I understand the Senator to say that the report shows that forty million of the hundred million dollars we appropriated to feed the children of Europe went to the Polish army?

Mr. REED. I think it is approximately that amount which it is said went to Poland. I will not undertake to state the figures accurately; but it was a very large sum, and I shall be glad to get the figures and put them into the Record.

Mr. BORAH. It is not a question as to the exact figures, but that it went for the support of the Polish army.

Mr. REED. The statement of Mr. Hoover in substance was that it was necessary to expend the money to sustain Poland to keep the Polish army which was in the field supplied.

Mr. BORAH. That is the same thing.

Mr. REED. Whether it was turned over to the commander in chief, or whether it was used to feed the civil population in order to relieve the strain upon the Polish Government, so that the army could be kept in the field, deponent sayeth not. It seems that nobody takes the trouble to find out. I have the papers on my desk in my office, and I shall be glad to send and get them. I did not intend to mention the matter to-day. I intended to hereafter refer to it. I have not brought the data with me.

Mr. SMITH of Georgia. I do not want to interrupt the Senator at this time, but I wish he would give us the exact reference as early as he can do so.

Mr. REED. I think there will be no dispute about it when we get at it. If I am mistaken, I will retract everything I have said, and do it as publicly as I have made the statement.

Now, we are talking about Jeffersonian simplicity with the Republican Party—

Mr. BORAH. Before the Senator leaves the Polish reference, may I ask him if he has been able to secure the report in full upon this expenditure?

Mr. REED. I have on my desk a number of documents which I asked my clerk to get for me, and he reported to me orally the substance of them as he interpreted them. As I said, I did not suppose there was any question about the matter, or I would not have mentioned it. I shall be glad to give

the Senate the benefit of what information I have as soon as I can take an hour to go through the documents.

Mr. BRANDEGEE. Do the documents disclose a complete account of the expenditures?

Mr. REED. I do not think they do. They disclose the gross amount. There is one report which discloses the gross amounts which went to different countries. It does not disclose the individuals to whom it went, but there was some testimony taken before a committee of the House which was exceedingly illuminating, I think.

Mr. President, I have wandered afield from the question. If we are ever to inaugurate Jeffersonian simplicity, it seems a little hard that we should expect the Republican Party to undertake the job. That party has never been celebrated for following the examples of Thomas Jefferson. They have followed a different leader and a different idea.

Before I leave the floor I want to exonerate President Lincoln from the charge that Lincoln was extravagant when he kissed 34 young ladies representing 34 States.

Mr. KNOX. It was not a charge; it was a privilege.

Mr. REED. It must be conceded that Lincoln could do that without suspicion; and I take it he did it without offense or expense, and that the girls were "willin'." [Laughter.]

I am heartily in favor of simplicity, but I do not think we need pause at the platform to be erected in front of this Capitol. There is more in example than we often think, and the trappings of royalty ought to have no place in this Republic. Yet we have witnessed year after year a growing disposition to ape the habits of kings.

A great many years ago there was abandoned the habit of the President addressing the two Houses of Congress in person. A message was sent to these bodies. There was no attempt at parade. There was no effort to exercise the dominance of personality. There were no speeches from the throne and nothing that imitated speeches from the throne. The President, in obedience to the Constitution, laid before Congress his message as to the state of the country.

Congressmen were regarded as the representatives directly of the people. The offices they held were regarded as positions of great dignity, not because of the persons who occupied them, but because the individual, whoever he might be, was the representative of a great people, armed and clothed with authority to speak for them and in their name with reference to the important matters consigned to their keeping.

It was recognized that Congress was the real source of all legislative action and that no Executive had the right to go further than merely to suggest by his messages the matters to be considered and the course of conduct which in the opinion of the Executive ought to be followed. There was no attempt to concentrate power in the hands of the executive department. Senators used to refer to themselves then as ambassadors from sovereign States. It would be difficult to imagine one of the Senators of the old days trekking about the White House grounds and being denied admission to the White House by uniformed policemen. It would be difficult to imagine one of the Senators of the old days, who represented great States, who were not proud themselves, but were always considerate of the great people they represented—it would be difficult to imagine one of those Senators cooling his heels at a department, waiting to see a third, fourth, fifth, sixth, seventh, eighth, or tenth assistant secretary of some kind to graciously grant him an audience.

It is now also difficult to recall the days when a State was a sovereignty that had yielded to the Federal Government only certain specific powers and had retained to itself all other powers of government. It was difficult a few years ago to conceive of the possibility that a treaty should be declared to be the supreme law of the land and to override the rights of States always reserved to them, always held by them under principles of the common law, upon the ground that the Senate and the Executive had not been expressly prohibited from assuming the particular power in question.

A new principle of constitutional law was written in the so-called migratory bird case which absolutely nullified the language of the Constitution, which declares that "all powers not therein granted are reserved to the States and to the peoples thereof." It is difficult for us to bring ourselves back to this old ground.

There is nothing the Republican administration can do that will more endear it to the people of the United States and entitle it to their respect than to turn back the clock of time and reinaugurate some of the old policies, customs, and philosophies of the past.

But, Mr. President, I am going to vote for this "stand." I am going to do it because the item we have under considera-

tion only concerns the putting of a platform in front of the Capitol and furnishing seats to people in order that they may witness the ceremony. If I had been called upon in advance for an opinion, as a friend of the President elect, I would have suggested to him that he refuse all ceremonials of every kind. But the proceedings have taken this course, the committee has been appointed, and it has followed the precedents, and to refuse now to allow it money would seem to me like an unnecessary unkindness and possibly a reflection upon the President elect.

Mr. BORAH. I do not think it would be a reflection upon the President elect. I think he would be very glad to have the matters settled.

Mr. REED. If Senator HARBING will say that he desires to have no ceremony whatever then, of course, I shall be very glad indeed to accord with that suggestion, but I do not think he has taken that position.

The bringing here of cadets from West Point and midshipmen from Annapolis is another question.

We furnish the police at the Capitol. What is the estimated expense for additional police of the Capitol? There must, of course, be proper police protection.

Mr. KNOX. It is impossible to make any estimate of it. The vast crowds that will be in and about the Capitol on that day will have to be protected, and the Capitol itself will have to be looked after with much more care than usual, and that takes a very large force. I suppose the Senator from North Carolina [Mr. OVERMAN], who had charge of the last inauguration, can perhaps give a better estimate than I can.

Mr. OVERMAN. We authorized the Superintendent of the Capitol to employ the necessary force to take care of the Capitol Grounds and the Capitol itself and to protect the crowds. He paid them \$3 a day. It is impossible to get competent men now to serve in that capacity for \$3 a day. His policy was to bring in men from other cities who were familiar with the criminal element. How many men he employed I do not know, but I know he employed a great many to look after the situation. They were selected and employed by the Superintendent of the Capitol, Mr. Woods.

Mr. REED. That comes out of the \$50,000 proposed to be appropriated?

Mr. OVERMAN. Yes.

Mr. REED. That is all I have to say on the subject. With regard to the question of expenditures of money in Poland, I shall be glad within the next day or two to lay before the Senate facts which have been given me. I prefer doing it in that way, although I have my papers here now. But I do not want to undertake to speak from a memorandum which I have not had the opportunity to carefully consider.

Mr. NORRIS. Mr. President, I think we have had demonstrated to us the power and the force of precedent. Because Congress has always in the past appropriated large sums of money for inaugural ceremonies, it is now given as a reason why we should do the same this year. I concede that precedent ought to have its proper weight. I believe it is a sufficient reason for the committee to act as they evidently have done. So when I oppose the resolution in its present form, I do not want to be understood as in any way reflecting upon the committee which has brought in the resolution; but, Mr. President, with all the power and force of precedent, and with the respect that we ought to pay to it, we ought to consider the condition of the country at the present time before we blindly follow precedent.

We are confronted now with the promises of economy which have been made by the incoming administration; we are confronted with the demands that are made upon Congress by all classes of citizens, regardless of party, for economy in governmental affairs. We have all, on both sides of the Chamber, pledged ourselves that we would do the best we could to bring about economy and cut out every appropriation that is not necessary. We are confronted with a proposition of raising taxes with which to meet the interest on our bonded indebtedness and to provide for the running expenses of the Government; a proposition that, from whatever angle we may view it, is one of the most difficult that has ever been presented to a Congress in the history of this country. We are taxing our ingenuity in order to find new articles to tax in order to bring in revenue; and intimately connected with the question of taxation and revenue is expenditure. If we can strike out an appropriation, if we can save an expenditure anywhere, we are relieving the burden of taxation to that extent when we have to reach that question and provide for it.

I believe that the present condition of the country demands that every useless expenditure of money should be avoided. This is one which it is conceded can be avoided to a great extent. I know that as appropriations go \$50,000 is a small amount of

money, and were this the only appropriation involved I should not take the time of the Senate to object to it, but it is merely the opening wedge. If we pass this resolution, it, in turn, will be cited as a precedent for other resolutions of expenditure which must follow.

It has been said, and I think truly, that a large number of American people have become extravagant in the last two or three years. Extravagance, Mr. President, is a disease; it is like the "flu"; it is contagious. That there has been an era of extravagance amongst all classes of people no one who has studied the subject will for a moment deny. In my humble opinion, that extravagance on the part of the people came about from following the precedent established by the Government of the United States. Every investigation that has been made into public expenditures has disclosed that our officials had been spending money as though money were simply leaves on trees and we had unlimited forests. Reference has been made by others to the expenditures made by the President in Paris, and I myself have heretofore referred to the same matter. I think the danger arising from that transaction lies not so much in the amount of money which the President spent as in the precedent that he established in spending it like a drunken sailor.

Now, we are confronted with a proposition that because at other inaugural ceremonies and because in other directions money has been uselessly expended we should not stop at providing money for the approaching inaugural ceremonies in accordance with the history of the past. If that is to be the rule, Mr. President, there will be no stopping place. Somewhere, at some place, somebody must call a halt; and while this item is comparatively small, it seems to me, to a great extent, such a useless one that this ought to be the proper place to begin.

It is said that even when Lincoln was inaugurated there was extravagance; and to fortify that assertion the claim is made that Lincoln kissed 34 girls on that occasion. Nobody, however, has claimed that the Government had to pay for that osculatory process; the taxpayers were not burdened by it. Nobody will deny the same privilege to President-elect HARDING, if he can find the girls who are willing—and I presume he can—so long as it is not charged up to the taxpayers of the country and they do not have to pay for it.

Mr. President, coming down now to this particular appropriation, it is conceded, I believe, that the bulk of it practically is going to be used to erect on the east side of the Capitol a stand that will have a seating capacity of 10,000; and it is understood, I think, that the seats on the stand shall be given free to the friends of Members of the House of Representatives and of the Senate. If there is anything in the economy plea, Senators and Members of the House of Representatives ought not to provide from public funds money to pay for the erection of a stand the seating capacity of which is to be used by their friends who come here. Such a stand, Mr. President, will not seat one-tenth part of the people who come here; it will only seat those who are enabled, through one method or another, to get accommodations from Members of Congress. If Senators will harken back to times of the past when that great platform has been erected in front of the Capitol, they will recall that it was used for less than an hour, and that not one person in one thousand who sat in those seats heard a dozen words of the President's inaugural address. The same will be true this time. It will be found that half of the seats will be vacant before the President is midway in his address; that people will not be sitting in the seats, but will be standing up in groups talking and visiting with each other.

Mr. KNOX. Mr. President—

Mr. NORRIS. I yield to the Senator from Pennsylvania.

Mr. KNOX. The Senator from Nebraska would not refer to that matter unless he thought it important; so I will correct him by stating that, without any cost to the Government of the United States at all, on this occasion there will be installed a modern amplifier, which will enable everyone to hear all that the President says.

Mr. NORRIS. I am glad to hear that. That is not provided for in this appropriation, is it?

Mr. KNOX. No; the telephone company has offered to install it without cost.

Mr. NORRIS. If it be true, Mr. President, that we are going to have a new plan, and by some new system of telephoning the President may be heard over a 10-acre lot, then we shall not need any seats. Instead of 10,000 people hearing the President, there could be 100,000, who would stand for 30 minutes or 45 minutes or even an hour while the President is delivering his inaugural address; and by the use of that new method

we could accommodate many more people without seats than we could with them.

Mr. President, I remember particularly the first inauguration of President Wilson, when a great platform constructed in front of the Capitol—I think it was almost a thousand feet in length, reaching nearly from one end of the building to the other—was filled with people to begin with, while out in front, held back by the police, were thousands and thousands of people standing up. The platform from which the President delivered his inaugural address was facing that standing multitude. Those in the seats are behind the President, and even those close to him can not hear him unless he turns around. It is absolutely absurd to think for a moment that the people who are going to occupy the seats on the platform are going to hear the inaugural address. It never has been done and it will not be done on the 4th of next March unless the new invention to which the Senator from Pennsylvania has referred is able to accomplish what is claimed for it, and in that event the space occupied by the stand can just as well be used for standing room, so that ten times as many people may hear as would hear if the seats were there for them to occupy if they wanted to occupy them. If the stand is constructed, many will not occupy the seats, but will be standing on top of the seats. I am not blaming those who do that because I have been in that crowd myself, and I know that however anxious one may be to hear, he can not hear because of the conversation going on around him. It is natural, too, that there should be conversation, because only an occasional word can be caught by those in the stand, so that most of the people leave their seats before the President has concluded his address. If the people want to hear the President's inaugural address—and I hope they will want to hear him, as I think we will—for the little time that it is going to take they will be glad and willing to stand up, especially when by that means more can be accommodated and more can hear.

Mr. President, I realize that on the occasion of the inaugural ceremonies it will be necessary to provide for some extra police, and I want to expend whatever money may be necessary to protect the people who come here. I realize that other expenses are going to be necessary, but if a stand is going to be built—and it is conceded it will be one of the main items of expense under the proposed appropriation—space for the President to speak, it seems to me, is all that is necessary and all that ought to be provided for. If we do not stop somewhere now, we are going to see, in addition to what the Senator from Idaho has enumerated, thousands of soldiers brought here from all parts of the United States, with cannon and guns and equipment—we all know how the parade is constituted—and all that expense will have to be paid for out of the Treasury of the United States.

Without enumerating the expense involved in bringing the cadets from the Military Academy and the midshipmen from the Naval Academy to Washington, without enumerating the expense to which it will be necessary for the States to go to bring their troops and others here to take part in the parade, with bands, and so forth, there will be detachments, battalions, and regiments of the Regular Army carried in special trains across the country at enormous expense, to be fed and provided for in Washington at additional great expense, and then they must all be returned at still further expense. Furthermore, we are going to see the demand made a little later on that the Pension Office, or some similar building, shall be turned over to the inaugural committee. The cry is going to be made that there will be no expense attached to the use of such building, but we will have to pay the expense of taking out the furniture and storing it while it is removed from the building, the expense of putting it back, and the salaries of all the clerks of the bureau while they are unable to perform their work during the time when the building is turned over to the inaugural committee.

This is only the beginning. If Congress should take some action now to limit inaugural expenditures, for instance, to render it impossible to go to the great expense of constructing this useless pavilion for 10,000 people, on which they may sit for a few minutes, it would have an effect on every other branch of the Government.

Mr. President, I wish to appeal to the Senate that if we are going to have economy, somebody, somewhere, at some place, must begin. Let us begin now to practice economy in connection with a proposed expenditure that everyone knows is useless.

I am not going to object to the consideration of the joint resolution, although I understand unanimous consent for its consideration has not been given, but when it is formally before the Senate for consideration I hope an opportunity will be afforded us to offer amendments. I wish, when the proper time

comes, to offer an amendment to strike out "\$50,000" and insert "\$10,000."

Mr. BORAH. Mr. President, I beg the indulgence of the Senate for just a moment.

Yesterday I had on my desk a resolution which I drew limiting the amount to \$10,000. At the request of the Senator from Pennsylvania [Mr. Knox], who desired to itemize the probable expenditures, I deferred its introduction. After talking with people here in Washington who knew something about the situation, I thought that \$10,000 would cover the expenses for policemen, and so forth, and that, as the Senator from Nebraska said, the erection of this stand was wholly unnecessary and of very little benefit. But even with the amount which is included in the resolution of the Senator from Pennsylvania, I should not have objected any further if it had not been, as I say, that it is simply the beginning of the expenditure.

I have gone to some trouble about this matter with those who have known something of inaugurations and those who are in a position to estimate the probable expense of this inaugural, and I know what it is going to cost the Public Treasury, either the Federal Treasury or the State treasuries, to a reasonable certainty. As I said a moment ago, it will cost the taxpayers of the country a million dollars. I know that that will be an embarrassment to President-elect HARDING, and nobody is his friend who undertakes to impose it upon him. I know that it will be a distinct embarrassment to the Republican Party, and no one is its friend who undertakes to impose any such program upon it in the beginning of its administration.

If the Senator from Pennsylvania will undertake to join with us in curtailing all future expenditures in regard to this program, and if those who are going to support this program here to-day will join with us in cutting out and curtailing the other expenditures which will naturally come along, I shall have no criticism whatever and no objection to the measure; but if we are going to the full expenditure as it is calculated by those who have the matter in charge, we shall pursue a most unjust and indefensible course.

I have upon my desk this morning a letter from a committee which is appealing for funds to feed the dying children of Europe. The letter states that \$10 will save the life of a child. I also clipped from a newspaper day before yesterday a statement to the effect that in one of our large cities there are 110,000 children of school age who are being kept out of school because they have not the clothes nor the food to permit them to be sent. I presume that is characteristic of a great many other communities in the United States at this time.

Mr. THOMAS. What community is that?

Mr. BORAH. I can advise the Senator. It is estimated that a million men are out of employment in this country, and a very distinguished leader of this body—a man who has been absent for some time, but who undoubtedly has been giving great attention to this situation—said that in his opinion there will be 4,000,000 men out of employment by the 1st of March. For us to spend money in this way under those conditions is to indicate to the country that we are wholly unmindful of the situation which confronts us, which is the most discouraging and demoralizing thing that the community can get into its mind—that its representatives here are not in sympathy with the situation as it actually exists in this country.

I therefore want to urge in all sincerity upon those who feel that by reason of the fact that certain obligations have been undertaken they must vote for this joint resolution that they join with us in opposing any further expenditures in regard to this inaugural. I believe that it is our duty to do it, and so far as I am concerned I shall continue to urge it during the time that the preparations are going on.

Mr. POMERENE. Mr. President, I realize the great force with which many things have been said in opposition to extravagant expenditures. There is no expenditure that can be made by the Congress of the United States which could not be very well made for some other legitimate and proper purpose. The same thing may be said of the present appropriation. I have no brief to speak for my distinguished colleague who after March 4 is to be my President; but my belief is that if he were to consult his own wishes alone he would prefer to take the oath of office quietly and proceed to the business of the hour.

But it is not President-elect HARDING alone whose wishes must be considered. This is an event in the lives of one hundred and six millions of people. It comes only once in four years, and my judgment is that the people of the United States want these inaugural ceremonies to be conducted with simplicity, but at the same time with proper dignity.

I am not unmindful of the fact that in the short life of this Nation three of our Presidents have been shot down, and no Member of the Senate would forgive himself if some untoward

act should befall our President elect on March 4 next. That will indicate the necessity for proper and complete police protection. Of course, we can have the President go down to a livery stable and be sworn in, or to a garage; but is there anyone who wants that done?

Mr. BORAH. And nobody has suggested it.

Mr. POMERENE. No; no one has suggested it.

I think we can perhaps remember, with some advantage to ourselves in coming to a conclusion, what occurs in every family in the land. When some event occurs in the family that is of special interest to it or to some member of the family—as, for instance, a wedding—some interest is naturally taken in it; it is attended with some ceremony. The family indulges itself just a little bit further than it would on ordinary occasions.

It may be, when we are considering the erection of a platform, that we are perhaps making it a little bit too pretentious. I do not know about that; but I have never heard of any objection being made to the carrying out of these ceremonies in keeping with the proper dignity of the Nation.

The chairman of this committee has presented here a joint resolution calling for \$50,000. That is a goodly sum, considered from my standpoint. I recognize that every time an appropriation is made some one says something about how little it is going to cost each individual. There is a good deal of force in it, but at the same time I am not sure that is the proper way in which to determine this particular question.

This \$50,000, if appropriated, is going to cost each man, woman, and child in this country less than one-half of 1 mill. I confess I am out of harmony with some of the propositions that have been made looking to other festivities with which the Congress of the United States has nothing whatsoever to do, but I do not think we are going far afield when we limit the expenditures of the Congress of the United States so far as they relate to the ceremonies here in the Capitol to \$50,000. I do not think that is going too far, and I expect to support the joint resolution.

Mr. JONES of Washington obtained the floor.

Mr. NORRIS. Mr. President, a parliamentary inquiry.

The VICE PRESIDENT. The Senator will state it.

Mr. NORRIS. Is the joint resolution before the Senate or is the matter pending on a request to take it up?

The VICE PRESIDENT. While the Chair did not formally announce that there was no objection to the present consideration of the joint resolution, the Chair thinks it is before the Senate.

Mr. NORRIS. Then will the Senator from Washington permit me to make a motion now, in order that it may be pending when a vote is about to be taken?

Mr. JONES of Washington. Certainly.

Mr. NORRIS. I move to strike out "\$50,000" and to insert in lieu thereof "\$10,000."

Mr. JONES of Washington. Mr. President, I trust that the committee which has reported the resolution will not take it as any reflection upon them that Senators should oppose the joint resolution. They have simply done their duty. The Senate passed a resolution a short time ago, and it went to the House, providing for a joint committee to look after the inauguration of the President elect. That was very proper. Pursuant to that resolution the committee has brought in this resolution for the consideration of the Senate. It has discharged its duty. It now becomes the duty of the Senate to discharge its duty with reference to this resolution, and I do not desire that anything I should say or any action I should take shall be taken by the committee or any member of it as any reflection.

Mr. President, I am in general accord with practically everything that has been said in opposition to this resolution. One appropriation bill has come over from the House of Representatives and is now under consideration in the Committee on Appropriations. That bill is one to take care of the needs of the District of Columbia. We have been having hearings for many days of the representatives of the different departmental activities of the District urging the needs of the District. We find that appropriations have been cut to the bone for activities considered absolutely essential to the well-being and the happiness of the people of the District.

It has been urged upon us that the schools of the District need more money. I think they do. I think the school facilities of the District of Columbia are really a disgrace to a Nation of a hundred and ten million people and the wealth of this country. I do not think there is a school system—in the Western States, at any rate—but is far superior to the system here in the District of Columbia, not only in school facilities, but in many other respects. If there is anything in which the Capital of the Nation ought to be a model to the other parts of the country it seems to me it should be in its school system; yet we



are lagging far behind. It is said that we can not get the necessary facilities, because the appropriations required would be too great.

Then I think that in the District of Columbia we are more backward in the care of feeble-minded children than in any other section of the country. We have urged upon the committee the imperative necessity of additional facilities to take care of these unfortunates. Yet the committee is hewing down appropriations for purposes like that to a point where, in my judgment, the service will not be anything like it ought to be. Many other lines of governmental activities of that character, which imperatively need greater appropriations, are being cut down in the interest of economy.

Mr. President, it seems to me that if we are going to economize and insist upon economy in directions like these, we should also insist upon reasonable economy in matters like this now before the Senate. I recognize that this appropriation relates only to the situation here at the Capitol, and that it is necessary that we should have ample police protection upon inauguration day. I do not know how much extra it ought to take for that, but I think we could take care of the situation here, outside of the police, at a far less expense than that proposed in this joint resolution. I think \$10,000, as suggested by the Senator from Nebraska [Mr. NORRIS] would be ample to provide an adequate stand to do what I think ought to be done here.

In 1889 I was one of the humble spectators who came from the country to view the inauguration. I had no Senator or Representative as a friend of mine to extend me an invitation to the stand which was erected in front of the Capitol, but I stood out in the crowd in front of the President who was being inaugurated, with the water from somebody else's umbrella running down my back, and I venture to say, Mr. President, that I heard more of that inaugural address than I have heard of the five inaugural addresses which have taken place since 1901, every one of which I have had the honor to attend in quite a different capacity from that in which I attended the one in 1889, and when I had a splendid seat in the inaugural stand.

You can not hear there, because the President who is being inaugurated does not speak to the people in that stand. As the Senator from Nebraska [Mr. NORRIS] said, he talks to the people who are in front of him, people who are standing up, who have no seats. They are the ones who hear. I venture to say that these seats in this stand would be prized very little were it not for the fact that it gives a rather advantageous place from which to view the great parade which is expected to be a part of these inaugural ceremonies. It is a useless expense to provide so many seats.

I want the President elect to be inaugurated with befitting dignity. I may be entirely wrong, but it seems to me that it would be fitting if provision were made upon the stand from which the President is to speak for the Members of the House and the Senate, for the retiring President and his Cabinet, for the members of the Supreme Court of the United States, and for the diplomatic representatives of the different countries, and then leave the rest of the space for the public to get as near to the President who is being inaugurated as possible, and for as many of them to hear as is possible. I think that would be a fitting and dignified ceremony. A stand of that sort could be constructed properly for ten or fifteen thousand dollars, and probably less. So, Mr. President, I am going to vote for the amendment offered by the Senator from Nebraska [Mr. NORRIS].

Then I think we should take into account another matter with which everybody is familiar—the uncertainties of the weather on the 4th of March. I remember 12 years ago when the seats on the grandstand were not desirable at all, when the snow was falling and the wind was blowing, and everybody was seeking to remain indoors rather than out. I hope it will not be that way this year; but nobody can tell. We could guard a little bit against that with a much smaller stand. We could put a covering upon it to protect the dignitaries who surround the President who is being inaugurated without any very great expense. We might save a good many valuable lives in that way. I know one year when a very prominent Representative of the United States, of very long service, attended the inauguration and went home and died from exposure. I venture to say there have been many others whose death could be traced directly to exposure on these occasions.

So I think, Mr. President, we can at very much less expense than \$50,000 not only inaugurate the President in a very fitting and dignified way, but we can show to the people of the country that those of us who professed so much abhorrence of the extravagance of this administration, and promised them that we would devote our administration to economy are setting an example at the very outset of the administration which will

be a very splendid one, not only from the governmental standpoint, but from a personal standpoint.

Mr. President, I wish there was some way we could advise the people of the District of Columbia who are preparing for this inaugural occasion as to what attitude we are going to take with reference to it, and how far we are going to facilitate or interfere with what they think ought to be done. I do not know how we could do it, but I am going to say that, so far as I am concerned, I am going to do everything I can to discourage extravagant preparations for it. I am going to support the idea that was presented by the Senator from Minnesota this morning, that our streets will not be blocked or filled with grandstands with my consent.

Another thing that has just come to my mind. Twelve years ago, when we had a foot of snow over the Capital and throughout the country, and when it was still snowing and blowing on inauguration day, there were thousands of soldiers in this city, National Guard and others, who had no place that was suitable for people to sleep. They ought not to have been exposed to weather of that kind. They should not be brought here to be subjected to such conditions again and to stand for hours in the cold and snow simply to make a show.

Mr. NORRIS. Mr. President, can the Senator from his recollection give the Senate the number of soldiers who lost their lives from exposure to the weather on that occasion?

Mr. JONES of Washington. I can not.

Mr. NORRIS. I have heard it stated several times, but I have forgotten the number. Quite a number of soldiers died on account of that exposure.

Mr. JONES of Washington. I do not remember that I have ever seen any figures in that regard, but from our common knowledge of things we know that there must have been a great many.

Then, Mr. President, it is difficult to get a place to sleep in this city now, especially at a reasonable rate. How will it be if we attract a hundred or hundred and fifty thousand people here? Thousands of them will walk the streets all night. Those who are able to pay the exorbitant charges which will be asked will probably do so, and have comfortable places to stay; but there will be thousands and thousands of people of this country who come in here who will have no place to sleep and will sit around in chairs or on benches or more likely walk the streets all night.

Mr. President, I hope that this will not be made a great Roman triumphal parade. I want to see the President elect inaugurated in a dignified way, consistent with the simplicity of a hundred million American people who boast of their free institutions, of their form of Government, and I think this Congress can well set the example and do whatever it can properly do to limit and restrict not only these initial expenses but to set its face against additional expenditures we are going to be asked to meet.

The VICE PRESIDENT. The question is on the amendment offered by the Senator from Nebraska [Mr. NORRIS].

Mr. NORRIS. I ask for the yeas and nays.

Mr. KNOX. I suggest the absence of a quorum.

The VICE PRESIDENT. The Secretary will call the roll. The reading clerk called the roll, and the following Senators answered to their names:

Ashurst	Gerry	McCumber	Sheppard
Ball	Gore	McKellar	Smith, Ariz.
Beckham	Gronna	McNary	Smith, Md.
Borah	Hale	Nelson	Smith, S. C.
Brandegee	Harris	New	Smoot
Calder	Harrison	Norris	Spencer
Capper	Heflin	Nugent	Stanley
Curtis	Jones, Wash.	Overman	Sutherland
Dial	Kellogg	Page	Thomas
Dillingham	Kendrick	Phipps	Underwood
Edge	Kenyon	Poindexter	Wadsworth
Elkins	Knox	Pomerene	Walsh, Mont.
France	Lenroot	Reed	Wolcott

The VICE PRESIDENT. Fifty-two Senators have answered to the roll call. There is a quorum present. The morning hour having expired, the Chair lays before the Senate the unfinished business, which will be stated.

The READING CLERK. A bill (S. 3390) to provide further for the national defense; to establish a self-sustaining Federal agency for the manufacture, production, and development of the products of atmospheric nitrogen for military, experimental, and other purposes; to provide research laboratories and experimental plants for the development of fixed-nitrogen production, and for other purposes.

The VICE PRESIDENT. -The Senator from Kentucky [Mr. STANLEY] is recognized.

Mr. SMOOT. Mr. President, would the Senator object to temporarily laying aside the unfinished business that we may

finish the consideration of the joint resolution which has been before the Senate?

Mr. UNDERWOOD. If there is going to be a vote on the joint resolution, I can see no objection to that course. If, however, the debate is to go on, I think the unfinished business should not be laid aside.

Mr. SMOOT. The Senator would not object to laying it aside for a few minutes.

Mr. UNDERWOOD. Not if we are going to get a vote.

Mr. JONES of Washington. Mr. President, I am inclined to think that I shall oppose laying aside the unfinished business. I wish to consider the question of offering an additional amendment to the joint resolution, and, therefore, I ask that it may go over until to-morrow.

#### MESSAGE FROM THE HOUSE.

A message from the House of Representatives, by D. K. Hempstead, its enrolling clerk, announced that the House having proceeded, in pursuance of the Constitution, to reconsider the joint resolution (S. J. Res. 212) entitled "Joint resolution directing the War Finance Corporation to take certain action for the relief of the present depression in the agricultural sections of the country, and for other purposes," returned to the Senate by the President of the United States, with his objections thereto, and sent by the Senate to the House of Representatives, with the message of the President returning the joint resolution:

*Resolved*, That the joint resolution do pass, two-thirds of the House of Representatives agreeing to pass the same.

#### ENROLLED JOINT RESOLUTION SIGNED.

The message also announced that the Speaker of the House had signed the enrolled joint resolution (S. J. Res. 227) extending the time within which the special joint committee appointed to investigate the advisability of establishing certain naval, aviation, and submarine bases in the United States is required to make its report to Congress, and it was thereupon signed by the Vice President.

#### ATMOSPHERIC NITROGEN.

The Senate, as in Committee of the Whole, resumed the consideration of the bill (S. 3390) to provide further for the national defense; to establish a self-sustaining Federal agency for the manufacture, production, and development of the products of atmospheric nitrogen for military, experimental, and other purposes; to provide research laboratories and experimental plants for the development of fixed-nitrogen production, and for other purposes.

*Monday, January 3, 1921.*

Mr. STANLEY. Mr. President, it will be interesting when, perhaps, some future and ingenious historian shall elaborate the theory that democracy in its last analysis owes quite as much to a few drams of saltpeter and an ounce of lead as to all the wisdom and eloquence of poets, writers, and philosophers.

The utilization of the explosive power of nitrogen gas in the middle of the thirteenth century destroyed the feudal system, with the class distinctions that had marked it since the days of the Roman knights by making the panoplied rider and his horse the same size as the yeoman who had discarded his crossbow for a blunderbuss or a flintlock rifle.

About 35 years ago black powder, which had been used as the only explosive since the thirteenth century, was superseded by the discovery that nitric acid applied to cellulose or purified cotton, to toluol, or other like substances, would produce an explosive of infinitely greater destructiveness than the old munition of past centuries. From the time of the use of smokeless powder, T. N. T., and other like explosives the retort and the crucible have become quite as much a part of the wise preparation for war as the production of guns or the building of battleships or provision for coast defense.

The secret of the successful prosecution of the next war may be found in the laboratory of the chemist rather than in the calculations of the strategist. With the discovery of explosives of tremendous power the use of nitrogen as an essential of war has advanced and increased literally by leaps and bounds. In one month in 1918 the English and French engaged in the World War consumed over two and one-half times the number of rounds of artillery ammunition consumed by the Union forces during the entire war, a ratio of consumption of 120 to 1.

During the year 1918 we were consuming inorganic nitrogen in the United States at the rate of some 420,000 tons, and of this over 60 per cent was for strictly military purposes and over 75 per cent was imported in the form of sodium nitrate from far-away Chile.

The necessity for an ample supply of nitrogen has become a sine qua non to every hope of security or preparedness or success in any future war in which the United States may become engaged.

In the now celebrated Glasgow report to the Secretary of War, Arthur Glasgow, who has investigated this question in Europe and America and was the head of a commission selected for that purpose by the Secretary of War, states:

BRIGHTON HOTEL,  
Washington, D. C., October 22, 1919.

To the honorable the SECRETARY OF WAR:

Washington.

DEAR MR. SECRETARY: 1. With the return of our military and agricultural commissions from Europe, our investigations have at last reached conclusions which can now be interpreted into definite recommendations regarding the disposition of

#### UNITED STATES NITRATE PLANT NO. 2 AT MUSCLE SHOALS.

A convincing feature of these recommendations is that each and every line of investigation, however distinct and whatever the predisposition of investigators, has led invariably to the same conclusions.

2. The war has demonstrated beyond dispute that no nation is safe which is dependent upon a foreign supply of nitrogen. National security demands an adequate domestic supply of high explosives, the consumption of which in modern warfare has been found vastly to surpass all expectations. The cause of the Allies was in constant jeopardy because of the necessity of importing nitrates from Chile. It does not need Lord Fisher's recent articles regarding the future of submarine warfare to demonstrate the uncertainty of importing military supplies; but, while the fundamental requirement of national defense demands self-sufficiency in explosives, this necessity places the United States in a position of some comparative advantages, because only nations able to provide an adequate supply of fixed nitrogen can wage successful war against the United States.

The capture of atmospheric nitrogen in efficiently utilizable form is a new and undeveloped art. Unless the United States nitrate plants now completing are brought into continuously developing service they and their products are likely to be obsolescent and useless in the strenuous competition of future warfare. The only way to secure that these plants shall be always immediately available for most efficient military service and for most efficient and economical extension in case of need is to operate them continuously, whether in peace or war. Fortunately, from this point of view, nitrogen is as essential in peace as in war. It is as necessary to preserve life as to destroy life, and is the most expensive component of standard fertilizers. (Hearings, p. 83.)

In discussing the dangers incident to a lack of nitrogen, Mr. Baruch stated that—

If at this time—

During the last war—

Germany or the Germans had grasped their opportunity and bought this nitrate through a period of a year or six months, it would be most horrible to contemplate what would have happened, because the whole world was depending on one place to get its nitrates; and if the Germans had seized this opportunity and bought this nitrate, or bought the officinas and shut down the production, there would not have been sufficient propellants for us to have fought the war with, because there was no other reasonable situation that could have been developed and action taken in time.

Maj. Gen. Clarence Williams, Chief of Ordnance of the War Department, speaking along the same line, says:

We are, of course, greatly concerned with nitrogen, because of its exceeding military importance, and one can easily picture the importance of it by thinking of what Germany would have been without the process of fixing nitrogen from the air, which they already had established. Germany could not have carried on the war for six months except for her preparation in that regard.

In the early days of the use in the United States of inorganic nitrogen for explosives, fertilizers, and chemicals we were practically 100 per cent dependent upon importations from one country or another, but especially from Chile. In 1916, although we had gradually increased the production of fixed nitrogen mainly through the construction of by-product coke ovens, we were still some 75 to 80 per cent dependent upon importation.

Ernest Kilburn Scott, one of the greatest engineers of the world, says, speaking of this very question:

Of course, one line that I have been taking all along is that you have got to have that Muscle Shoals plant for national defense; you have got to have a factory for making nitrogen from air so that in the next war, if it comes, you will not have to depend upon Chile nitrate.

#### UNPREPAREDNESS FOR WORLD WAR.

It is appalling that in the face of the enormous expense to which this Government was put in the preparation of arms and armament, in the construction of ships and guns and airplanes and torpedo-boat destroyers, and all that sort of thing, we were totally without an adequate supply of ammunition and without any available means of obtaining it; and had communication with far-away Chile been interrupted, the whole costly plan essential to our national defense would have proven utterly abortive.

The great plant at Muscle Shoals was constructed under the supervision of Frank S. Washburn, the head of the American Cyanamid Co. of the United States. Speaking of our unpreparedness at the time of our entrance into the late war, he says:

The War Industries Board and the Ordnance Department appealed to the American Cyanamid Co. in September, 1917, six months substantially after we had entered the war, to provide them with an escape from a situation which they assured me could only be provided for by a willingness of the staff of the American Cyanamid Co., in effect, to absolutely subscribe themselves to this governmental effort.

The whole Government of the United States was helpless and forced to look to the head of a subsidiary company of an inter-

national trust to provide this Government with the one most essential element for the prosecution of a successful war—

They had found, as other nations had found in this war, that it was impossible to provide explosives under the artillery program that had become a necessity in carrying out the type of war that was being waged and to secure those explosives from anything like the ordinary sources. There was a particular kind of material which must be had in enormous quantities, and there was only one source, and that was from the atmosphere, from which it could be secured, and there was only one organization in the United States that knew the first thing about fixation of atmospheric nitrogen. Outside of the staff of the American Cyanamid Co. there was no one who knew anything about it except what they could take out of literature as to secret processes, and all such literature, broadly speaking, was three years old in its development anyway.

When you consider this utter unpreparedness in the production of this basis of all explosives—propellants and bursting charges—in the light of the preparedness of other countries against a like contingency it is positively criminal to risk a like happening in case of future war.

The nitrogen from coke ovens and gas works and from organic substances, such as tankage, cotton-seed meal, being totally inadequate to supply this demand, it became absolutely necessary that this country should take immediate steps to secure these essential supplies of nitrogen.

The construction of this plant became absolutely necessary. This great work was undertaken with ardor, wisdom, and celerity.

Says the Secretary of War:

During the war we spent approximately \$85,000,000 in building two nitrate plants at Muscle Shoals. Plant No. 1, the smaller of the two, is known as the Haber process plant, and the larger of the two, or No. 2 plant, upon which something over \$70,000,000 has been spent, is known as the "cyanamid-process plant."

These plants were constructed. The Haber plant did not prove successful.

Mr. KENYON. Mr. President, may I ask the Senator a question?

The VICE PRESIDENT. Does the Senator from Kentucky yield to the Senator from Iowa?

Mr. STANLEY. Certainly.

Mr. KENYON. I wanted to get the Senator's figures with regard to the cost of the two plants. How much has been spent on both?

Mr. STANLEY. Eighty-five millions.

Mr. KENYON. On both plants?

Mr. STANLEY. Yes, sir.

Mr. KENYON. And how much is required to complete them?

Mr. STANLEY. They are complete and in operation.

Mr. KENYON. I did not so understand the testimony we had the other day. It was to the effect that they are far from complete.

Mr. STANLEY. These plants are making cyanamid now. They propose to make sulphate of ammonia, which will require an additional appropriation for the improved fertilizer; but the plants are complete for the purposes for which they were constructed.

Mr. UNDERWOOD. Mr. President, will the Senator yield?

Mr. STANLEY. Certainly.

Mr. UNDERWOOD. The Senator is correct, and yet there is a further word to say.

Plant No. 1 was an experimental plant, an attempt to follow the Haber process without the information with which to follow it. It has not been a successful plant. Plant No. 2 is absolutely complete so far as making nitrate of ammonia is concerned, which is the process that is used for powder; but if the cyanamid that is made in that plant is to be pursued to a point where it will make sulphate of ammonia, then it requires an expenditure of a few million dollars more in the way of adapting it to the production of fertilizer from the present completed plant, where it makes nitrate of ammonia, ready to make powder.

Mr. KENYON. How many millions more does the Senator understand it will require?

Mr. UNDERWOOD. This bill does not ask for any appropriation, but it proposes to sell a certain amount of Chilean nitrate, which it was estimated at the time the amendment was offered would produce twelve and a half million dollars, which, it is said by the experts who prepared it, will be a sufficient sum of money to build and inaugurate that portion of the plant which would be used for fertilizers, at the same time leaving a working capital.

Mr. KENYON. So it will be \$12,500,000 in addition to what has been expended?

Mr. UNDERWOOD. The \$12,500,000 would include the working capital.

Mr. KENYON. And has about \$116,000,000 been expended?

Mr. UNDERWOOD. Not on these two plants. I have seen various estimates, but I think the statement the Senator has just read is substantially correct—that \$85,000,000 has been expended on the two nitrate plants. Of course, that does not include the money which has been spent on the dam at Muscle Shoals. That is a different proposition. My remark applies only to the nitrate plants.

Mr. WADSWORTH. Mr. President, will the Senator permit me to make an observation in connection with something the Senator from Alabama just said?

Mr. STANLEY. Certainly.

Mr. WADSWORTH. The Senator from Alabama said that this bill provides for the sale of some of the Government's Chilean nitrates, so that the sum of \$12,500,000 can be raised in that way without having a direct appropriation from the Federal Treasury. It is fair to say in that connection that when the committee had this bill under consideration the Chief of Ordnance and the Secretary of War told us that the War Department had in storage 300,000 tons of Chilean nitrate, which they thought was the necessary amount to keep in reserve in time of peace, but that 150,000 tons of that could be sold, and that that would bring approximately \$12,500,000. The Chief of Ordnance thought that that might well be sold, provided the plant was to go into operation, and the year following the plant through its production could replace the 150,000 tons; but it is well for us to remember that since that testimony was given the market price of Chilean nitrate has fallen from \$83 a ton to \$52 a ton, so that if we are to get \$12,500,000 by the sale of some of our reserve Chilean nitrate we shall have to sell 240,000 tons instead of 150,000 tons, and we shall have only 60,000 tons left as a reserve for the Army. So the amendment adopted by the committee has been made absolutely valueless, due to the change in market conditions in Chilean nitrate.

Mr. STANLEY. That is predicated upon the idea that the estimate of \$12,500,000 for the installation of this plant, and other things included, would make it as costly as ever. The estimate was based upon the same conditions as the price of Chilean nitrates was based upon.

In addition to that this Government will be put to an expense in buildings and in warehouses of over \$2,000,000 for the care of this enormous quantity of nitrates. If this nitrate is turned over to commercial users, we will save in the neighborhood of \$2,000,000.

Mr. WADSWORTH. That is not the testimony.

Mr. STANLEY. The hearings before the Committee on Military Affairs abundantly showed it.

Mr. WADSWORTH. The committee was informed that it was the set policy of the War Department to have at least 300,000 tons on hand; that they would be willing to let 150,000 be sold in one year if they had the assurance that the Muscle Shoals plant would replace it the next year, and still keep in storage 300,000 tons, storehouse expense and everything to continue. Nothing is to be saved there in warehousing and storage.

Mr. STANLEY. I will reach that point further on in the argument. The experts who appeared before the committee were not under that impression, and if I am not mistaken—and I have the record here—the Secretary of War stated that this enormous reserve of 300,000 tons of Chilean nitrate is based upon the idea of an inadequate supply in this country, and it stands to reason that if 300,000 tons will supply us with munitions now, with a plant in perfect condition, and producing, as this plant can produce, over 200,000 tons of sulphate of ammonia, which would be 40,000 tons of nitrogen for war purposes, this reserve would necessarily be only half as great.

If we have to import 300,000 tons of Chilean nitrate now we do it in order to get about 50,000 tons of nitrogen, and if we have the 40,000 tons of nitrogen available no such reserve is necessary. I think it is so stated in the hearings, and if it is not, it follows as a matter of course.

For that reason I am perfectly convinced that it is a legitimate saving. In addition to that, when this plant is a going concern it is estimated by the greatest engineers in the world and by those engineers of the Army who have given it careful study, that the net earnings of this plant will approximate \$3,000,000 a year, and that can be taken from that \$12,500,000.

Mr. GRONNA. Mr. President—

The PRESIDING OFFICER (Mr. Wolcott in the chair). Does the Senator from Kentucky yield to the Senator from North Dakota?

Mr. STANLEY. Certainly.

Mr. GRONNA. Does the Senator understand that the testimony of the experts of the War Department was that it would be necessary at all times to keep 300,000 tons on hand in case the Muscle Shoals project were completed?

Mr. STANLEY. I have such profound respect for the thorough knowledge of this subject by the chairman of the committee that I hesitate to differ with him, but I did not gather from a study of the hearings any such conclusion, and I do not think it is warranted by the statements of the witnesses before the committee. But I assume his conclusions and mine are reached alike from a study of the hearings before the Agricultural Committee, and I will insert the statements made by the Secretary of War, Dr. Lamb, Mr. Glasgow, and others in the RECORD, and they speak for themselves.

Mr. GRONNA. If the Senator will permit me, I simply want to state what I understood to be the situation.

If the Government of the United States completes these projects there will be no necessity for the keeping of the 300,000 tons referred to by the Senator from New York [Mr. WADSWORTH]. The necessity of keeping such a large supply on hand simply comes from the fact that we must purchase all of our nitrates at the present time from foreign countries—all of them, I say—from Chile, and it is for that reason, and for that reason only, that such a large supply as 300,000 tons is required. I do not believe, at least, I do not wish to be understood as stating, that it was the testimony of the experts of the War Department that 300,000 tons would be required to be kept in storage in case these plants were completed. We know that it would not be necessary if these plants were completed, and the 60,000 tons the Senator referred to would be an abundant supply to be kept on hand at one time if we were in a position to go on and manufacture, as we will do when the plants have been completed.

Mr. WADSWORTH. Mr. President, may I remind the Senator from North Dakota that the capacity of the plants is only to be 200,000 tons a year? This country can not rely completely upon one plant, whose capacity is 200,000 tons, with which to fight a war, when it has been shown by the Senator from Kentucky [Mr. STANLEY] that many hundred thousands of tons are needed in war. We have to have a reserve, in addition to a turn-out capacity.

Mr. GRONNA. I do not want to take the time of the Senator unnecessarily—

Mr. STANLEY. That is all right. I am perfectly willing to have the Senator take the time.

Mr. GRONNA. But again, in order to correct what I think is a mistaken idea, 200,000 tons of cyanamid does not mean 200,000 tons of Chilean nitrate.

Mr. WADSWORTH. Not anywhere near. That is worse yet.

Mr. GRONNA. No; I do not think it is worse yet.

Mr. WADSWORTH. From the high explosive standpoint it is.

Mr. GRONNA. I think the Senator is absolutely mistaken. If we had 60,000 tons of Chilean nitrates on hand it would be ample at one time, providing we had these plants completed and could go on and manufacture our own materials. We would then be able to have a sufficient quantity on hand, because we would be constantly manufacturing explosives, and we would be more certain of keeping a supply; we would be certain of having an ample supply if we were to make our own explosives, although the supply may be somewhat limited at any one plant, as the Senator says. But the Senator knows that while we are only manufacturing under the cyanamid process at present, there is water power at Muscle Shoals sufficient to manufacture not only with that process but with the arc process and with the Haber process, giving us an abundant supply. No one knows how much we can manufacture if that project is completed, and I do not think the Senator from New York will disagree with me on that.

Mr. WADSWORTH. There is no limit, Mr. President, to that process. The cyanamid process is out of date now, and we have this \$7,000,000 invested in it.

#### CYANAMID PROCESS NOT OBSOLETE.

Mr. STANLEY. The statement has been repeatedly made in the House that the cyanamid process is out of date. I think the statement is not warranted when we take into consideration the efficiency of the cyanamid plants and the action of other Governments. If it is out of date, it has gone out of date since the signing of the armistice. There are about 46 or 48 plants in the world to-day. According to the hearings before the Committee on Military Affairs, outside of the United States there was only one plant using the Haber process in the world in efficient operation.

France, immediately after the beginning of the late war, with every opportunity to adopt any plan she chose, installed nine plants using the cyanamid process. Of the 46 or 48 plants in the world, 35 are cyanamid plants. The only reason that Germany ever attempted to use the Haber process was on

account of her lack of water power. Her necessities, not the excellence of the plant, required it. Every expert who testified before the committee presided over by the Senator from New York [Mr. WADSWORTH] dwelt upon the intricacy, the delicacy, the complications, the multitudinous difficulties and failures that had followed the use of this process everywhere. The trouble was that Germany had no water power, and she was bound to perfect this intricate process, and she was the only country in the world then, and she is the only country in the world now, which has the technical skill, the trained experts, the chemists, and the engineers to do what Dr. Lamb stated is the most intricate and difficult engineering problem in the world, the operation of the great Haber process at Oppenau in Germany. No other country would attempt it, and Germany would not have attempted it but for the fact that she has no water power.

Mr. POMERENE. Mr. President—

The PRESIDING OFFICER. Does the Senator yield to the Senator from Ohio?

Mr. STANLEY. Certainly.

Mr. POMERENE. Are the experts of the War Department unanimous in the belief that the cyanamid process is the better of the two?

Mr. STANLEY. There was no question about it. My knowledge of the subject goes to this extent, that at the time we went into this work the War Department could not build a fixation plant any more than the Senator from Ohio could build a watch, and there was but one company in this country extracting nitrogen from the air, and that was the company using this cyanamid process, and we secured the services of this cyanamid company in building the plant.

Mr. POMERENE. I asked the question not in a contentious spirit, but for the purpose of eliciting information.

Mr. STANLEY. I understand. That is my information.

Mr. POMERENE. I know that there was a good deal of dissatisfaction during the period of the war because we did not hurry up these nitrate plants, and one of the reasons for the delay was the difficulty the War Department had in determining whether we should have the cyanamid process or the Haber process, and whether they had come to a very definite conclusion or not in that behalf I did not know, except as I would infer from the fact that the cyanamid process was adopted or was expected to be adopted.

Mr. STANLEY. I will say to the Senator from Ohio that he could not have put into operation any plan, I presume, without the assistance of private concerns which understood this process.

Germany has the Haber processes installed. She has 7 plants in which the cyanamid process is installed. Austria has 2, France has 9, Norway and Sweden have 3, Italy has 5, Switzerland has 3, Canada has 1, Japan has 4, the United States has 1, making 35.

There are eight plants using the arc process—in France 2, in Norway and Sweden 2, in Italy 1, in Canada 1, and in the United States 1. There is only one Haber process in successful operation in the world, and that is in Germany; and the Germans boast that this operation is so intricate and requires such technical skill that they told the American commissioners when they were over there that they were perfectly willing to allow the French to come in there, have their formulas, and inspect their machinery, and take the plant over, and they said there were not experts enough in France to learn how to run them in years. It is described as operating like a watch. Any part of this machine is highly corrosive to steel, likely to explode the containers at various times, which operate, as I understand, under a pressure of 1,500 pounds to the square inch. Even if it were a question now as to whether we should install the Haber process or the cyanamid process, I believe the latter is the better. But that, as has been pointed out by the experts, is not the question. We have both processes there. We have the Haber process, or a modification of it, and we have the cyanamid process.

This plant is complete. It is larger than this Capitol—one building 1,000 feet long and 100 feet wide, constructed at a cost of over \$60,000,000, and said, according to the testimony of experts, to be the finest plant of the kind on the face of the earth. I wish to call attention to the character of the plant.

Arthur Glasgow, after a review of plants and their construction the world over, said:

This will realize the utmost peace-time advantages of the war investment of \$70,000,000 in United States nitrate plant No. 2, and of the current investment of \$18,000,000 in hydroelectric and navigation development; while, at the same time, it will promote national security by making this plant always the most advanced example of the art—supplying current military requirements, and a model for efficient multiplication in case of need.

Dr. Lamb, director of the Fixed Nitrogen Research Laboratory, Nitrate Division, Ordnance Department, United States Army, and certainly capable of judging, said:

We have got the best plant in the world. We did not see a better plant anywhere in Germany, or elsewhere, than this one of our own. On the other hand, the other processes, which will compete with this process, are pretty nearly unknown to us. The Germans got their information on these processes more or less as a matter of necessity, as has been pointed out, but they are now making full use of the advantage which they have gained.

Gen. Pershing, in a letter to the Secretary of War, dated March 29, 1920, speaking of this plant, said:

In the Muscle Shoals nitrate plant the Government has a permanent installation which is of the greatest importance. In another war a plant assuring a domestic supply of nitrogen might well be a decisive factor in maintaining our security. It is understood that this plant can be utilized in peace for the commercial manufacture of nitrogen products and that such use would return a reasonable profit on the investment represented by the plant, while maintaining it constantly available for military purposes. \* \* \*

Now, Mr. President, I am not only convinced that the Secretary of War was wise in his selection of the plant, but I am thoroughly convinced that if we were to do it over again it would be wise to select the same process. In the language of Col. Joyes Dr. Lamb said:

The cyanamid process has been growing in many countries for 15 years or so, and the apparatus and procedure have been so long studied that they are well established, and revolutionary changes are not probable.

While the Haber process, as Dr. Lamb has well described it—must be worked on a very large scale, due to its very complicated nature and elaborate apparatus, and to the fact that it must be tuned up and has to run like a watch to operate successfully. Even at the time we were there they told us that the various units, the various parts of the plant, required practice; they had to get going for a week or two weeks before the whole plant got into operation, so as to get everything running at the right rate, and then they all started.

PLANT SHOULD NOT BE SALVAGED OR PLACED IN "STAND-BY" CONDITION.

Three courses are left open to us with reference to the disposition of this great plant at Muscle Shoals. We must salvage it, junk it, or put it in a stand-by condition, or operate it. The choice strikes me as being so manifest that it is hardly necessary to argue it. The statement should be sufficient.

The technical and scientific apparatus at this great laboratory would be comparatively worthless if it were salvaged. To paint the parts, guard this great property, and leave it in idleness for approaching obsolescence would cost \$500,000 a year. To that must be added the loss of the profit incident to its operation, estimated by Col. Joyes and others at approximately \$3,000,000 a year. So that to put the plant in a stand-by condition would entail a total loss to the Government of not less than \$3,500,000 a year.

In speaking of the courses left open to the Government, Secretary Baker said:

If I may continue as I was going, there are three possibilities: One is the disassembling and salvaging of the plants, and because of the loss involved that is quite out of the question. The second is to put the plants in stand-by condition, paint its corrodible parts, and let it stand there idle and do nothing with the plant until another emergency arise, if any does arise, and keep as an emergency reliance of the Government. That, of course, is a tremendously expensive thing to do, because we would get no interest at all upon the \$85,000,000 invested, and it is not unlikely that by the time another emergency would arise it would require us to resort to plants using processes developed in the future by other people and so changed as to make those we have an obsolete or obsolescent reliance.

So that the third course which I am going to suggest and the course which I recommend, and upon which this bill is based, seems to be the only practicable one, and that is to operate the plant with such slight additions to its machinery as to make its products more readily available as fertilizer, and by the process of continuous operation and the development of processes it may be possible in the operation to keep it constantly up to date, making it increasingly useful for the purposes of agriculture and for fertilizers, and keeping it constantly ready for any emergency of war, so that the Government may have a reliance for its explosive needs.

Senator KENDRICK. I would like to ask you a question or two here, Mr. Secretary. There is one which it seems to me is of extreme importance in connection with the operation of this plant. As I understand it, the primary purpose that the Government wishes to serve in operating this plant is to perpetuate it and to have it ready and available in case of an emergency?

Secretary BAKER. Yes, sir.

Senator KENDRICK. With that idea in view, will it not be almost necessary to have the plant operated, as against having it stand idle?

Secretary BAKER. For three reasons, Senator: In the first place, it will cost us about \$400,000 a year to take care of it standing idle, with all the guarding and the rest of it. That would be perfectly wasted. In the second place, if we operate that plant, this being a new art and in process of development, when you come to rely upon it in a war emergency it will be up to date.

Senator KENDRICK. And is not that the fundamental reason? Secretary BAKER. It is the fundamental reason for this bill, to continue the development process, both in the interests of agriculture and for military purposes.

The third reason is that no matter how much we may safeguard it from rain, etc., the deterioration is such that if you were to go in and

unlock the doors after four or five years and try to use it in an emergency, you will find it not worth operating.

\* \* \* That is true of every machine, from the sewing machine your wife uses to the largest industrial machine in the world. If you lock it up and leave it, it goes to pieces.

This plant was constructed under the supervision of the president of the cyanamid company, Mr. Washburn. He is qualified to speak of the industrial and commercial advantages and disadvantages incident to the obsolescence and the neglect of the plant. It must be remembered that in case of war we not only need the plant, which would disintegrate by disuse, but we need the skilled operators, we need the skilled chemists, we need the men who understand this difficult process. If the plant is painted and closed, the great force there now ready to operate it would be scattered, and when it is needed months and perhaps years will be required to reassemble an experienced personnel.

In discussing that question in 1916 Mr. Washburn said:

The staff that would steadily be employed in this plant would be 10 per cent to 15 per cent of the number that would be required in the event of war for its full operation. Chemical plants of this kind require a trained body of men, and in the event of war threatening the country we should have the almost insuperable difficulty of training from green hands substantially 90 per cent of the requisite directing and working force. It is fairly a matter of grave doubt whether, under the unsettled conditions and excitement of approaching war, and the exigent demands on everyone connected with the Army and the Navy, such a plant could be placed in full stride in less than a year. It may be conceivable that a plant of this sort could be maintained in idleness without such degree of deterioration as to render it useless, but it is highly improbable that it would be so maintained, and a country which should rely for its powder supply upon practically the indefinite maintenance in working order of an idle plant composed of highly delicate and complicated appliances would be taking a most extraordinary risk which if it could be avoided would be wholly unwarranted. A minor objection would be the cost of maintaining such a plant in readiness for operation, its upkeep, and the interest on the idle capital.

I will insert in the RECORD, with the consent of the Senate, a statement of Dr. Arthur Lamb, director of the Fixed Nitrogen Research Laboratory, on the same subject of the necessity of keeping the plant in an up-to-date condition, together with a description of the manner in which Germany maintains like plants, even after the signing of the armistice.

The PRESIDING OFFICER. Without objection, permission is granted.

The matter referred to is as follows:

STATEMENT OF DR. ARTHUR B. LAMB, DIRECTOR OF THE FIXED NITROGEN RESEARCH LABORATORY, NITRATE DIVISION, ORDNANCE DEPARTMENT, UNITED STATES ARMY.

THE NECESSITY OF GOVERNMENTAL RESEARCH ON NITROGEN FIXATION.

Other representatives of the Nitrate Division have demonstrated that the Government should operate the splendid plants at Muscle Shoals for the sake of the abundant supply of nitrogenous fertilizer which they will provide. Still other representatives have shown that these plants should be operated so that they may be maintained in a state of instant readiness and efficiency and so afford that military security which was the chief motive for their erection. It is my special purpose to demonstrate that the Government should operate the plants so that we may acquire promptly in this country knowledge of and experience with the important industry of nitrogen fixation.

Such knowledge and experience is of the utmost importance. You will concede, gentlemen, that we must be able to compete successfully with foreign countries in this essential industry, at least in our home markets. In peace times we can not afford to pay more than they do for the fertilizer on which the productivity of our land depends; in war times we can not with safety rely on foreign supplies for the chief ingredient of our explosives. If we are to compete successfully we must not only understand the chemistry of the processes but we must have experience in their operation.

Moreover, the science of nitrogen fixation is still in its infancy; it has problems which are difficult and numerous. There must be extensive research by the chemists in the laboratory. The products which they produce must be tested by agricultural experts on a convincing scale, and the methods of manufacture developed in the laboratory must be translated by the engineer into large-scale operation. Irrespective of whether the Muscle Shoals plants are to be operated or not, these investigations should be supported actively and aggressively by the Government; but evidently they would be greatly facilitated and simplified if carried on in connection with the Government operation of the Muscle Shoals plants.

In conclusion, I do not know that I can do anything better than to tell you how the Germans have faced this problem and what attitude they have taken toward it. The Oppau plant—that is, the Haber plant—was constructed about 1913, and it had an output of approximately seven or eight thousand tons a year. Then, as the war sentiment grew, the plant was greatly increased. They had operated this process at that time for some years, and they already had a plant of a size comparable to your own plant at Sheffield; and yet when they designed the building for their new enlarged plant, the one that is now working, the largest and most expensive building that they constructed—it cost 3,000,000 marks even at that time to build—was the research laboratory. It is 300 feet long, 100 feet wide, and five stories high. When we were there in the summer of 1919, this last summer, when everything was over and the plant was shut down, they still had 75 chemists working in that building on research problems, while during the war we were told that they had 250 chemists working all the time on research problems, not including the control chemists, who were housed elsewhere in the plant. So that is the scale on which Germany continued her studies at a time when she had already solved the problem and was engaged in large-scale operations. So we must not forget that in facing this matter we have got a good deal of study and investigation before us if we are going to hold our own.

NEED FOR IN TIME OF PEACE.

Mr. STANLEY. This plant is not only needed in case of war, but it is absolutely essential to the production of fertilizer in time of peace. During the hearings before the committee the Chief of the Bureau of Plant Industry, Dr. Whitney, said:

I want to say, Senator KENDRICK, that the Department of Agriculture, as I have attempted to show you, is vitally interested not only in the method but in the operation of a plant of this kind. It comes right into and supplies a need which we have felt in the Department of Agriculture must be supplied, and we would look with great and grave concern upon any proposition to keep idle any plant that could help in the development of American agriculture, to keep it idle just because it happened to belong to the Government.

THE BEST PLACE.

The War Department was wise not only in the selection of the process but in the selection of the place. The Secretary of War has stated that after a thorough investigation of commanding and available sites for the construction of this great water power he found Muscle Shoals the most available.

I know that at one time—

Said Secretary Baker—

Mr. Washburn was quite extensively interested in the power developments there. During this war I had occasion to survey the power situation in the United States. I surveyed that around Niagara Falls, in the Northeast, the Middle Atlantic, the South Atlantic, and some of the Western sections of the country. The power shortage in this country now is very large, and large in every section of the country, so that those companies which by foresight and activity have installed hydroelectric plants anywhere or large central generating stations have practically a monopoly situation in their field of operation. And I am frank to say that the Muscle Shoals dam, to me, is the greatest opportunity that I know of for the Government, in a fair, nonconfiscatory way to control a monopoly situation of the sources of power upon which the industries of the country depend.

It is located in the one place where the essentials of plant fertilizers can be most readily assembled. I know of no other spot on this continent where the three things essential to a complete fertilizer can be found within a radius of 150 miles, namely, phosphoric acid, potash, and nitrogen. If we are to maintain such a plant in competition with other plants making fertilizer and operate it at a profit its location near the natural resources enumerated is essential. Dr. Lamb says:

The compound of ammonia and phosphoric acid, ammonium phosphate, or "ammo-phos," as it is called commercially, has very desirable qualifications. It is many times as concentrated as ordinary commercial mixed fertilizer. This means that the freight charges upon it will be very much less, and since freight charges are a limiting factor in the fertilizer supply for many parts of the country, it means a much wider utilization of fertilizer, and an increased production of food.

Not only is this ammonium phosphate a nearly ideal fertilizer, but it is ideally suited for manufacture at the Muscle Shoals plants. In the first place, the cheap electric energy required for the electric furnaces is directly available; and, in the second place, there are rich deposits of high percentage phosphate rock within 100 miles of the plants.

Finally, to cap the climax, there are extensive deposits of potash-bearing feldspars in Georgia, also quite near the Muscle Shoals plants. Potash is the third of the three important ingredients of a complete fertilizer. It is possible by electric-furnace treatment to volatilize the potash from these materials, and it is not at all improbable that by a suitable combination of this procedure with the electric-furnace method for the manufacture of phosphoric acid, both potash and phosphate could be obtained, and when combined with the ammonia from the lime-nitrogen would constitute a complete fertilizer, containing all three of the necessary plant foods.

The above research possibilities all have to do with the utilization of the lime-nitrogen. There are also important possibilities for improvements in the actual process of manufacturing this substance.

There has been some question, Mr. President, about the probability of operating this plant at a profit. The experts who have investigated the question thoroughly are all convinced that we can produce a ton of sulphate of ammonia or a ton of cyanamid at much less than the essential cost of the mining and importation of a ton of Chilean nitrates. If that can be done, the question is settled, because there are no other sources of nitrogen in this country worth mentioning except the by-products of coke ovens and organic matter. The supply of organic nitrogen is now practically exhausted, as I shall show further on; the use of tankage and cottonseed meal is out of the question; and if we can produce cyanamid or sulphate of ammonia at less than the cost of importing it, the success of this project is assured.

Mr. George J. Roberts, who investigated this question thoroughly, states that after the construction of the dam—

If it is used in conjunction with the nitrogen-fixation plant No. 2, the annual profit to the Government from this combined operation is \$2,900,050, and so employed will absorb all the electric power of this first installation.

COST OF PRODUCTION.

Mr. Arthur Glasgow, following his exhaustive investigation of this question, in his recommendations to the Secretary of War, and referred to by Mr. Roberts in his statement, says:

We propose to maintain and continually enhance the military value of United States nitrate plant No. 2 at Muscle Shoals, while substituting its peace-time output for imported nitrogen compounds on terms highly beneficial to American agriculture. This will be accomplished not only without additional cost to the United States, but while earn-

ing interest on about one-half of the total war cost of this plant and accessories.

The consideration of the Muscle Shoals plant covers three progressive stages:

First, the period prior to June 1, 1921. During this period we have to pay an operating fee to Air Nitrates Corporation equivalent to \$5 per short ton of ammonium nitrate produced (say, \$2.48 per ton of dry cyanamid), and, in addition, a royalty of \$2.53 to American Cyanamid Co. and a royalty of 57 cents to Air Reduction Co. per ton of dry cyanamid produced.

Secondly, the period from June 1, 1921, until the completion of the hydroelectric power development. During this interim the operating fee is no longer payable, and the royalty payable to the American Cyanamid Co. (nominally about \$6.33 per ton of dry cyanamid, or 26 per cent more than the combined operating fee and royalty previously payable) is subject to arbitration. Inasmuch, however, as royalty is measured by superearning power, it seems certain that little if any royalty would be assessed for the use of a process which does not pay Government bond interest upon the reproduction value of the essential plant required.

Thirdly, the continuing period of cheap water power subsequent to the completion of the hydroelectric development. During this future period we shall have not only the relief from royalty due to arbitration, but the more positive relief due to expiration of patents. It is to be noted that Air Reduction Co.'s royalty of 57 cents per ton of dry cyanamid is payable until January 13, 1931.

To ascertain the financial results of the general plan of operation outlined above, we must figure in terms of ammonium sulphate, that being a readily salable commodity of well standardized value. The prewar price of ammonium sulphate was about \$60 per ton; it is our best judgment that the postwar prices will average over \$70 per ton. (See pl. 17.) Sulphate of ammonia contains about 20.6 per cent and dry cyanamid about 21.1 per cent of nitrogen; whereas ammonium nitrate contains nearly 35 per cent, or more than double the nitrogen content of sodium nitrate from Chile. Moreover, cyanamid contains over 60 per cent of lime, which is a valuable fertilizer in many soils. On the basis of nitrogen content alone, with sulphate of ammonia selling at \$70 per ton, hydrated and oiled cyanamid (containing 19.2 per cent of nitrogen) would be worth \$65 and ammonium nitrate would be worth \$117.50.

17. For any useful conclusion regarding the future financial possibilities of the plant we must look to the permanent water-power costs subsequent to, say, January 1, 1923.

Taking the "inclusive water-power costs," given in paragraph 14 above, and reducing the selling prices of cyanamid, ammonium sulphate, and ammonium nitrate, respectively, to \$37.50, \$65, and \$90 per ton, we have the following balance sheet, with eight furnaces, or 80 per cent of the capacity of the plant, in operation:

	Tons per annum.	Cost.	Per ton sale.	Profit.	Total profit.
Cyanamid.....	49,000	\$27.00	\$37.50	\$10.50	\$514,500.00
Nitrate.....	22,000	75.35	90.00	14.65	322,300.00
Sulphate.....	86,000	48.20	65.00	16.80	1,444,800.00
Annual profit for 8 furnaces (80 per cent)					2,281,600.00
Balance sheet when whole plant is in operation:					
Cyanamid.....	73,500	27.00	37.50	10.50	771,750.00
Nitrate.....	22,000	75.35	90.00	14.65	322,300.00
Sulphate.....	107,500	48.20	65.00	16.80	1,806,000.00
Annual profit for 10 furnaces (100 per cent)					2,900,050.00

This \$2,900,050 is 5 per cent interest on \$58,000,000; while ammonium sulphate at \$65 per ton (instead of \$70) still costs 61½ per cent more, per unit of nitrogen, than cyanamid at \$37.50 per ton, and 21½ per cent more than ammonium nitrate at \$90 per ton (pp. 89, 90, 91, 92).

Mr. Washburn, to whom I have referred, and who operated the plant at Muscle Shoals, estimates that that plant can produce a ton of cyanamid material containing the same amount of nitrogen found in the Chilean nitrates, for about one-third of the market price of the Chilean nitrates, or \$17 a ton. That he states is the result of 16 years of development. I ask to insert a portion of his statement in the Record.

The PRESIDING OFFICER. Without objection, permission is granted.

The matter referred to is as follows:

What has been obtained, economically speaking, is this: That the factory cost, under most favorable conditions, those which are not only theoretically obtainable, but actually obtainable in some parts of the world, everything, including overhead and superintendence and all that sort of thing inside the factory, but not including interest on the investment, for producing nitrogen, comparable to the nitrogen that is in the Chilean nitrate, is about one-third of the ordinary market price of the Chilean nitrate.

Senator SMITH. You mean to say that the factory cost is about a third of the selling cost?

Mr. WASHBURN. Of the selling cost of Chilean nitrate.

The CHAIRMAN. Suppose you put that in figures, giving the price in ordinary times.

Mr. WASHBURN. I am talking of Chilean nitrate at the rather low figure of \$2.40 to \$2.60 per unit of ammonia, which is the unit that is employed universally in agriculture, equal to 20 pounds of ammonia; and the cost in a well-placed, well-conducted cyanamid factory is 80 to 90 cents a unit.

Senator SMITH. Expressed in tons, it would be about \$50 a ton for the Chilean nitrate?

Mr. WASHBURN. About \$50 a ton, and for a ton of cyanamid material having the same amount of nitrogen it would be about one-third of \$50, or, say, \$17.

That is the result, one might say, broadly speaking, of 16 years of development (p. 472).

Mr. STANLEY. Secretary Baker states:

Then they will have to sell their Chilean nitrate at \$27 while we are getting for our cyanamid \$37.50, and as I have been informed by one of the big firms who own the mines in Chile that it can not be brought into this country under \$40 without any profit to them on their investment (p. 11).

I will further state that there is no question that the production of cyanamid at \$27 a ton will preclude the danger of competition from Chilean nitrates.

As to the profit to be derived, I quote further from Mr. Roberts, as follows:

I do not feel any hesitancy in saying that we have made liberal estimates. We have our estimates, which we will present to you in the greatest detail, so far as that goes. We also have got here in our sulphate ammonia \$16.80 profit to go on, and we certainly will be self-sustaining in any condition I can conceive of.

There is no doubt in my mind, sir, at all that this plant can more than carry itself. I feel no hesitancy in saying that. I certainly expect it to make \$3,000,000 a year (p. 23).

In a letter to me from Mr. Frank B. Davis, clerk to the Secretary of War, he sets forth the cost of producing cyanamid and Chilean nitrates in 1912 at \$1.36 per hundredweight. The London Statist of June, 1920, gives the figure at approximately \$2.16 per hundredweight. Commerce Reports, dated Washington, D. C., October 15, being the consular and trade reports issued by the Department of Commerce, refer to the sale of Chilean nitrates for 1920 as follows:

Nitrate production for the balance of 1920 has been successfully sold by the Association of Nitrate Producers, and fair sales for early 1921 shipments have also been made. No announcements of very recent large sales have been made. The price of nitrate is now about 17 shillings (shilling=\$0.243 at normal exchange) per quintal of 101.4 pounds.

Mr. SMOOT. Mr. President—

The PRESIDING OFFICER. Does the Senator from Kentucky yield to the Senator from Utah?

Mr. STANLEY. Yes.

Mr. SMOOT. I desire to ask the Senator if he intends to conclude his speech to-night, or would he prefer that an adjournment be had at this time and go on with his remarks the first thing to-morrow?

Mr. STANLEY. I should like to proceed for about five minutes in order to get through with the particular branch of the subject I am now discussing and then to have the Senate adjourn.

Mr. SMOOT. Very well.

Mr. STANLEY. Mr. G. J. Roberts, of the Ordnance Department, a skilled engineer, who has given this subject exhaustive study, makes this statement as to the cost of production:

Now, after the water power is developed—when we have water power developed the cost of the cyanamid is \$27 a ton; but the cost of the sulphate \$48.20 a ton, \$21.20 difference (pp. 58 and 59).

If the great plant at Muscle Shoals will deteriorate by disuse, as it will; if the Government will lose interest upon \$85,000,000 expended by it; if the personnel of skilled chemists and engineers so essential to the operation of the plant will be disbanded and scattered; if it will take a year, at least, in case of war to put this plant in a going condition; if it can be operated at a profit of \$3,500,000, or more than 4 per cent on the cost of its construction, it strikes me as the sheerest piece of folly, of mismanagement, even if there be no other motive and no higher purpose than the profitable use of the apparatus, to lock the doors of this great laboratory.

As it is, the national security involved would justify us in keeping this plant in operation even at a loss.

When I resume this subject again I shall take up the next phase of the question, namely, the peace-time needs of a plant of this character. Nitrogen can preserve life as well as destroy it. It is as necessary to the prosperity of the agriculturist in time of peace as to the success of the Army in time of war.

[At this point Mr. STANLEY yielded the floor for the day.]

Tuesday, January 4, 1921.

Mr. STANLEY. Mr. President, on yesterday I called the attention of the Senate to the fact that the Government had expended \$85,000,000 in the erection of two plants for the purpose of extracting nitrogen from the air to be used in time of war for munitions and in time of peace for the making of fertilizer.

The Muscle Shoals plant is at this time in a completed state. It is perhaps the greatest and the finest apparatus of its kind in the world for the making of cyanamid and of fertilizer. The question now arises whether the plant shall be salvaged, being of no further use for the making of munitions, shall be put in a stand-by condition, or shall be operated.

To put the plant in a stand-by condition would deprive us of the profits on the making of fertilizer, estimated by those who know best at about \$3,000,000, and would entail an expense of

not less than \$400,000 a year for guarding and the like, with the result that if left in that stand-by condition the personnel of skilled operatives who are now in charge of it would be scattered and in 5 or 10 years, it is estimated by the Secretary of War, the plant itself would become more or less impaired by disuse, obsolete and worthless.

I discussed at some length yesterday, and shall not repeat to-day, the necessity for the maintenance of the plant as a provision for supplying without delay an absolutely necessary amount of nitrogen for the furnishing of fertilizer in time of peace. As a war measure, its operation is necessary, without regard to the cost of operation and without regard to the profits derived from the manufacture of sulphate of ammonia. If the plant were necessarily operated at a loss, and at a great loss, the necessities for the use of nitrogen for the purpose of explosives in time of war, the difficulty in obtaining them from foreign ports, the peril to which the country would necessarily be exposed by lack of an adequate supply of fixed nitrogen, that loss would be justified. However, the plant is as necessary, in my opinion, and it is as wise to operate it for its uses in time of peace as to maintain it in a going condition on account of the necessities of war.

#### BY-PRODUCT COKE OVENS.

It is maintained that the by-product ovens of the United States are now producing a sufficient amount of sulphate of ammonia, more, in fact, than the market demands or the public will take, and that by the operation of the plant at Muscle Shoals, producing about 200,000 tons of fertilizer per annum, the value of the product will be impaired, the great steel industry and the operation of blast furnaces will be rendered unprofitable, and that irreparable damage will be done to private enterprise.

This position, in my humble opinion, is not well taken, and there is nothing in the facts to warrant that conclusion. In the first place, the manufacture of ammonia is not the purpose for which by-product ovens are erected. A by-product oven producing a ton of coke would produce about 6 pounds of nitrogen, about 10 gallons of tar, about 50,000 cubic feet of gas that can be used for illuminating and other purposes, and a small amount of lubricant or motor oil. The production of nitrogen is no more the purpose for the erection of by-product ovens than the making of glue is the prime purpose of erecting slaughter-houses and packing houses. The production of 200,000 tons of sulphate of ammonia will no more affect the by-product industry than the destruction of the price or the value of bristles would affect the killing of hogs and the packing of pork.

More than that, the by-product oven can not be depended upon for the production of fertilizer. There is a constant demand for the use of fertilizer. The tiller of the soil, who is in the habit of using fertilizer, needs a fixed amount each year, and in order to extend the use of fertilizer—and nothing is more essential at this time—we must be assured of an adequate amount. There is no business that is more vacillating or more uncertain, or that more depends upon industrial conditions and financial conditions than the making of pig iron. Whenever there is an overproduction of pig iron or loss in demand, the blast furnace closes, and with the closing of the blast furnace would be destroyed for the time the production of an essential fertilizer.

Maj. Gaillard has given this question careful and exhaustive study. He states:

The expansion of nitrogen supply from coke ovens and gas works, even though abnormally stimulated by the war demand, will not furnish in the future half of the nitrogen used in this country, and unless this source of supply is supplemented as soon as possible by the operation of the Government fixed-nitrogen plants, and further supplemented by such development of the private fixed-nitrogen industry that there may be, this country will be even more dependent on imported nitrogen 10 years from now than it is at present, and not only will the country be less prepared from a military point of view but the American consumers, which include directly a very large proportion of the farmers of this country as well as many of the most fundamental chemical industries, and indirectly the greater part of the population, will find it harder than ever to get an adequate supply of nitrogen at a cost within reason.

According to the United States Geological Survey, we produced in 1918, 218,194 tons of sulphate of ammonia as a by-product of coke ovens; in 1919 we produced 211,300 tons of sulphate from coke ovens, with a total production of 25,171,000 tons of coke. At a time when the war demands made it absolutely necessary that those coke ovens should be run to the maximum of output, they did not produce one-third of the necessary sulphate of ammonia required as fertilizer and in industrial enterprises. It is claimed by those who oppose this bill, Mr. Washburn and others, that in 1920 the coke ovens will produce 500,000 or 600,000 tons of sulphate of ammonia, the claim being predicated upon the idea that the blast furnaces will run to full capacity, both those that are now in operation and those that will become producers during this year; and

that that sulphate of ammonia will be all used for the production of fertilizer. Taking that as true, it is estimated that we can produce 36,800,000 tons of coke from ovens run at 85 per cent capacity, which will give us 977,100,000 pounds of ammonia sulphate, or 487,000 tons. But 45 per cent of that output will be absorbed by industrial enterprises, leaving 268,000 tons for fertilizer purposes.

Mr. McNARY. Mr. President—

The PRESIDING OFFICER (Mr. SMITH of South Carolina in the chair). Does the Senator from Kentucky yield to the Senator from Oregon?

Mr. STANLEY. Certainly.

Mr. McNARY. I am much interested in the very intelligent discussion of the Senator from Kentucky. I think one of the important features of the pending bill, if it passes, will be its ability to provide fertilizer. I desire to know from the Senator if he has given that matter ample consideration, and is able to say to the Senate that as a fertilizer nitrate has proven practicable, and within the easy reach of the farmer, and can sell at competitive prices with other fertilizers?

Mr. STANLEY. I will say to the Senator that I shall discuss that question at some length in a very short time. Nitrate is an ideal fertilizer, as has been demonstrated by 50 years of practical experience.

Maj. Gaillard, of the Agricultural Department, has made a careful survey of the future needs of sulphate of ammonia for fertilizer purposes. He has taken into consideration the product of coke ovens, fertilizer from inorganic sources, imports from Chile, and all other sources from which this material may be obtained. He estimates that in 1924 agriculture will demand 172,000 tons of nitrogen, the industries 120,000 tons, and for military explosives 2,500 tons, making a total of 294,500 tons of nitrogen. The deficiency in the domestic supply, if the Government does not operate, will be 172,000 tons of nitrogen, or the equivalent of between 700,000 and 800,000 tons of Chilean nitrate.

Maj. Gaillard's statement illustrating the total inadequacy of coke ovens to supply the country's future need for inorganic nitrogen is in full, as follows:

The preceding consideration of the probable future consumption of inorganic nitrogen for agricultural, industrial, and military purposes and the supply to be expected from the coking of coal and the fixation of nitrogen within this country and the importation of sufficient nitrogen to meet the deficiency in domestic production may be summarized for 1924 and 1930, the two years for which figures have been previously given, as follows:

	Nitrogen.	
	1924	1930
Estimated peace time consumption in—		
Agriculture.....	172,000	285,000
Industries.....	120,000	150,000
Military explosives, assumed.....	2,500	3,000
Total consumption.....	294,500	438,000
Estimated domestic supply from—		
Coking of coal.....	122,500	159,500
Privately owned fixed nitrogen plants.....		25,000
Total domestic supply.....	122,500	184,500
Deficiency in domestic supply if Government plants do not operate.....	172,000	353,500
Estimated supply from—		
Government fixed nitrogen plants.....	45,000	55,000
Deficiency in domestic supply if Government plants operate.....	127,000	198,500
Estimated imports necessary:		
Canadian cyanamid.....	15,000	15,000
Chilean or European nitrate, if Government plants not operated.....	157,000	233,500
Chilean or European nitrate, if Government plants operated.....	112,000	183,500
Proportion of total consumption furnished by domestic supply:		
If Government plants not operated..... per cent.....	41.6	42.2
If Government plants operated..... do.....	56.9	54.7

NOTE.—Nitrogen exported from the United States is not included in the above, as amount of future exports uncertain, and if included only make the deficiency of domestic supply more marked.

EXHAUSTION OF ORGANIC NITROGEN.

Mr. President, hitherto this essential material to the profitable cultivation of the soil has been obtained in great measure from organic sources. I will, with the consent of the Senate, insert in the RECORD, from page 145 of the hearings before the Agricultural Committee, a table quoted by Mr. Washburn, who is opposing this measure and whose statements may be taken, at

least from this viewpoint, as correct, showing the average annual production of organic compounds from which fertilizer is made from 1912 to 1917, and giving a total of over 2,500,000 tons of organic fertilizer, obtained principally from cottonseed meal, tankage, dried blood, fish, and miscellaneous substances.

The PRESIDING OFFICER. In the absence of objection, permission to do so will be granted.

The table referred to is as follows:

Average consumption of organic compounds (1912-1917).

Product.	Tons of product.			
	Used as fertilizer.	Used as feed.	Per cent of total.	
			Fertilizer.	Feed.
Cottonseed meal as direct fertilizer.....	500,000	840,000	23	39
In fertilizer industry.....	300,000		14	
Exported.....		520,000		24
Tankage.....	240,000	80,000	75	25
Dried blood.....	27,000	6,000	75	17
Fish.....	50,000		100	
Miscellaneous organics.....	600,000		100	
Base goods, garbage, etc.....	1,717,000	926,000	54	29
Exported.....		520,000		17

  

Product.	Tons of nitrogen.			
	Used as fertilizer.	Used as feed.	Per cent of total.	
			Fertilizer.	Feed.
Cottonseed meal as direct fertilizer.....	29,000	55,000	21	40
In fertilizer industry.....	18,000			
Exported.....		34,000		25
Tankage.....	18,700	7,000	73	27
Dried blood.....	3,000	700	75	17
Fish.....	3,300		100	
Miscellaneous organics.....	30,000		100	
Base goods, garbage, etc.....	102,000	62,700	51	32
Exported.....		34,000		17

References: Federal Trade Commission Report on Fertilizer Industry; Fertilizer Control Survey of Fertilizer Industry; American fertilizer handbooks; United States Census of Manufactures, 1914.

Mr. STANLEY. More than 2,500,000 tons of organic fertilizer, which have hitherto been available for agricultural purposes, can no longer be obtained. In the beginning the fertilizer used by the farmer came almost entirely from organic sources. In 1899 five-sixths of the nitrogen in our fertilizers came from organic sources; in 1904, about three-fourths; in 1909, slightly over one-half; in 1914, slightly under a half; and in 1919, somewhat over one-third was obtained from organic materials. This substitution of inorganic for organic materials is due in great measure to the constantly increasing demand for cottonseed meal, tankage, and other like substances for stock feed, and 'tis a consummation devoutly to be wished."

Cottonseed meal now is approximately of the same value as corn, about three-fourths that of oatmeal, about two-thirds that of wheat flour; and at these prices it will naturally be evident why cottonseed meal is going into feed rather than into fertilizer.

Figures compiled by the Agricultural Department show that in 1917 and 1918 about half of the high-grade animal tankage was being used for feed and about two-thirds of the cottonseed meal. Since then this proportion has undoubtedly increased.

In 1917, according to statistics gathered by the Department of Agriculture, a little less than half of the total nitrogen in mixed fertilizers was furnished by inorganic materials, Chilean nitrate supplying about three-fifths of this, sulphate of ammonia about one-third, and miscellaneous materials the remainder. I will incorporate in my address a portion of the statement of Dr. Whitney, Chief of the Bureau of Soils.

He gives a very interesting account of the change to which I have referred. He says:

Another change came, however, that we had not foreseen; that is, the use of the organic ammoniates for feeding cattle. One of the first necessities was increased production of meats and of fats. After this country entered the European war the demand for meat and for feed-stuffs were so great that the War Industries Board asked me if it would be possible to entirely stop the use of cottonseed meal for fertilizer and have it all used for feeding purposes. I told them it would not be possible unless they could provide a substitute in the fertilizer



industry; that that was one of the supplies we counted on for the farmer. As the result of the war, however, the amount of cottonseed meal, of tankage, of dry blood, and of fish scrap that has gone into feeding has far exceeded our wildest idea of what could be possible. And as the result at present these materials are very hard to get; they are very high priced.

The price of ammonia and of organic ammoniates was formerly controlled by the price of nitrogen and nitrate of soda. In the middle of 1919, or after the armistice was signed and things were coming into more normal conditions, the price of nitrogen and of nitrate of soda fell materially, and, as I remember it, in October it was about 25 per cent higher than the prewar prices. Ammonium sulphate came down, but the price of organic ammoniates went up. We called a conference of the producers of the main organic ammoniates, tankage, cottonseed meal, and fish scrap and asked them why it was that prices had not come down but were still going up. They very coolly replied: We are not interested in fertilizer; we are out of that class; we are selling now not on the basis of ammonia, as we did to the fertilizer people, but are selling on the basis of the protein content, based on the price of the protein that is in these concentrated feeds, and the price of cottonseed meal, although very high for fertilizer, is very low for feeding purposes. Now, gentlemen of the committee, we find that the greater proportion of these organic ammoniates is going into feeding, over which we have no control.

If this Government can by the use of inorganic material taken from the air supply necessary fertilizer, leaving 3,500,000 tons of valuable feed for the stock raiser, it will be indeed "a consummation" whose value it is difficult to estimate.

It must be remembered that when tankage and cottonseed meal and other protein substances—when these cheaper materials are put into that balanced ration it makes the whole mixture more valuable and increases the product from the animal at the same time, while lessening the cost of production to the farmer, enabling the consumer to purchase at a lower cost.

#### DEMAND FOR SULPHATE OF AMMONIA AS A FERTILIZER.

In response to a question as to the ease of handling sulphate of ammonia, Mr. George J. Roberts, of the Ordnance Department, who it has been thought by some would take charge of the great plant at Muscle Shoals and who is an acknowledged expert on the subject, in response to a question by the Senator from South Carolina [Mr. SMITH], who asked if it could be easily handled, said:

Just as easily as the Chilean nitrate. It has been known and used for 50 years by the farmers, and by all the users of Chilean nitrate.

As to whether or not this product will be marketable, and as to the danger of producing an oversupply of sulphate of ammonia, Mr. Roberts continues:

That is just like gold dust, so far as selling is concerned. I can sell it and get plenty of people to sell it at 2 per cent commission. It is so easy to market it that they will sell it on a 2 per cent commission basis. I have already had a big firm in New York come to me and offer to take it on that basis (p. 12).

In response to a question by the Senator from New York [Mr. WADSWORTH] as to what effect it would have on the chemical fertilizer industry of this country, he replied:

None. The demand for nitrogen is growing right along, and we will have to import larger and larger quantities of Chilean nitrate, even with this plant running.

Senator WADSWORTH. There is room for everybody?

Mr. ROBERTS. There is room for everybody. Mr. Myers, who represents the Chilean nitrate industry in this country, says the demand for nitrogen is going to be so great that this would not affect his interests at all.

Senator SMITH of South Carolina. That is the ingredient in all fertilizer that is not only in greatest demand but it is the costliest.

Mr. ROBERTS. Yes, sir.

Senator SMITH of South Carolina. Nitrogen, as every agriculturist knows, is the very life of the grain itself. It is not so important in the fibrous plants, but for cereals of all sorts with the proper use of nitrogen the crops can be doubled and, in some instances, quadrupled.

Mr. ROBERTS. I know of nothing, sir, that does not require nitrogen just as much as grain. Tobacco certainly requires it, and you can not successfully grow tobacco without it. Certainly your truck gardens could not exist without it.

In 1916, out of an expense bill for fertilizer of \$175,000, Mr. Washburn states, \$75,000 of it, or 40 per cent, was spent for nitrogen. The nitrogen content of a perfectly balanced fertilizer—phosphoric acid, potash, and nitrogen—is the most essential and the most costly, being approximately 40 per cent of the cost of the whole mixture.

The three essential elements of a complete plant food are fixed nitrogen, phosphoric acid, and potassium, according to a statement of Col. Burn, and of these three nitrogen is claimed to be the most important and it is the most expensive.

The first use of inorganic manures occurred about 1850 as a result of German research development, and it was some 25 or 30 years later that the use was taken up in the United States. It has, of course, very rapidly expanded, until to-day some 8,000,000 tons are used per year, having a value of approximately \$400,000,000. Of this amount some 100,000 tons are fixed nitrogen, with a value of approximately \$40,000,000.

#### GROWING DEMAND FOR FERTILIZERS.

If we can consume 8,000,000 tons of fertilizer, if we can import and do import and will import this year 800,000 tons of

Chilean nitrate—and a ton of Chilean nitrate supplants only a part of a ton of sulphate of ammonia—it will be readily seen how utterly impossible it is for the blast furnaces to accommodate this enormous and growing demand.

The Department of Agriculture and those most interested in the use of nitrate as a fertilizer, understanding how totally inadequate is the supply, have not brought this matter home to the agriculturists of the country.

The use of fertilizer on a broad scale is confined at present to only a small section of the country. If we did use fertilizer as we will use it and as we should use it, the demand would infinitely exceed the supply. It has been estimated by the Department of Agriculture that if nitrate were to be used next year on all the cultivated lands of the United States to the same extent that it is now used in Georgia—a use about the same as in England and less than in Germany—there would be required more than 400,000 tons of nitrogen in addition to what is now used in fertilizers. To furnish this nitrogen would take 2,000,000 tons of sulphate of ammonia, or nearly 2,500,000 tons of Chilean nitrate. With a normal need for 2,000,000 tons of sulphate of ammonia, you can readily see what from two to five hundred thousand tons of blast-furnace production would do to satisfy this essential demand. If mixed fertilizers were used to the extent of one-half the amount used in the State of Georgia, then the shortage would be at least 150,000 tons of nitrogen, to supply which would take approximately a million tons of Chilean nitrate.

Mr. President, before the use of nitrogen as a fertilizer the soils of Germany, France, and England produced about 15 bushels of wheat to the acre. To-day England uses about as much fertilizer as Georgia. Germany uses more. The average production of wheat per acre in England is 30 bushels; in France and Germany it is 28 bushels.

In my own country, southwestern Kentucky, described by Savoyard at one time as having the fatness of Egypt, we produced 25 or 30 years ago from 20 to 30 bushels of wheat to the acre. That country has exhausted its nitrogen supply. Those same fields to-day, for the lack of that nitrogen, will not produce half that amount—not over 15 or 18 bushels of wheat to the acre. The cost of cultivation of an acre of land in grain is practically the same whether you use fertilizer or not. The labor is the same; and yet with no increase in labor, with a slight increase in cost, you can in this country, as they have done in Europe, absolutely double the production of the staff of life.

To-day we are seesawing in the Senate, seesawing in the country. One great army of millions is crying for a lowering of the high cost of living and the price of bread. The other is protesting against the lowering of the price of wheat, since it is now below the cost of production. Here is the solution of the problem. Increase the fertility of the soil, and you at once lower the cost of the finished product, lower the cost of flour and bread, without decreasing in any degree the profits of the producer.

Mr. McNARY. Mr. President—

The PRESIDING OFFICER. Does the Senator from Kentucky yield to the Senator from Oregon?

Mr. STANLEY. Certainly.

Mr. McNARY. I appreciate the Senator's statement that the soil of the country in many localities has been worn out by constant use. There are a great many fertilizers, such as the nitrates we get from Chile, barnyard manure, and bean manure or legumes, that have proven very satisfactory and cheap in many parts of the country. I want the Senator to answer this question, if he can: Has any nitrate been produced at the Muscle Shoals plant as fertilizer? If so, has that fertilizer shown itself to be able to compete on the market with other fertilizers that we may call standard fertilizers?

Mr. STANLEY. By an actual test this plant has shown that it can produce 215,000 or 220,000 tons of sulphate of ammonia.

Mr. WADSWORTH. Mr. President, this plant can not produce a pound of sulphate of ammonia. It can only produce cyanamid.

Mr. STANLEY. I stand corrected. This plant can now produce cyanamid, a known, recognized commercial fertilizer. The sulphate of ammonia, however, is better known and is more easily handled. The lime in the cyanamid is objectionable. It is hard to handle; but in the form of sulphate of ammonia you rid it of those objectionable features. It has the same content, and is a merchantable fertilizer, in demand by the mixers of fertilizers and the users of simple fertilizers, and it is only a matter of a small expenditure for the installation of known processes, and there is no question about their efficiency to convert the cyanamid into sulphate of ammonia.

Mr. McNARY. Mr. President, I understand from the Senator that the finished product of fertilizer has not been produced at this plant at Muscle Shoals.

Mr. STANLEY. No.

Mr. McNARY. Therefore, no practical test has been made of the product as fertilizer?

Mr. STANLEY. Oh, I beg the Senator's pardon. Sulphate of ammonia has been produced for years by by-product coke ovens, and it is now in general use. You produce the same substance that is produced by the coke ovens.

Mr. McNARY. That is true in the respect that the Senator speaks of, but no product from the plants at Muscle Shoals has been used for the purpose of enrichment of the soil?

Mr. STANLEY. No. No sulphate of ammonia—

Mr. McNARY. Therefore, how do you estimate the cost per unit of this fertilizer to the farmer, so as to judge whether or not it will sell in competition with the other well-known fertilizers on the market? In other words, what is the inducement to the Government to put up this money to make fertilizer, unless it can readily compete with the other fertilizers of the country?

Mr. STANLEY. I went into that question at great length on yesterday. I shall be glad to advise the Senator in regard to it.

Arthur Glasgow, who investigated this question in Europe and elsewhere abroad, the ablest engineers of the Army and of the Ordnance Department, and experts of known ability in Europe and America have thoroughly investigated that question. Secretary of War Baker has stated that cyanamid can be produced in this plant by the use of water power at \$27 a ton. It can be produced at a little increased cost by the use of steam power. Sulphate of ammonia can be produced at \$42 and some cents a ton, or at a profit over the then cost of sulphate of ammonia of about \$16.80. There is no question about the capacity of this plant to produce cyanamid. There is no difficulty in ascertaining the cost of converting cyanamid, by a comparatively simple process, into sulphate of ammonia, and that cost is easily estimated; so that the cost of producing this product at this plant are well known, and have been definitely ascertained.

Mr. McNARY. Mr. President, if the Senator will permit another question, I assume that the figures he has offered here in demonstration of his arguments were prepared during the war, when there was a great shortage in the tonnage of our merchant marine and the tonnage of the world?

Mr. STANLEY. Yes.

Mr. McNARY. In view of the plentitude of ships at present, would not the competition of Chilean nitrate be very much more keen than would be indicated by the figures the Senator has offered here?

Mr. STANLEY. Chile can not export nitrate of soda at a price that is anything like competitive with the sulphate of ammonia produced by this plant. I have some figures here on that subject.

#### DANGER OF DEPENDENCE UPON CHILEAN NITRATE.

As you understand, this Chilean nitrate is produced from a salt called caliche, found in northern Chile. This salt is subjected to a process by which the merchantable commodity is extracted. In 1901 the Chilean nitrate imported into this country contained 28 per cent of nitrogen. In 1909 it contained 19 per cent. In 1919 it had 15 per cent; so that within 30 years the nitrogen content—the only thing that has any value in this Chilean nitrate—has decreased approximately 50 per cent. The total production per man in 1881 was 73 tons. In 1911 it was 56 tons. At present Chilean nitrate can not be imported into this country for less than \$40 a ton. I put in the Record yesterday a statement from the London Statist to that effect and an itemized statement giving the details of every item of this expenditure.

More than that, there is an export duty on Chilean nitrate of over \$12.53 a ton. You must remember that when you buy a ton of Chilean nitrate for, say, \$55, you have 15 per cent of nitrogen. That is what you pay for. When you get a ton of sulphate of ammonia you have 20 per cent, so that a ton of Chilean nitrate, say, at \$75 would be the equivalent of a ton of sulphate of ammonia at \$100. At \$42 the actual cost of that Chilean nitrate is equivalent to sulphate of ammonia at \$60. So that even if Chilean nitrate should sell for the same price in this country as sulphate of ammonia—and that is impossible—the sulphate of ammonia would be one-third more valuable on account of its nitrogen content.

More than that, we must look to the future, and it is a matter of very great importance, as I see it. The total production of Chilean nitrate to-day is about 3,000,000 tons. During the war we took annually over 2,000,000 tons of it. To-day we are absorbing one-fourth of the entire production of Chilean nitrate.

Chilean nitrate is rapidly decreasing on account of the leanness of the ore and the increasing expense of producing it. The demand for nitrate is increasing in this country by leaps and bounds, and it is estimated that within a few years our normal demands will be over 10,000,000 tons. For the last 20 years the demand for fertilizer has increased 7½ per cent, and if that demand increases for 5 years we will take one-half of the production of Chilean nitrate; if that demand increases as we think it will increase, in less than 10 years we will be using in this country more nitrate for agricultural purposes alone than is produced in the entire Chilean field. I will return to the question of the production of Chilean nitrate at a later time.

As I stated, it is estimated that in 1924 our consumption of nitrogen for agricultural purposes will be 10,500,000 tons.

The United States statistics available show that in 1899 we used 2,887,000 tons of fertilizer; in 1914 we used 8,432,000 tons.

Now I wish to call the attention of the Senate to another matter. We can not afford to endanger a dependable supply of nitrogen. We are utterly unprepared in case of war, no matter how many guns we have, no matter how many ships, no matter what our coast defenses or our fortifications are, we are utterly unprepared unless we have an available supply of nitrogen for the making of munitions and explosives.

France understood the necessity of the use of nitrogen, and has installed nine great plants, using the same process, as the backbone for her enterprise.

Great Britain was greatly concerned over the insecurity of nitrogen supplies and early appointed a committee of prominent business men and eminent scientists to investigate and advise. In its full report, in May, 1919, the committee, after complete analysis of all comparative data as to the cost, yields, and so forth, and a recognition of the scarcity of water powers in Great Britain, recommended, as an economic provision for the safeguarding of the future and for meeting a portion of the growing demand for the various nitrogen products, the establishment without delay, under private enterprise, if necessary, and if not, then supported by the Government, of plants for the production of 60,000 tons of sulphate, or 12,000 tons of nitrogen.

Italy before the war had a capacity of 7,000 tons of nitrogen by the cyanamid process. The present capacity is probably 20,000 tons.

Japan has fully doubled her capacity. Germany has forbidden the export of nitrogen without the consent of the Government. The Japanese are working very hard on this problem, and they are now working on all processes.

I include a statement from Col. Joyes as to the activities of other nations.

The matter referred to is as follows:

#### PREPAREDNESS AND GOVERNMENT OWNERSHIP BY OTHER NATIONS.

[Statement of Col. Joyes, hearings, pp. 52-53.]

This information, which comes from most reliable sources and is not to be disputed, shows that beyond question anyone outside of Germany producing or desiring to purchase nitrogenous fertilizers or similar compounds will have to deal with a single organization, essentially a branch of the German Government, which will have an absolute monopolistic control of all such products produced in Germany, or whatever surplus there may be for export.

In France, the Government found itself in somewhat similar position as to actual governmental investment in fixation plants, although on a much smaller scale. During the war the Government became interested financially in nearly all of the expansion of nitrogen fixation, and it owned completely two of the cyanamid plants.

At the time of the commission's visit to France the subject of utilization of the large cyanamid producing capacity created during the war, and especially of that part of it which was owned by the Government, was being discussed in the Chamber of Deputies and in the press. The urgent need for more use than previously of nitrogenous fertilizers by French agriculturists, on the one hand, and, on the other hand, the advisability of some measures to assure the continued operation of the war-created manufacturing facilities were being urged by men of such prominence as M. Pottevin, M. Roux, and M. Tisserand. There seemed to be very strong public opinion in favor of some arrangement which would insure the operation of the cyanamid plants. At the time of our visit no decision appeared to have been arrived at as to a definite plan of operation, but it appeared very probable that there would be some action by the Government, perhaps not as systematic and comprehensive as the German arrangement above described, but nevertheless one that would provide some basis of organization of the industry to meet the commercial outlook, possible German competition, etc.

Our commission saw installations in French Government plants for making ammonium sulphate out of cyanamid, and at one there was a very large scale installation of apparatus then (July, 1919) in process of erection for this same purpose. The French Government is, therefore, unquestionably in the market to some extent as a producer of ammonium sulphate.

Mr. STANLEY. There is not a nation in the world that is not prepared to supply nitrogen to-day by artificial means in case of war. Germany is now producing 300,000 tons of nitrogen by the Haber process, 120,000 tons by the cyanamid, and 150,000 tons from her coke ovens. She has installed seven cyanamid processes and two Haber processes. France has nine great plants for the production of fixed nitrogen, Germany is

now producing 8,700 tons of nitrogen per million of her population; Norway, 7,250 tons per million of her population; Great Britain, 2,240 tons; Canada, 2,000 tons; France, 1,850 tons; Switzerland, 1,840 tons; the United States, 1,480 tons, less than one-third of Germany and less than one-half of Norway and Sweden.

Mr. President, if we were to-day engaged in war, if our relations with Great Britain or Japan or with South America were strained, we would be utterly unprepared, no matter how many hundreds of millions you put in your appropriations for the Army and Navy.

There is no adequate supply of nitrogen obtainable to-day that is not absolutely controlled by Great Britain.

ENGLAND'S WORLD-WIDE CONTROL OF CHILEAN AND OTHER NITRATES.

The only known natural fields of potassium nitrate are located in British India. The only other supply is in the Chilean field. This Chilean nitrate is controlled by an ironclad trust. Unlike most trusts, it makes no secret of its existence and of its purposes. I hold in my hand a report from the American embassy, of date October 15, 1920, in which it is said, among other things:

According to the organization of the association, it will cease in its functions on the 30th day of June, 1921, if by that date it does not include in its representation 90 per cent of the nitrate producers. At present the organization has about 85 per cent of the total number of producers, the balance being represented by American and German firms.

While we purchase one-fourth of all the nitrogen produced in Chile, of the 118 nitrate plants in the nitrate district of Chile America owns but 3; in production it produces about 2½ per cent. Undoubtedly the largest producers of nitrate in Chile are British. British nitrate plants now number 45 out of a total of 118, or close to a half.

In addition to the companies designated as British, there are many of the so-called Chilean companies, such as the Agua Santa Nitrate Co., which are controlled entirely by British capital. However, a glance at the statistics will show that while the British own they do not buy, for the entire United Kingdom, with all its new possessions, does not consume over 20 per cent of the amount sold to the United States.

A recent statistical publication gives the following list of nitrate companies, with the nationality of their ownership:

Chilean companies, 54; British companies, 43; Slavic companies, 8; German companies, 6; American companies, 3.

I hold in my hand a consular report, whose authenticity no Senator can question, which states:

The nitrate association virtually a cooperative trust. The present nitrate association (Asociación de Productores de Salitre de Chile) was formed in 1919. It is engaged in propaganda work to increase consumption, and also collects much valuable data. Its principal function is, however, the fixing of prices, and in that function there is considerable danger to our interests. The workings of the association, its rules and regulations, are beyond the scope of this report, so that no attempt will be made to describe them here. However, practically every nitrate company is a member of the association with the exception of American and German companies. The former because it was believed to be against the Sherman law, and the latter because they were not permitted to enter. The German companies are to be admitted to the association within the near future.

Not only that, but the railroads which operate between these fields and mines in which this nitrate is produced and the port of Iquique are controlled and owned by the British Government.

Mr. WADSWORTH. Will the Senator yield for a question?

Mr. STANLEY. Certainly.

Mr. WADSWORTH. The Senator is speaking of Chilean nitrates. He does not contend, does he, that the product which may be made at Muscle Shoals, after the plant is put in position to turn out ammonium sulphate, will take the place of Chilean nitrate in all respects?

Mr. STANLEY. Practically so.

Mr. WADSWORTH. The Senator knows that the product to be made at Muscle Shoals can not be used for propellant powders, does he not?

Mr. STANLEY. Certainly. I know you can not use sulphate of ammonia for munition purposes, but it can be converted to that purpose. But you can use cyanamid for that purpose, or you can use that plant for the purpose of making nitric acid. You have your towers there, and I am told this plant could be utilized for the making of nitric acid and the making of explosives whenever the Government so chooses.

Mr. WADSWORTH. Do I understand the Senator to say that ammonium sulphate can be used in both propellant and explosive powders?

Mr. STANLEY. No. This plant can make nitric acid. It can make cyanamid, or it can make the fertilizer, sulphate of ammonia. But the plant is available for the production of 40,000 tons of nitrogen, which can be used for propellants, or at least for a bursting charge, whenever you get ready to use it.

Mr. WADSWORTH. Only bursting powder. I ask this question because in a little colloquy which was had on the floor of the Senate yesterday the suggestion was made that we could spare more than 150,000 tons of our reserve of the Chilean nitrate in view of the plant, but that the plant can not take the place of the Chilean nitrate without more extensive alterations, not contemplated in the estimates given in connection with this bill at all. It would be unwise to dissipate more than one-half of our military reserve of Chilean nitrates.

Mr. STANLEY. I have not contemplated that, or asked it.

Mr. WADSWORTH. Mr. President, it would be absolutely necessary to change the bill, because the 1,600,000 tons of Chilean nitrates which it was estimated would be sold will not raise \$12,500,000, which is required under this act.

Mr. STANLEY. That could be attended to as a mere detail by an amendment.

Mr. WADSWORTH. It is a very important detail. It is \$12,000,000, but I know that is so small that we can look over it.

Mr. STANLEY. No; the difference in the fall in the price of Chilean nitrate would make a difference of one or two million dollars in the appropriation.

Mr. WADSWORTH. Has it fallen 40 per cent?

Mr. STANLEY. Compared with the necessity for the use of this plant.

Mr. WADSWORTH. The price of Chilean nitrate upon the market has fallen, and if you sold 150,000 tons of Chilean nitrate to-day you would only get seven and a half million dollars instead of \$12,000,000.

Mr. STANLEY. What is Chilean nitrate now selling for—\$55 a ton?

Mr. WADSWORTH. Fifty-two dollars. It was estimated at \$83 at the time the bill was drawn and it is going lower than \$52.

Mr. STANLEY. It may.

Mr. WADSWORTH. It is sure to do so.

Mr. McKELLAR. Would it not go back if there is no competition in the future?

Mr. WADSWORTH. There is no competition now except the by-product coke oven, which is a very important competition.

Mr. STANLEY. Whether the appropriation is made or whether the 150,000 tons be utilized for the purpose is a detail that can be determined later. The question I am calling to the attention of the Senate and that I regard of prime importance is that in time of war all our preparations in the way of ordnance and arms are useless unless the gun is loaded, and we can not load the gun without nitrogen, and there are only two sources of supply, domestic and imported. The Chilean fields are the only natural source from which we can import nitrogen. With those fields constantly diminishing, with the ores growing leaner and leaner all the time, now practically in the hands of the British Government—with all the potassium nitrate in the hands of the British Government—if we become involved either with a South American country or with Great Britain or with any country that she can control, or if we lose control of the sea without an adequate supply of fixed nitrogen, prepared as those foreign countries have prepared it by the installation of these plants, we are not in a position for self-defense, the country is not secure, and our arms are rendered comparatively worthless.

It is foolish, as I see it, to spend hundreds of millions or billions of dollars for instruments that are to use nitrogen and then leave the gun unloaded. As Gen. Williams has well said:

In so far as the Ordnance Department is concerned, our prime interest in this plant is maintaining it as a war insurance, on account of the fact that we are absolutely dependent on foreign sources for our supply of nitrogen, and we can imagine our position in case we got into a war and lost control of the sea. We would not then be able to maintain a war for six months unless we have plants of this kind.

Mr. SMITH of South Carolina. Mr. President—

The PRESIDING OFFICER (Mr. SHEPPARD in the chair). Does the Senator from Kentucky yield to the Senator from South Carolina?

Mr. STANLEY. Certainly.

Mr. SMITH of South Carolina. I would like to ask the Senator—further carrying out the question of the Senator from New York [Mr. WADSWORTH], when the estimate of \$12,000,000 was made to complete the plant and it was also estimated that the 150,000 to 160,000 tons that we might dispose of on account of the duplication or supply of that quantity by the plant—if that estimate of \$12,000,000 was not then predicated upon the present price of material and the cost of labor; and I was just wondering if the drop in the price of nitrate of soda was not almost equal to the drop in the price of the material that might be necessary to complete the plant, so that the sale of itself would practically take care of the necessary improvements.

Mr. WADSWORTH. Will the Senator from Kentucky permit me to ask a question of the Senator from South Carolina?

Mr. STANLEY. Certainly.

Mr. WADSWORTH. Surely the Senator from South Carolina can not point out any building materials that have decreased 40 per cent.

Mr. SMITH of South Carolina. There are some building materials that the Senator will find have decreased 40 per cent.

Mr. WADSWORTH. I should be very glad to hear of them, because I have myself been interested in building recently and I wish I had at hand that information.

Mr. SMITH of South Carolina. I think the Senator will find that brick, concrete, the wood that would go for the trusses—

Mr. WADSWORTH. Forty per cent since last spring?

Mr. SMITH of South Carolina. I rather think the Senator upon investigation will find they have fallen 40 per cent or more.

Mr. WADSWORTH. And labor?

Mr. SMITH of South Carolina. I expect in some forms of labor utilized the Senator will find it is a great deal more than 40 per cent.

Mr. WADSWORTH. A decrease of more than 40 per cent?

Mr. SMITH of South Carolina. Yes, sir.

Mr. WADSWORTH. That is very interesting.

Mr. SMITH of South Carolina. I am not speaking of skilled labor. That, of course, has a very slight variance at any time, but the common labor that will take the orders and carry out the purposes of the skilled labor, I think the Senator will find 40 per cent or more reduced.

Mr. WADSWORTH. It would be very interesting to look it up, because it has a bearing on the bill. It also has a bearing on the completion of the dam. But I notice that the Army Engineers estimates, instead of decreasing, are increasing.

Mr. SMITH of South Carolina. They are for another purpose.

Mr. WADSWORTH. What other purpose, except to construct?

Mr. SMITH of South Carolina. I am not pretending to speak authoritatively. I am only speaking from things that come under my own observation as to the relative prices paid now for unskilled labor, as compared with those that were paid during the time that this very estimate was made. I think the Senator will find that there is a decrease of 40 per cent or more.

Mr. WADSWORTH. I have not found it so in my personal experience.

Mr. SMITH of South Carolina. Perhaps the Senator is in a different locality from myself. I do not know that I could say that it is general. I do not know that there has been any reduction where there is organized labor, but when we come to the question of material, a great proportion of which would be necessary in this construction, I think it has gone down quite as much as the price of the nitrates.

Mr. LENROOT. Mr. President, I should like to ask the Senator a question.

Mr. STANLEY. I yield.

Mr. LENROOT. If it is true that sodium nitrate has dropped 40 per cent, would it not require an entire revision of the figures to determine whether this plant can be operated commercially at a profit?

Mr. WADSWORTH. May I say that the figures contained in these hearings are all out of date as a result in the change in the price of Chilean nitrate?

Mr. SMITH of South Carolina. May I state, if the Senator from Kentucky will allow me, that a question was asked by the Senator from New York or some one a moment ago in the colloquy, if there had been any practical demonstration in commercial channels of the use of products from this plant. Quite a good while before the war broke out the cyanamid from the only plant in America, which is the Niagara plant, was shipped across the country and sold to the fertilizer manufacturers along the whole South Atlantic seaboard and utilized in their balanced fertilizer and sold to the farmers. That was also true during the war. They tried to use the cyanamid as they had used the nitrate of soda, not that it was as rich in its nitrogenous content as the soda; but on account of it having lime as its carrier for nitrate, it was dangerous in its use, and quite a number of lawsuits grew out of its effect on the human skin. But so far as being used as a mixer in producing a balanced fertilizer, there is nothing in the world about its availability and the practicability of its use.

As to the cost of its production, I can not conceive why a great plant already installed, and installed under the pressure of war necessity, now equipped with the greatest water power perhaps in this country outside of Niagara Falls, which we partially own, can not produce as cheaply as or cheaper than the plant at Niagara Falls.

I think one should take the time to read the testimony of Dr. Whitney, who is an expert on this matter, showing the possibility of a combination of the phosphoric acid produced from low-grade phosphate rock by the discovery of a process of converting the phosphorus in low-grade rock into phosphoric acid by the sulphuric-acid process, sulphuric acid being the costly ingredient in converting phosphorus into phosphoric acid, which he intimated had been superseded by the use of silica in high pressure and great heat in a great retort, where they liquefy the air and extract the nitrogen. By the use of common red sand they produce phosphoric acid, and by the use of this heat they combine it so as to produce phosphatic nitrate, and by the same process they could extract potash or potassium from the green shales of the Appalachian and from the greensands of New Jersey. The Senator from New York [Mr. WADSWORTH], who was present, will remember that he displayed samples of the actual work done, in an experimental way, it is true, but showing the possibility of so developing from our own natural resources an unlimited supply of the very thing that the country is rapidly coming to depend upon absolutely.

At the proper time I wish to go a little further into this, believing, as I firmly and honestly do believe, that the conservation of our natural resources is going to largely depend upon conserving them by making the soil rich and fertile by artificial methods.

Mr. STANLEY. In further answer to the question as to whether it can be operated at a profit or not, Arthur Glasgow, an engineer of international standing and who has given the subject the most exhaustive investigation, when at present we are paying royalties to the cyanamid companies, which royalties were to be paid to June 9, 1920, and all of them to be subject to arbitration after that time, gives this calculation. He shows it by the use of steam power, and of course if water power is installed the cost will be much less. I am quoting now from the report of Arthur Glasgow to the Secretary of War. He says:

For the middle period, from June 1, 1921, until water power is available (say until December, 1922, or 18 months), we may add 10 per cent to "Cost of product" for the first period, in substitution for operating fee, royalties, and contingencies, making—

Total costs from June 1, 1921, until water power is available:	
Cyanamid	\$36.16
Nitrate	96.90
Sulphate	58.27

If cyanamid should go to \$40 a ton instead of \$55 a ton, we still would have in this sulphate of ammonia a better product at a cheaper price. The whole question of profit from this operation was discussed by Mr. Roberts, of the Ordnance Department, at great length.

He was asked all about this in the investigation. The Senator from Oklahoma [Mr. GORE], on page 11 of the hearings, which are printed in pamphlet form, asked this question:

That \$65 a ton that you mentioned, is that on the cost basis? Does that allow anything for interest on the investment?

Mr. ROBERTS. We have figured here the cost price of the sulphate of ammonia, as soon as we get the water power running, as \$48.22 to us, and if we sell it at \$65 it will give us \$16.80 profit per ton.

The Senator from South Carolina [Mr. SMITH] asked him what percentage of nitrogen there was in cyanamid. His reply was that it was from 19½ to 20 per cent. The Senator from Oklahoma again asked him this question:

Would that allow enough now on the manufacturing cost of sulphate to pay interest on the investment?

Mr. ROBERTS. Well, sir, we have figured this way, and I will answer your question. I have the figures before me. We have figured that cyanamid which can be sold—we have only calculated on using one of the units producing a very small quantity, a very small number of tons—73,000 tons of it—that is going to cost us oiled, hydrated, and made suitable for the farmer, \$27, which gives \$10.50 profit, because we are going to sell it at \$37.50. The price of \$37.50 for cyanamid means about 11 cents a pound for nitrogen, which is an extremely low price.

Mr. WADSWORTH. Mr. President—

The PRESIDING OFFICER. Does the Senator from Kentucky yield to the Senator from New York?

Mr. STANLEY. I do.

Mr. WADSWORTH. Does not the Senator recall upon examining these hearings that the estimate leaves out absolutely all charges for interest?

Mr. STANLEY. Yes.

Mr. WADSWORTH. Does not the Senator know that that will reduce the estimated profits; that it will cut them squarely in two?

Mr. STANLEY. We have \$100,000,000 invested down there, speaking roundly, on which the interest charge would be, say, \$5,000,000.

Mr. WADSWORTH. I am not speaking of the interest on money already invested; I do not believe we shall ever get that back; I refer to the money yet to be invested before the plant is completed. That is utterly left out. Mr. Roberts estimated that later in the testimony and according to the figures of that day there are \$38,000,000 more to be invested at Muscle Shoals and in this nitrate plant before it can produce the ammonium sulphate which is mentioned by Mr. Roberts. That money has got to be taken from the taxpayers, probably in the form of bonds or something of that kind, and at least they are entitled to interest on it. The Government has got to pay interest on it, and we have got to charge interest on at least \$38,000,000. It will be more than that, because we now hear that the dam is going to cost \$45,000,000 instead of \$20,000,000 as originally estimated.

Mr. STANLEY. I beg the Senator's pardon. The estimate of profit which I have read, of \$16.80, is not based upon operating by the use of the dam. I read the estimate which was based on the use of steam power. If the dam is used the power will be produced at a much less cost.

Mr. WADSWORTH. No, Mr. President; we shall have to pay interest on the cost of the dam the year around, whether water power from the dam is used or not. That is chargeable against the product.

Mr. STANLEY. I understand that; but the estimate I read as to the cost of producing cyanamid is based upon the use of steam. If, for instance, they should use water power, they would produce this commodity at much less cost.

Mr. WADSWORTH. But the Senator remembers perfectly well that the estimate of Mr. Roberts was that this plant could be run at an annual profit of \$2,500,000.

Mr. STANLEY. Yes.

Mr. WADSWORTH. That is, by the use of both water and steam?

Mr. STANLEY. Yes.

Mr. WADSWORTH. And that he failed to include in that interest on the money yet to be invested, which cuts it squarely in two. Then he did not include any deterioration on the acid plant.

Mr. STANLEY. That would be 5 per cent, say, on \$38,000,000 if the dam shall be erected?

Mr. WADSWORTH. I am reckoning 5 per cent interest on \$38,000,000, and I should like to know—and the knowledge could be gained only from experience—what would be charged for the deterioration of the plant itself, which is an item every business man has to take into consideration.

Mr. STANLEY. We have the plant in any event.

Mr. SMITH of South Carolina. Mr. President, will the Senator from Kentucky yield to me?

Mr. STANLEY. I shall be delighted to have the interruption of the Senator from South Carolina.

Mr. SMITH of South Carolina. I should like to ask the Senator from New York a question. I think I was the Senator who asked Mr. Roberts if it were contemplated that the plants now nearing completion should consume all the power which was to be developed. Is it not a fact that these plants, which it is estimated will produce the amount of fertilizer ingredients contemplated, will only consume a portion of the power, and that it is proposed selling the surplus power for commercial purposes? Is it not the statement incorporated in the hearings that there will be a tremendous surplus power which is going to be sold? I remember asking the question: How much of this cyanamid or sulphate of ammonia could be produced if they were to utilize the entire maximum power that is to be developed at the plant?

If an income of \$2,500,000—I believe that is what the estimate was in reference to the profit arising—may be derived from a partial use of the power generated, what would be the estimated income from the sale of the surplus power that will not be utilized in producing fertilizers?

Mr. WADSWORTH. Nothing is said about that. That is a very curious thing in reference to this whole proposition from the business man's standpoint. As I recollect, the cost of producing the ammonium sulphate by water power was figured upon the basis of horsepower at something like five or six dollars a horsepower.

Mr. SMITH of South Carolina. No.

Mr. WADSWORTH. Yes; I think so; anyway, not over \$7 per horsepower. If the surplus power is going to be sold in the vicinity of the plant at the same price that it is proposed to sell it to the plant, it will be necessary to charge the plant with horsepower at the same value at which it is charged to customers outside.

Mr. SMITH of South Carolina. That is a mere matter of bookkeeping.

Mr. WADSWORTH. But it involves millions of dollars.

Mr. SMITH of South Carolina. It might and it might not. It would not involve anything, in a way, if a reasonable profit could be made for the Government by using the plant and incidentally keeping it up and furnishing fertilizer for the basic industry of this country. There is quite a distinction between that and selling the product to some artificial corporation that is capable of taking care of itself.

Mr. WADSWORTH. Does not the Senator know that this plant is not going to sell fertilizer to the farmers? It is going to sell one-tenth of the value of the fertilizer to the fertilizer manufacturers.

Mr. SMITH of South Carolina. Not necessarily.

Mr. WADSWORTH. That is the testimony of the Secretary of War. It is not intended to establish selling agencies; it is not intended to turn out a finished fertilizer; it is intended to make ammonium sulphate which in value is one-tenth of commercial fertilizer.

Mr. SMITH of South Carolina. Yes; but ammonium sulphate is available to the individual farmer.

Mr. WADSWORTH. But it is to be sold to the fertilizer manufacturers and the fertilizer manufacturers are to sell the fertilizer to the farmer.

Mr. SMITH of South Carolina. Will the Senator from Kentucky allow me to interrupt him further?

Mr. STANLEY. Certainly.

Mr. SMITH of South Carolina. The Senator from New York must understand that the sulphate of ammonia is already available to the farmer. He can purchase it as well as can the fertilizer companies. What is there in the bill that requires the corporation which is going to be created to sell to the fertilizer companies alone if a farmer presents to it an order to purchase the material?

Mr. WADSWORTH. Now, we are talking about a different kind of business. It is contemplated, then, to establish selling agencies and distributing agencies, but the expense of such agencies must be charged against the cost of the product.

Mr. SMITH of South Carolina. I beg the Senator's pardon.

Mr. WADSWORTH. Those items are not charged against the cost of the product in Mr. Roberts's estimate, and the Secretary of War testified—and he was backed up by Mr. Roberts and all of the others who proposed this particular organization—that it was not the desire nor the intention of the United States Nitrate Corporation to do anything more than to sell to the manufacturers of fertilizer.

Mr. SMITH of South Carolina. I should like to ask the Senator from New York what is the difference between the selling of a minimum amount—a carload lot, for instance—to a farmer and selling it to a fertilizer manufacturer? If I can purchase it and have it shipped to my farm, there is no more necessity for a selling agency in that operation than there would be if it were sold to a fertilizer manufacturer. The fertilizer manufacturer might not want more than two carloads.

Mr. WADSWORTH. I am astounded that the Senator from South Carolina can not see that it costs something to sell commodities.

Mr. SMITH of South Carolina. The corporation will have to sell to the fertilizer manufacturers.

Mr. WADSWORTH. Yes; but there are only a few of them.

Mr. SMITH of South Carolina. Exactly.

Mr. WADSWORTH. But there are thousands upon thousands of farmers, and if we try to reach them by selling agencies, to coax them to come and buy what they need, or to place orders for delivery, it is going to cost money; it will be necessary to advertise; it will be necessary to employ agents; it will be necessary to send out literature. There is not a business concern in the United States that will not testify that it costs money to sell goods.

Mr. SMITH of South Carolina. That is true as a matter of course, but what is the reason why, if the plant is operating and I know that they have the goods at a certain price, I can not send in my order without their soliciting it?

Mr. WADSWORTH. Has the Senator thought anything of the clerical help that will be necessary? In other words, the Senator contends that it costs no more to sell goods at retail than it does at wholesale.

Mr. SMITH of South Carolina. No; I am not contending anything of the kind.

Mr. WADSWORTH. That is the contrast between the two.

Mr. SMITH of South Carolina. I am not proceeding on any such line as that. I am taking issue with the Senator's statement that it is contemplated only to sell as an ordinary commercial organization would sell to the manufacturer because the manufacturer takes it in great bulk.

Mr. WADSWORTH. That is all the estimate contemplates; that is what I have been talking about; that is all that Mr. Roberts's estimate contemplates. If it is now contemplated to sell to individual farmers, there must be added selling expense; but nothing is estimated for selling expense.

Mr. SMITH of South Carolina. Even if they have to go out and solicit what we call retail lots—and carload lots, I presume, would come under the head of wholesale—the clerical force necessary to take care of and ship the orders would amount to a mere bagatelle, if included in the estimate; the clerical force would not need to be increased by one-tenth of 1 per cent.

Mr. WADSWORTH. Under a Government corporation?

Mr. SMITH of South Carolina. Yes; under a Government corporation.

Mr. GRONNA rose.

Mr. MCKELLAR. Will the Senator from Kentucky yield to me to ask the Senator from New York a question?

The PRESIDING OFFICER. To whom does the Senator from Kentucky yield?

Mr. STANLEY. I yield first to the Senator from Tennessee.

Mr. MCKELLAR. I desire to ask the Senator from New York if I understand him to say that it is provided in the bill that the Government can only sell to fertilizer companies the nitrates produced by it?

Mr. WADSWORTH. No; the Senator from New York did not say that.

Mr. MCKELLAR. I have not myself seen anything of that kind in the bill.

Mr. WADSWORTH. I was asking the Senator from Kentucky about the accuracy of the estimate made by Mr. Roberts as to the cost of producing this commodity and selling it, and in connection with the testimony I reminded him and the Senator from South Carolina that it was the purpose of the proposed corporation, as outlined by the Secretary of War and Mr. Roberts himself, not to sell to farmers, but to sell only to the manufacturers of fertilizer, thereby avoiding the creation of an elaborate selling organization. Then I went on to say that if the policy of the corporation were later changed and it was determined to sell to the farmers direct, a selling organization must be erected as a part of the machinery of the corporation, and the cost of that selling organization must be charged against the cost of the product. It is simply business, that is all.

Mr. MCKELLAR. I can understand that; but I did not understand this bill to provide that the views of the two gentlemen who happened to be testifying would be controlling at all; but whoever is to control the organization, its directors or managers, shall determine to whom the product shall be sold.

Mr. WADSWORTH. The management of the corporation under the terms of the bill is solely and entirely in the hands of the Secretary of War. He is to appoint the directors, and at his pleasure may remove the directors.

Mr. MCKELLAR. The Secretary of War is not a fixed institution. He is changed every once in a while.

Mr. WADSWORTH. Yes; there is going to be a change very soon.

Mr. GRONNA. Mr. President, will the Senator yield to me?

Mr. STANLEY. I yield to the Senator from North Dakota.

Mr. GRONNA. I dislike very much to interrupt the Senator and break the continuity of his remarks; but I want to say that while it is true that the Secretary of War did make the statement before the committee that he had never thought it wise to sell this product at Muscle Shoals directly to the farmer at retail, the Senator from New York has overlooked a very important matter, and that is that we are discussing wholesale prices, prices to the trade, prices to the merchant. We are not discussing the price to the farmer, and as a man who has had some experience in this connection, I should be very glad to sell the product at the profit which is generally received by the fertilizer corporations, the difference between the price which we are discussing and the price which the farmer has to pay. I was going to suggest to the Senator from South Carolina that there would be no danger of not being able to get sufficient money if you take the difference between the price which we are discussing here and the price that the farmer actually must pay.

Mr. HEFLIN. Mr. President, if the Senator will yield to me—

The PRESIDING OFFICER. Does the Senator from Kentucky yield to the Senator from Alabama?

Mr. STANLEY. I shall be delighted to yield.

Mr. HEFLIN. I shall take only a moment, because the Senator is making a very interesting and able speech.

Before the Committee on Agriculture of the House, of which I was a member, Mr. Washburn, an expert upon this matter, appeared. I asked him if the cost of fertilizer to the farmer would be reduced by the establishment of such a plant as this, and if so, about how much. He closed his statement by saying:

It will give the farmer his fertilizer for one-half of what he otherwise would pay for it.

So, whether we should sell to the fertilizer company and it should sell to the farmer or not, a statement is in the hearings to the effect that the farmer will receive the fertilizer ultimately for half of what he paid for it formerly.

Mr. WADSWORTH. Mr. President, will the Senator say who gave that testimony?

Mr. HEFLIN. Mr. Washburn.

Mr. WADSWORTH. What page is it on?

Mr. HEFLIN. This was in the hearings before the Agricultural Committee in 1916. It is in response to a question that I asked him, and is quoted in the CONGRESSIONAL RECORD.

Mr. WADSWORTH. 1916?

Mr. HEFLIN. 1916 or 1917; 1916, I think.

Mr. WADSWORTH. That is four years ago. Was not Mr. Washburn talking about his own company then?

Mr. HEFLIN. I was talking about the establishment of a nitrate plant in Alabama, at Muscle Shoals.

Mr. LENROOT. Mr. President, will the Senator yield?

Mr. STANLEY. Certainly.

Mr. LENROOT. That was at the time when the American Cyanamid Co. made the proposition that if the Government would spend \$20,000,000 for the dam, the American Cyanamid Co. would spend \$24,000,000 for the cyanamid factory; and then, as an inducement to get that \$20,000,000 from the Government, did not Mr. Washburn say that if we would do that the result would follow?

Mr. WADSWORTH. Certainly. It has nothing to do with this bill.

Mr. HEFLIN. My point is that wherever this plant is established, the farmer will get his fertilizer for half of what he paid before.

THE VITAL QUESTION.

Mr. STANLEY. Mr. President, whether or not there is included in this calculation 5 per cent on \$38,000,000, while that is an item of importance in itself, it is a mere detail when you consider it in connection with the importance of the great measure involved. The vital question before the Senate and the country is, Shall we be prepared to produce a sufficiency of fixed nitrogen to supply in a measure the needs of the country in time of war and to supply a needed fertilizer for the rehabilitation of the soil in time of peace? If we fail to do it we shall be the only civilized country on earth that has ever depended upon a remote country for a substance that is a saver of life unto life and death unto death, whether in peace or in war. We shall be the only civilized country in the world that will look for the rehabilitation of her soil in time of peace and for the success of her armies in time of war to the lean and diminishing fields of far-off Chile.

I readily concede that it is better to save a million dollars in interest than to pay it. Do you know that we paid in bounty to the Chilean Government in a single year during the war the enormous sum of \$20,000,000—not for nitrate but for bounty? We have paid to the Chilean Government since 1878, \$163,647,680 for bounty.

Following is a statement of export duty paid to the Chilean Government from 1867 to 1919. It is estimated that this year will be paid not less than \$11,277,000 in bounty to this Government.

Fiscal year—	Long tons.	Value.	Average value per 100 pounds.	Export duty.
1867.....	13,150.00	\$563,624.20	\$1.92	( )
1868.....	8,230.00	282,785.00	1.54	( )
1869.....	12,900.00	600,681.00	2.08	( )
1870.....	13,900.00	752,604.00	2.42	( )
1871.....	22,400.00	1,254,963.00	2.49	( )
1872.....	16,000.00	934,118.00	2.61	( )
1873.....	26,700.00	1,469,243.00	2.46	( )
1874.....	27,700.00	1,338,141.00	2.16	( )
1875.....	23,300.00	968,855.00	1.85	( )
1876.....	23,100.00	1,055,357.00	2.04	( )
1877.....	24,300.00	1,324,299.00	2.44	( )
1878.....	18,800.00	973,223.00	2.32	( )
1879.....	34,100.00	1,848,880.00	1.76	\$142,838.00
1880.....	30,400.00	1,830,399.00	2.69	380,912.00
1881.....	43,800.00	2,356,167.00	2.40	548,814.00
1882.....	82,300.00	3,911,610.00	2.12	1,031,219.00
1883.....	67,200.00	2,336,681.00	1.82	716,716.00

<sup>1</sup> None.

Fiscal year--	Long tons.	Value.	Average value per 100 pounds.	Export duty.
1884.....	54,000.00	\$1,983,378.00	\$1.64	\$676,620.00
1885.....	48,800.00	1,696,055.68	1.55	611,464.00
1886.....	45,100.00	1,684,824.14	1.67	565,103.00
1887.....	76,800.00	2,614,162.00	1.62	962,304.00
1888.....	80,000.00	2,449,639.40	1.37	1,002,400.00
1889.....	67,500.00	2,275,993.00	1.51	845,775.00
1890.....	91,300.00	2,769,130.72	1.33	1,143,999.00
1891.....	98,091.67	2,929,759.78	1.34	1,229,087.3721
1892.....	105,341.47	2,976,818.00	1.26	1,319,928.6191
1893.....	93,438.55	3,063,012.00	1.46	1,170,759.9715
1894.....	88,079.00	2,785,048.00	1.42	1,103,629.87
1895.....	124,808.00	4,124,712.00	1.48	1,563,781.59
1896.....	127,557.00	3,870,724.00	1.35	1,598,289.21
1897.....	83,331.00	2,640,389.00	1.42	1,044,137.43
1898.....	125,081.00	2,729,750.00	.98	1,567,264.98
1899.....	122,314.00	2,054,905.00	.75	1,532,594.42
1900.....	181,217.00	4,738,807.00	1.15	2,308,614.91
1901.....	203,609.00	5,776,566.00	1.27	2,551,230.77
1902.....	192,321.00	5,565,361.00	1.29	2,409,782.13
1903.....	252,084.00	7,737,405.00	1.37	3,158,612.52
1904.....	298,574.00	9,259,656.00	1.41	3,678,482.22
1905.....	282,229.00	9,683,396.00	1.53	3,536,329.37
1906.....	373,986.00	13,117,887.00	1.56	4,688,044.58
1907.....	342,073.00	14,041,202.00	1.83	4,288,174.69
1908.....	330,090.00	12,546,611.00	1.69	4,136,027.70
1909.....	353,494.00	12,583,417.00	1.58	4,429,279.82
1910.....	560,495.00	16,874,682.00	1.37	6,897,702.35
1911.....	546,525.00	17,101,140.00	1.40	6,847,958.25
1912.....	481,739.00	15,431,892.00	1.43	6,036,189.67
1913.....	589,136.00	20,718,968.00	1.57	7,381,574.08
1914.....	564,049.00	17,950,786.00	1.42	7,067,533.97
1915.....	577,122.00	16,355,701.00	1.26	7,231,338.66
1916.....	1,071,728.00	32,129,397.00	1.35	13,428,751.84
1917.....	1,261,659.00	44,231,240.00	1.57	15,808,587.27
1918.....	1,607,020.00	70,129,026.00	1.95	20,135,960.00
1919.....	1,346,679.00	68,229,548.00	2.27	16,873,887.87
	13,313,673.59	480,087,147.92	.....	163,647,680.6827

NOTE.—The value given here is based on the value at the port in Chile, and does not include export duty paid to the Chilean Government, ocean freight, insurance, commissions, etc. Before 1914 freight from Chile to the United States was about \$7.50 per ton; at the present time it is about \$17.50. In 1879 an export duty was put on nitrate shipments from Chile, and amounted to about \$4.18 per long ton. In 1880 this duty was raised to \$12.53 per long ton, and has not been changed since that time. The export duty paid to the Chilean Government on all nitrate of soda coming to the United States up to July 1, 1919, would amount to \$163,647,680.6827.

Mr. NORRIS. That is in addition to the fertilizer?

Mr. STANLEY. That is not for the fertilizer. That is an export duty that we pay on the fertilizer. To compete with the American manufacturer, these concerns must not only produce the fertilizer but must pay \$12.53 a ton for the privilege of taking it out of Chile. Any interference with our control of the sea, any interference on the part of the Chilean Government, any effort on the part of Great Britain to prevent the exportation of this product by the Chilean Government, any purchase of this 3,000,000 tons of nitrate of soda by any Government in the world, would be fatal to this country. It is stated in the hearings by those who are qualified to know that, if the German Government had purchased the output of the Chilean mines before we went into the war, at the time we went into the war we would have been utterly helpless in so far as the production of an adequate amount of nitrogen for the needs of the Army was concerned. It strikes me as absurd that this Government should have her arsenal in Chile, with the key to that arsenal in the hands of the British Government.

Mr. LENROOT. Mr. President, will the Senator yield?

Mr. STANLEY. Certainly.

Mr. LENROOT. Where did Germany get her explosives?

Mr. STANLEY. I am delighted the Senator has asked that question. She produces it as we should and can. Germany produces 300,000 tons of nitrogen per annum by the Haber process, the equivalent of 1,800,000 tons of Chilean nitrate. She produces 150,000 tons of nitrogen from her coke ovens. She produces 120,000 tons of nitrogen from her cyanamid processes. Germany, as the Senator understands, was cut off from the sea. She is absolutely dependent upon domestic production. Not only that, but Japan, France, Great Britain—every other civilized country except this—with any eye to the future, has, at Government expense or by Government aid, made arrangements for the fixation of nitrogen from the air. If we demolish this plant, if we close its doors, we shall be the only country in the world that is not producing fertilizer for the use of the people in time of peace, and that is not prepared with an adequate supply of nitrogen in time of war.

Mr. LENROOT. Mr. President, can the Senator state what percentage of Germany's explosives was made from nitrogen procured by fixation from the air?

Mr. STANLEY. No.

Mr. LENROOT. Was it a small percentage?

Mr. STANLEY. It may have been, because this Haber plant was completed in the latter part of the war. At the beginning of the war Germany's great plants were not in operation.

Mr. LENROOT. Germany had no great water powers. She did not require any such great amount of power with such a large investment as is here contemplated, did she?

Mr. STANLEY. That is the reason why she went to the Haber process. It only needs one-quarter of 1 horsepower to produce a ton.

Mr. LENROOT. And if we had the same knowledge of the Haber process that Germany has, we would be in quite as good a position as Germany, would we not?

Mr. STANLEY. We certainly would not, because we would not have the Haber plant.

Mr. LENROOT. We have all the constituent elements, except that they know some things that we have not yet discovered.

Mr. STANLEY. We do not know how to operate the Haber plant and nobody else knows. The experts have testified that they would be perfectly willing to allow the Frenchmen to take their formula and operate their plant if they could.

Mr. LENROOT. Our own people are hoping to make that discovery at almost any time, are they not?

Mr. STANLEY. Mr. Scott, who I understand is one of the six greatest engineers of the world, and is a member of the British munitions commission, has testified that he believes that with a little effort on the part of American chemists and engineers we can take the plant we have now at Muscle Shoals, the smaller of the two plants, and soon learn to operate it.

Mr. LENROOT. Then, if we could, we would not need this very large investment that is contemplated by the water power to be created at Muscle Shoals, would we?

Mr. STANLEY. Why, certainly we would need it.

Mr. LENROOT. Not any such amount of power.

Mr. STANLEY. The 40,000 tons of nitrogen which this plant would produce is nothing in comparison with the production per annum of the countries with which we are likely to be at war.

Mr. LENROOT. The Senator does not get my point. If we should get what Germany has, we could manufacture this product without any such amount of power as is necessary under present conditions.

Mr. STANLEY. Oh, that goes to the erection of a dam?

Mr. LENROOT. Yes, sir.

Mr. STANLEY. If we should discover how to use the Haber process, we might produce nitrogen by that process. Whether we could produce it as cheaply as it can be produced by the cyanamid process is the question. It is a strange thing—I went into that matter yesterday, I will say to the Senator from Wisconsin—that no country in the world except Germany has ever depended upon the Haber process. France has erected with Government aid a good many of these plants since the signing of the armistice. The French Government, in fact, either on its own initiative or behind private concerns, has erected nine great plants for the fixation of nitrogen from the air, and every one of them is a cyanamid plant. Canada has utilized the cyanamid process. There are about 46 of these plants, I think, in operation. There are in the world 8 of the arc-process plants, 35 of the cyanamid-process plants, and 1 of the Haber-process plants, outside of our attempt in the United States.

So I am firmly of the opinion that if we understood the Haber process it would pay us to utilize our water power.

Mr. President, there are two dangers which face every civilized country in the world.

SOIL EXHAUSTION.

All the obliterated, all the civilizations of the past, owe their destruction to one of two causes. One, the force of arms, overthrowing the political institutions of a country; and the other, the depletion of its soil. The barrenness of the soil ends the national life of a country dependent upon it. A political revolution may restore a people whose soil is still fertile. The soil of this country is being depleted, is being robbed of the most essential element of its productivity and its life, and that element is nitrogen. As I have said, there are wheat fields to-day in France that were golden in the days of Charlemagne. There are wheat fields in England that were garnered in the time of Alfred the Great. There are wheat fields in Germany older than the feudal system that are to-day producing 30 bushels of wheat to the acre. Your wheat fields in the United States without the use of nitrogen will produce little more than half of it. What would be the result? What would be the effect upon our industrial life and our prosperity if we would learn some of the wisdom of the intensive farmers across the sea, if we would utilize this great fertilizer simply in the production of cereals alone? We could double the production of wheat per acre in the United States without any

material increase in the cost and with no material increase in the labor.

Before this question, so infinite in its future, so beneficent in its effects, so vital to the life and pulsance of the Nation, it does not matter so materially whether our estimates are correct to the cent, whether the sheet balances to the mill. The great question is, Shall we utilize this great instrumentality, this great apparatus, the greatest of its kind in the world, or shall we junk it or lock it up to the needy agriculturists of America? The letter from Mr. Davis is as follows:

WAR DEPARTMENT,  
Washington, December 8, 1920.

MY DEAR SENATOR STANLEY: I believe the data set out below are what you desire with regard to the nitrate situation.

The only information available here with regard to the cost of production of Chilean nitrate is derived from three different sources and for different dates. The figures given include the export duty imposed by the Chilean Government.

Federal Trade Commission report of 1916 on the fertilizer industry gives the price, as of 1903, at approximately \$1.16 per hundredweight.

A paper read by Prof. Belisario Dias Ossa, before the Eighth International Congress on Applied Chemistry, in 1912, gave the price at that time as \$1.36 per hundredweight.

The London Statist gives the price, as of 1920, as approximately \$2.16.

Information as to how the above costs are arrived at is available only with reference to the paper read by Prof. Ossa. His figures of \$1.36 is divided as follows:

Item.	Percent.	Cost.
Export duties.....	41	\$0.5576
Miscellaneous supplies—sacks, powder, etc.....	6	.0816
Freight and lightering and commissions.....	11	.1496
Administration and general expense.....	3	.0408
Labor.....	19	.2384
Fuel.....	11	.1496
Amortization.....	9	.1224
Total.....	100	1.3600

Ocean freight rates to Atlantic and Gulf ports before the war were approximately 33 cents per hundredweight; during the war, 78 cents per hundredweight; and now, from 29 cents to 40 cents per hundredweight. You asked for rates to San Francisco, but I find that practically all nitrates came through Atlantic and Gulf ports, because of the prohibitive cross-continental freight rates.

The cost of nitrate in this country in 1912, on board cars at seaboard, was from \$2.25 to \$2.60; during the war this price rose as high as \$5 per hundredweight. The present price is approximately \$2.75 per hundredweight.

With regard to freight rates from seaboard to munitions plants, I take two routes as examples: New Orleans to Old Hickory, governmental rate \$3.98 per net ton, which is about \$1 lower than commercial rates because of land-grant railroads. The rate from Norfolk to Hopewell, Va., was \$2.38, which governed both governmental and commercial shipments.

I assume that you have before you the Senate hearing held some months ago with reference to the nitrate situation. The Secretary of War believes this hearing to contain about all the available information with regard to the subject.

Cordially, yours,

FRANK B. DAVIS,  
Confidential Clerk.

HON. A. O. STANLEY,  
United States Senate.

Mr. WADSWORTH. Mr. President, I offer an amendment to the pending measure, and ask that it be printed and lie on the table.

The VICE PRESIDENT. The amendment will lie on the table and be printed.

Mr. SMOOT. Does the Senator from New York offer just the one amendment, or all the amendments he intends to offer to the bill?

Mr. WADSWORTH. Just the one I regard as more important. Those I intend to offer later on are so voluminous that I doubt if they could be displayed in print very well. They all have to do with a certain theory I have about the pending legislation.

Mr. SMOOT. The Senator has not put them in form so that he can offer them as a whole?

Mr. WADSWORTH. No; not as a whole.

Mr. LENROOT. May I ask the Senator whether it is his intention to offer all his amendments a sufficient time in advance to give Senators an opportunity to consider them?

Mr. WADSWORTH. Yes.

Mr. LENROOT. There may be some of us who might offer amendments, but if we knew what his were we might find that they cover the points. That is all I had in mind.

Mr. WADSWORTH. The amendment I have just offered has to do with the capitalization of the proposed corporation. Then I intend to offer amendments later on which will withdraw this corporation entirely from the jurisdiction of the War Department and place it under the Treasury Department, because I believe that soldiers ought not to be running a business concern.

Mr. SMOOT. I wish the Senator had his amendments prepared and would offer them en bloc, so that we could take the bill and see just the differences between the bill itself and the amendments offered by the Senator.

Mr. WADSWORTH. I will try to get them ready before we adjourn.

Mr. SMOOT. I wish the Senator would, because I would like to see them. I would like to take the bill and see what effect the amendments have upon the bill, for in discussing it I may want to refer to the amendments which the Senator proposes to offer.

Mr. McKELLAR. Mr. President, I have listened with a great deal of interest to the splendid speech of the Senator from Kentucky [Mr. STANLEY]. It is a very learned statement of the case, and I do not feel that I can add to it, except to give what seems to me a common-sense view about these plants which have already been established at Muscle Shoals and about the dam which is also under construction.

This Government has depended for all time for its nitrates for war purposes upon the nitrate beds of Chile. If our communication with Chile were cut off at any time, we would be without sufficient nitrates to wage a war. Naturally, that is a condition no country ought to be in. It is surely a position the United States of America ought not to be in. We ought not to be dependent for our nitrates for war purposes upon any other Government in the world, and especially so when we are able to prevent it.

That was the view we took of it when the World War broke out. We knew it was not right, it was not the sensible thing, to be dependent upon the Chilean nitrate beds for our supply of nitrates to go into gunpowder, and therefore we immediately established these two great plants at Muscle Shoals. It was an ideal place for them, for the reason that at the same time we started to build the dam there so as to get enormous water power by which the nitrogen from the air could be fixed. Those two works have gone on in a measure hand in hand. Appropriations have been made from time to time by which the work has proceeded on the dam, which is not yet completed. Work has continued upon these power plants, which also are not entirely completed.

The question is whether we shall go on with these power plants and go on with the work on the dam at Muscle Shoals and complete the work now nearly finished. Both of those propositions are not in this bill, but both of those propositions are before Congress and must be determined at this session.

Mr. President, it just happens that the same nitrates which are used for gunpowder in times of war are absolutely essential for the manufacture of fertilizers in time of peace. The United States is dependent upon the Chilean nitrate beds for her fertilizers in times of peace. It is almost as essential, certainly just as essential, for this country to have unlimited supplies of nitrogen for fertilizer purposes in time of peace as it is to have the nitrogen for gunpowder in time of war.

What should we do about it? Here the plants are nearly completed. Shall we finish those plants and use them for the manufacture of nitrates for fertilizer purposes, or shall we abandon the plants? We have spent some \$85,000,000 on those two plants. Are we going to throw all this money away? Are we going to scrap the \$85,000,000 plants? Is it possible we are going to do what we have done in the cases of other plants—sell them out for about 5 per cent, or less than 5 per cent, of their cost? I have no doubt that will be the best we can do if we scrap them. It does seem to me that no sensible Government on earth would take plants that cost \$85,000,000 and throw them away when they can be utilized for the manufacture of that ingredient in fertilizer which is most necessary to the American farmer, and especially when that ingredient is now controlled by a trust. It would be hardly less than criminal for us to throw away these plants at this stage of the game. Again, it has been proposed that we should just keep them there.

Shall we just keep them there and let them rust, and not do anything with them, looking forward to another war? It seems to me that plan also would be equally foolish and quite as criminal. It does seem to me that the only businesslike and sensible thing to do is to complete the plants and let them make fertilizer for the farmers of the United States in times of peace, because a great trust has gotten control of the nitrate beds of Chile, and our farmers, in the matter of fertilizers, are virtually in the hands of this trust. If we complete these plants we will have the manufacture of fertilizers on a competitive basis at all times, and surely, it seems to me, that is a condition that is very greatly desired.

The Senator from New York [Mr. WADSWORTH] said that this corporation is not likely to make the profits that is expected, that the Government is not going to make the \$2,900,000



that has been estimated as profit. Suppose the Government does not make a profit on it. If it furnishes an inexhaustible supply of fertilizer to the farmer at a low price, and at the same time guarantees a guaranty of our having our own nitrate plant in time of war, we have done well to continue these plants, whether the Government does more than break even on them or not.

Talk about making money out of it! If we scrap the plant, we deliberately throw away about \$85,000,000, because you are not going to get over four or five million dollars for those plants. We might as well look the facts straight in the face; that is all we will get out of them. Whenever you scrap those plants down there, you are not going to get over four or five million dollars at the outside for what has been done, and I doubt very much whether you will get that much out of it.

Under those circumstances it does seem to me that there is but one thing for us to do, and that is to do the business-like thing and complete the plant and manufacture the fertilizer for the benefit of the farmers of the country, and be guaranteed an American supply of nitrates in time of war.

Mr. STANLEY. At that point, it is admitted this plant is not as valuable as salvage as the nitro plant in West Virginia, and that brought in about \$3,000,000.

Mr. MCKELLAR. I think it brought a little more than that, but at the outside I would say these plants if salvaged would bring somewhere between three and five million dollars, five at a high estimate, and three at a low estimate; and the Government would be facing a loss of some \$80,000,000 or more. Here we not only stand to prevent the Government from losing that money but the money itself will be used for the best purposes possible—namely, to furnish fertilizer at a low cost to the farmers in peace times and held as a plant almost immediately convertible into use for war purposes.

Who is against it? The American Cyanamid Co., of course, is against it, because it would interfere with their business.

The Fertilizer Trust is against it, and why? Because it interferes with their business. The Chilean nitrate industry is against it—why? Because it interferes with their business. Everybody whose business is interfered with is against it, of course. The farmers are not against it. They want it. If we are the true and genuine friend of the farmer, we will show it by voting to complete these plants and to complete the big dam at Muscle Shoals, which will produce so much water power that can easily compete with the Chilean Nitrate Trust in the production of nitrates.

Mr. LENROOT. Mr. President—

Mr. MCKELLAR. I yield.

Mr. LENROOT. Does the Senator know the position of the Alabama Power Co. with reference to the bill?

Mr. MCKELLAR. No; I do not. I am not privy to their inside views and I do not know what their view is. If the Senator knows their position, I would be delighted to have him state it, because I would like to know.

We say a great deal about the farmers. We talk about our friendship for them. Yet at the same time we do very little for them. They are intensely interested in this matter. The appropriations that we make for the farmers of the country are less than one-half of 1 per cent of the entire appropriations that the Congress makes. One-half of 1 per cent of the appropriations that are made by the Congress are made in the interest of the farmers, and the farmers compose nearly one-half of our population—about 40 per cent, I believe. That is all that Congress does for the farmers in the matter of appropriations.

Mr. THOMAS. Mr. President—

Mr. MCKELLAR. I yield to the Senator from Colorado.

Mr. THOMAS. What is the basis of the Senator's computation?

Mr. MCKELLAR. I take the entire amount of annual appropriations by the Congress; I then take the \$31,000,000 which I think we appropriated last year for agriculture, and by simple arithmetic arrive at that result.

Mr. THOMAS. The basis of the computation, then, is—

Mr. MCKELLAR. The amount appropriated for agriculture.

Mr. THOMAS. The amount carried by the Agricultural appropriation bill?

Mr. MCKELLAR. It is.

Mr. THOMAS. The Senator then does not admit that any of the other appropriations benefit the farmer?

Mr. MCKELLAR. Oh, yes; but I was speaking of those that go directly to the farmer. I think we could compare it in this way. For instance, we appropriate so much for the Army, so much for the Navy, so much for agriculture, so much for the Indians, and so much for various other activities of the Government.

Mr. THOMAS. The Department of Commerce carries how much every year?

Mr. MCKELLAR. It is a very small amount, less than one-fourth of 1 per cent, as I recall. It is wholly an inadequate amount. I believe that it would pay us a great deal better to appropriate larger sums for agriculture and for commerce in the country instead of devoting billions to our Army and Navy, having them always ready to fight a war which may or may not come and which is always costly and destructive, even when we win it, and for which, because of discoveries and inventions, we can never safely prepare in advance.

Mr. THOMAS. I think that is true.

Mr. MCKELLAR. Yet the Senator knows that some 90 per cent of all the great appropriations of the Government are for war purposes, and not 1 per cent, not three-fourths of 1 per cent, for both commerce and for agriculture together. We ought to pay more toward building up our commerce and agriculture, and especially so since we have just had the luxury of a great war, and will not likely have another for several years.

Mr. THOMAS. I know, Mr. President, that more than 90 per cent of all the revenues of the United States are appropriated either for wars that we have fought or wars that we expect to fight.

Mr. MCKELLAR. Yes; either for wars past, present, or future.

Mr. THOMAS. I have always assumed that our appropriations for general agricultural and commercial and manufacturing and other purposes were interrelated with each other and mutually beneficial. I think they are.

Mr. MCKELLAR. I think the Senator is correct to some extent, but in segregating appropriations and in forming computations the best method of getting at it is by taking what is appropriated for the Department of Agriculture, which is \$31,000,000 and which is less than one-half of 1 per cent of what we appropriate for all purposes.

As I said, the primary purpose of establishing the plants was both for war purposes and for peace purposes—nitrogen for gunpowder in time of war and nitrogen for fertilizer in time of peace. When the plants were started that was the professed purpose. We carried it on so as long as the war lasted, but now that the time comes when the plants will be beneficial to the farming interests of the country, we find a disposition on the part of some not to carry out that peace purpose. It seems to me that peace purpose ought to be carried out.

Mr. President, I do not always agree with Secretary Baker; I frequently disagree with him, but I wish to call the attention of the Senate to his testimony on the subject of these plants as it occurs in the hearings. He sets out with remarkable clearness and ability and thoroughness, as it seems to me, the benefits that will accrue from operating these plants by a Government corporation. I am not going to read it all, but I ask permission to insert as a part of my speech quotations from the testimony of Secretary Baker on this very important subject, reading the more important excerpts.

The VICE PRESIDENT. Without objection, permission is granted.

The matter referred to is as follows:

SECRETARY BAKER'S TESTIMONY ON THE SUBJECT.

Excerpts from the testimony of Secretary Baker, given in the hearings, are as follows:

"I want, however, to open the hearing, if I may, by a statement which will show the committee the importance of the project under consideration. During the war we spent approximately \$85,000,000 in building two nitrate plants at Muscle Shoals. Plant No. 1, the smaller of the two, is known as the Haber Process Plant; and the larger of the two, or No. 2 plant, upon which something over \$70,000,000 has been spent, is known as the Cyanamid Process Plant.

"If I may continue as I was going, there are three possibilities: One is the disassembling and salvaging of the plants, and because of the loss involved that is quite out of the question. The second is to put the plants in stand-by condition, paint their corrodible parts and let them stand there idle and do nothing with the plants until another emergency arose, if any does arise, and keep as an emergency reliance of the Government. That, of course, is a tremendously expensive thing to do, because we would get no interest at all upon the \$85,000,000 invested, and it is not unlikely that by the time another emergency would arise which would require us to resort to plants using processes developed in the future by other people and so changed as to make those we have an obsolete or obsolescent reliance. \* \* \* The third course which I am going to suggest, and the course which I recommend, and upon which this bill is based, seems to be the only practicable one, and that is to operate the plant with such slight additions to its machinery as to make its products more readily available as fertilizer, and by the process of continuous operation and the development of processes it may be possible in the operation to keep it constantly up to date, making it increasingly useful for the purposes of agriculture and for fertilizers, and keeping it constantly ready for any emergency of war, so that the Government may have a reliance for its explosive needs.

"I think probably I need not say this, because I think everybody knows it, but history shows that every nation which has disappeared out of civilization of the world went out by one or the other of two courses: It was either vanquished or destroyed by military processes,

or it exhausted its soil and had to move. So far as I know, there is no exception of that in the history of nations.

"The principal product which we are at present equipped to make, Senator, is cyanamid. There are many people who believe that cyanamid is in itself a fertilizer. It undoubtedly is a fertilizer, but it has not yet been accepted by the agriculturalists of the country as a complete fertilizer or an adequate and available fertilizer so that the possibility of disposing of the entire product of the plant if it were run to capacity and produced nothing but cyanamid is not at present good. But what the future of that may be, we do not know. Therefore, we are proposing to add to that additional processes and machinery to be installed which will enable us to produce the sulphate of ammonia, which is a very much better product for commercial fertilizers than cyanamid, because it is a better drillable product, less hygroscopic than the products that we are now making, than ammonium nitrate, for instance, which we make there in large quantities, and it is therefore better adapted to the commercial agricultural-fertilizer market.

"The amount of Chilean nitrate which this country in prewar times has imported is estimated to be about 500,000 tons.

"Senator WADSWORTH. Per year?

"Secretary BAKER. Per year. My associates here have charts which show the nitrate consumption of this country from a prewar period down to the present, and forecasting the consumption up to 1930. The line of increase is steadily mounting, and they have in that chart—which is a very instructive chart—undertaken to estimate all the available sources of nitrate supply, showing what remains to be imported from Chile after we have gotten all the nitrates that we can get in this country from by-product coke-oven processes and things of that sort.

"Senator SMITH of South Carolina. About what is the capacity of this plant now in the production of sulphate of ammonia, in tons?

"Secretary BAKER. As soon as the sulphate process is installed, which it is proposed to install by this bill, it would be about 215,000 tons a year.

"Senator SMITH of South Carolina. What percentage of nitrogen does the sulphate of ammonia contain?

"Secretary BAKER. Twenty and one-half.

"Senator SMITH of South Carolina. And that of the Chilean nitrate is 15 per cent?

"Secretary BAKER. The Chilean nitrate nitrogen content is 15.

"Senator SMITH of South Carolina. So that we would have approximately 300,000 tons on the basis of Chilean nitrate at 15 per cent?

"Secretary BAKER. Yes; that is, if the needs of the country for nitrogen remain constant, we would have to import about 300,000 tons less of Chilean nitrates. As a matter of fact, the need in the country for nitrate is constantly growing, and even with the production of this great plant as proposed it is likely we would continue to import Chilean nitrate at about the same rate we do now. If we are to fill the full demands for the agricultural interests for fixed nitrogen.

"Senator GORE. What do you estimate to be the additional cost of preparing this plant to successfully produce nitrogen?

"Secretary BAKER. This bill is proposed to carry \$12,500,000, only a portion of that, however, is for the installation of additional facilities.

"Secretary BAKER. These figures, Senator, are all prepared in very accurate tables here and will be put into the record by my associates, who have them arranged so that they can be followed through. But the outstanding fact was the one I was about to give Senator GORE, that we can sell sulphate of ammonia if we put in this sulphate process at \$65 a ton, which is to be compared with a price for the imported Chilean nitrate of \$75 per ton. The Chilean nitrate has 15 per cent of fixed nitrogen, while our product has 20 per cent of fixed nitrogen, and our product is therefore 30 per cent higher in relation to nitrogen content, and our product sells at \$65 and theirs at \$75 per ton.

"Senator GORE. What was the price of the Chilean nitrate before the war, do you remember?

"Secretary BAKER. The price varied, but my recollection is that it sometimes went as low as \$55.

"Senator SMITH of South Carolina. It went as low this year as \$56 or \$57. Before the war it fluctuated between \$49 and \$55. It has been some lower than that, but not after its use became general and its efficiency as a fertilizer had been established. But the price fluctuates, and it has varied this year radically, from \$56, \$58, to \$78. It is not quoted, delivered—that is, coming to the ultimate consumer, around \$78 a ton.

"Secretary BAKER. Those figures, Senator, are all in the tables which my associates have, so that the record will contain all the figures.

"Senator GORE. That \$65 a ton that you mentioned, is that on the cost basis? Does that allow anything for interest on the investment?

"Mr. ROBERTS. We have figured here the cost price of the sulphate of ammonia, as soon as we get the water power running, as \$48.22 to us, and if we sell it at \$65 it will give us \$16.80 profit per ton.

"Senator GORE. Would that allow enough now on the manufacturing cost of sulphate to pay interest on the investment?

"Mr. ROBERTS. Well, sir, we have figured this way, and I will answer your question. I have the figures before me. We have figured that cyanamid which can be sold—we have only calculated on using one of the units producing a very small quantity, a very small number of tons—73,000 tons of it—that is going to cost us oil, hydrated, and made suitable for the farmer, \$27, which gives \$10.50 profit, because we are going to sell it at \$37.50. The price of \$37.50 for cyanamid means about 11 cents a pound for nitrogen, which is an extremely low price.

"Senator SMITH of South Carolina. What percentage of nitrogen is in the cyanamid?

"Secretary BAKER. It is about the same as sulphate, which rates according to how you make it up, 19½ to 20 per cent.

"Senator SMITH of South Carolina. Available nitrogen?

"Secretary BAKER. Yes, sir; all of it is available. And on the sulphate, as I say, we make \$16.80 profit. The total profit from this plant, selling at these prices, will give \$2,900,000 to the Government.

"Senator NORRIS. Per annum?

"Secretary BAKER. Per year.

"The CHAIRMAN. On how large an output?

"Secretary BAKER. That is using 10 of the carbide furnaces out of 12, which will give you 73,000 tons of cyanamid, 22,000 tons of nitrate of ammonia, and 107,000 tons of sulphate.

"Senator GORE. Of course, in this business you will have to meet the Chilean competition if the price goes down; you will have to meet that competition even though you have to sell below cost.

"Secretary BAKER. Very good. Then they will have to sell their Chilean nitrate at \$27, while we are getting for our cyanamid \$37.50, and, as I have been informed by one of the big firms who own the mines in Chile, it can not be brought into this country under \$40 without any profit to them on their investment.

"Now, Senator, you are striking the exact point I was just about to make in reply to Senator GRONNA. He asked me why the Government itself chose to operate the plant rather than to sell it to some private individual or rely upon private enterprise. This whole business is in a nascent state. The Germans are the only people who have so developed the fixation of nitrogen as to practically free themselves from the necessity of Chilean supply. Every other nation in the world relies on Chile. The Germans practically exonerated themselves from that reliance, although during the war they did have to import large amounts of nitrates from the Scandinavian countries, where they produced it in large quantities.

"From a military point of view, it is of the very greatest importance that we should not be dependent upon Chile; but from the agricultural point of view these processes are all now being developed by scientific research, and I think it is to the interest of the agricultural people of the United States to have the Government itself, which has no interest in the matter except their interest, has no commercial interest in continuing an inefficient process or in advertising an inefficient process, but has every interest in developing the best process, and that the Government itself should continue the operation of these plants and proceed with a continuous system of scientific inquiry, with the idea of perfecting the product so that it will be the very best that can be gotten for agriculture and will be produced under the most favorable conditions.

"\* \* \* but in order to free this commercial enterprise from the limitations which are supposed to inhere under governmental direction, we have suggested the creation of a corporation of which the Government shall be the only stockholder, like the Panama Railroad enterprise, which operates in competition and in contact with the general industry of the maritime interests of the world; and we want to have that private enterprise operating the plant and conducting scientific inquiries, perfecting the processes, and turning out the product and distributing it to the large distributors who, in turn, will distribute it throughout the country, thus obviating the general distributing system and dealing direct with the farmers. That is the plan which this bill provides.

"Senator NORRIS. Is the German system still a secret system?

"Secretary BAKER. The German system is not so much a secret system; as a matter of fact, the Germans had several systems. They had the cyanamid process, the same as we have at plant No. 2; they had the Haber process, which is in effect the process which we have at No. 1, except that they used very much higher pressure in their Haber process.

"Senator NORRIS. Are we familiar with all their methods?

"Secretary BAKER. So far as I know, we are familiar with every one of fixation processes which they used.

"Senator NORRIS. The Germans have made themselves free from the Chilean nitrate beds, and we know all they did or do, and there is no reason why we should not do it?

"Secretary BAKER. None in the world. There is no mystery, no secret; it is just going ahead.

"Secretary BAKER. The power problem, Senator, is complicated. At present the plant is operated by steam-generated power. We have a very large power plant down there, one of the largest power plants I know of anywhere in the world, so far as its units are concerned. There is one unit there of 60,000 kilowatts, which is equal to 80,000 horsepower. We are using that while the water-power plant is being built. We ran in power lines which were coupled up with private sources of distribution of power developed on the various rivers—hydroelectric power developed by some southern power companies. We have steam power enough of our own now to operate our plant at the proposed capacity. In the meantime the Muscle Shoals Dam is being built, and some day, probably very much earlier than anybody had previously supposed, we will have the great hydroelectric power of the Muscle Shoals Dam across the Tennessee River, one of the most imposing water powers possibly in America.

"And now comes the question that undoubtedly will impress Congress most, and that is the cost of it. This bill undertakes to carry \$12,500,000, and I know there will be very great reluctance on the part of Congress to spend \$12,500,000 for any project, which is a very proper reluctance, with which I have complete sympathy.

"We have figured in the War Department that the necessary safety reserve of Chilean nitrate for us to keep on hand against an emergency is 300,000 tons, and we have sold the Government's surplus stocks of nitrate down to 300,000 tons, or we are in process of doing it. We have now figured in the War Department that if this plant is kept going, and in addition to that we can rely upon it in an emergency to produce half of what would otherwise be required to keep as a safety reserve; in other words, if this plant is continued according to the plan proposed here we will be required to keep on hand only 150,000 tons rather than 300,000 tons.

"I am going to ask you, therefore, to bring in a committee amendment to this bill which will authorize the War Department to dispose of 150,000 tons of the nitrate which it has on hand and use that money, instead of a fresh appropriation of \$12,500,000, to carry out the purposes of this bill.

"Senator NORRIS. How much money will that bring you?

"Secretary BAKER. It will bring us \$12,500,000. We can sell 150,000 tons and get enough money to put in the additional appliances, have the working capital, and keep the company going until it begins to earn.

"Senator NORRIS. That would save an appropriation then?

"Secretary BAKER. It would save us the necessity of any appropriation.

"Senator SMITH of South Carolina. I would like to say, Mr. Chairman, that I got an appropriation of \$20,000,000 to purchase Chilean nitrates for the farmers during the war, and it was made a revolving fund. That was handled by the Agricultural Department. The demand for it was so great that they sold it all, and the Government had all the appropriation and was reimbursed with all the expenses attached, so that the \$20,000,000 is back in the Treasury without a cent's loss to the Government. That was one time when the Government appropriated money and got every cent of it back without any loss.

"Senator CAPPER. Mr. Secretary, what would be the chances for this project being self-supporting after you got it started?

"Secretary BAKER. We believe it will be self-supporting from this on. We have asked for a \$12,500,000 capital, which we believe will carry the project on until its net earnings recoup, and from then on it will be continuously self-supporting.

"Senator GORE. Will there be other sources of revenue from the sale of power?

"Secretary BAKER. There will always be the possibility of selling power. Of course, the power will have to be fed into the lines that run all through that part of the country.

"Mr. ROBERTS. There is no doubt in my mind, sir, at all that this plant can more than carry itself. I feel no hesitancy in saying that. I certainly expect it to make \$3,000,000 a year.

"Senator WADSWORTH. What effect do you think it will have on the chemical fertilizer industry of this country?

"Mr. ROBERTS. None. The demand for nitrogen is growing right along, and we will have to import larger and larger quantities of Chilean nitrate, even with this plant running.

"Senator WADSWORTH. There is room for everybody?

"Mr. ROBERTS. There is room for everybody. Mr. Myers, who represents the Chilean nitrate industry in this country, says the demand for nitrogen is going to be so great that this would not affect his interests at all.

"Senator WADSWORTH. What are his interests, do you say?  
"Mr. ROBERTS. The importation of sodium nitrate into this country, and he made that statement before the Graham committee. We will not interfere with any private interests at all; there is plenty of room for all of us."

#### FACTS CONCLUSIVE.

Mr. McKELLAR. Mr. President, from the foregoing facts there can not be any doubt that this plant, including both the steam plant and the water plant, should be completed at an early date and used for the benefit of the agricultural interests of this country. To scrap the machinery there would be folly. Next, to hold it without doing anything with it would be hardly less than folly. The only possible business proposition is to continue the work, and I think the plan proposed in this bill is manifestly the business way to do it.

#### THE FARMERS ENTITLED TO IT.

Mr. President, many talk about legislation in favor of farmers. Some of the proposed legislation this year will be very beneficial to them I believe. Other legislation that is alleged to be in their behalf is of very doubtful value to them, but this measure is almost a necessity to them. Chile now has what might be called a corner on nitrates. The Chilean nitrate trust is supreme in its control of the nitrate situation. When private power plants are erected, it is perfectly natural for them to form some kind of combination with the Chilean nitrate trust and the farmers have to pay large prices for this necessary component part of fertilizers and will continue to do so indefinitely unless these plants are completed and operated. On the other hand, if the United States Government through this corporation manufactures nitrates, the farmers would be assured that they would always get them at the lowest possible cost and under highly competitive conditions. They would also be assured that no combinations can be made that will raise the price unduly. The greater portion of the lands of this country need fertilizers. Right next by Muscle Shoals are the wonderful phosphate beds of Tennessee. These phosphate beds are unusually large. They are near and can be used in conjunction with the nitrates secured from this plant and at the lowest possible cost. Muscle Shoals is an ideal situation, therefore, for such a plant as this.

Mr. President, the farmers of our country bear the heat and burden of the day. They are hewers of wood and drawers of water. In order to produce what the rest of the world consumes, they must rise early and work late and constantly; in the cold of winter they have to keep and feed their stock and cattle and hogs and poultry. They have to feed them and water them and give them their constant care and attention.

As spring advances they have to prepare the lands for planting, and from that time on until the crops are finally gathered, in heat and in cold, in rain and in shine, in season and out of season, if they succeed, they must work, work, work. They have no time to lobby about legislatures or about the Congress. They have little time for even meeting among themselves in their various localities. They are not adepts in getting legislation that is favorable to them passed, but they are the backbone of our country. If they are prosperous, the whole Nation is prosperous, and if they are not prosperous the whole Nation is not prosperous. Congress has done much for them in the way of teaching them, through the agents of the Department of Agriculture, how to fertilize their lands, how to produce the greatest quantity of crops on them, and how to care and preserve and market them, and all this is important, but nothing is more important than that they should be assured of an inexhaustible supply of fertilizers at reasonable prices. Except in especially favored localities, these farm lands have to be constantly reinvigorated by fertilizers. As the years go by the amount of fertilizers must be constantly increased. It would never do for

the American farmer to be dependent upon a trust-controlled supply of fertilizers, as is the case now.

Mr. President, our farmers only want fair treatment. They do not want the best of it. They must have better facilities for securing money with which to make their crops. They must secure it at less interest rates than they now have to pay. I hope that the farm loan act will be declared legal; but if it is not legal, then the Congress should speedily pass one that is constitutional. They must have an ample supply of fertilizers at a reasonable cost. The Government should take no backward step in its farm extension and agency work or its work in home economics. Federal aid to road building should be continued. The teaching of the value and use of improved farm machinery, of improved stock and cattle and hog breeding should be continually emphasized. We must make every farming community a safe, a fit, an attractive, and a prosperous place to live in. The recent census shows an enormous exodus of population from the rural districts, and a consequently enormous increase in the population of our cities. For the first time in our history our city population is larger than our country population. This is not a favorable condition. It is a condition which is national in its character, and should be dealt with nationally. We must find the proper methods and means to make country life more inviting and more attractive, so as to keep more of our boys and girls on the farms. The war did much to bring this condition about, though it would have occurred without the war. But the war accentuated it. It is one of our most important readjustment problems. We must meet it squarely and take steps to checkmate it. More of our people are engaged in farming than in any other industry. As I said to the Senator from Colorado, the National Government appropriated for its upbuilding and improvement last year only \$31,000,000, not much more than one-half of 1 per cent of its entire appropriations. But then the farmers own no great metropolitan newspapers to put their needs before Congress and the country. They have no money to invest in magazine propaganda in their interest. They have no money to employ college professors to secure and present statistics to aid them. The result is that every time a legislator speaks out for the farmer, representatives of the other interests are always on the job and ready to cry out, "Oh, he wants the farmers' vote!" Mr. President, it is time for the Congress to become alive to the needs of our great industry, that upon which every other industry depends. We must do more to build up, dignify, make attractive, and make prosperous the farm life of our people.

Mr. President, it is not my purpose to discuss this matter at length. It has already been done by members of the committee. It seems to me it is a great opportunity to benefit the farmers of the country. Our lands are getting poorer every day. They are wearing out. They have got to be reinvigorated. They can only be reinvigorated in a scientific and proper way in order to make the crops that are necessary to sustain our people. We ought to leave no stone unturned to give to the farmers of the country a cheap and excellent fertilizer, when such an opportunity offers as the one which now confronts us. If we do not give it to them the Government does not make anything except the three or four million dollars that it will get as compensation and for the sale of this \$85,000,000 plant.

How any man can believe that it is better to junk or scrap these new plants than to use them for the benefit of the farmers of the country I can not imagine. It is inconceivable to me that any business man would feel that he ought not to make an effort to give the farmers of the country the benefit of cheaper fertilizer.

It is said by the Senator from Kentucky that fertilizers may or will go down. Of course they may go down. I hope they will go down. They are certain to go down if we pass the bill and let it be known that Congress intends that the Government itself will operate these plants. The farmers will get their nitrates cheaper. But if by any chance or mischance the bill should not pass or an intention is shown on the part of Congress to defeat it, we will see fertilizers going up instead of down. We will find that the trust feel that they could increase their prices of fertilizer to the farmers. The farmers have to have fertilizers. In order to get along they are obliged to have them. It is a question of competition, and the greatest good that will be done will be along a competitive line upon a competitive basis, because as long as the Government operates the plant the trusts and everybody else will know that the farmers are going to get these fertilizers at about cost.

I think it would be wholly immaterial—not wholly immaterial either, but certainly not a reason for not organizing this corporation and not carrying on this work—that the Government does not make anything out of it. If it does not

Also, a bill (H. R. 15234) granting a pension to Leonora E. Wright; to the Committee on Pensions.

Also, a bill (H. R. 15235) for the relief of Noah Huckins; to the Committee on Military Affairs.

By Mr. DRANE: A bill (H. R. 15236) granting an increase of pension to Ellen C. Giddens; to the Committee on Pensions.

By Mr. FIELDS: A bill (H. R. 15237) granting a pension to Nancy J. Mays; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15238) granting a pension to Lida Kibbe; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15239) granting an increase of pension to Louisa Helton; to the Committee on Invalid Pensions.

By Mr. FOSTER: A bill (H. R. 15240) granting a pension to Goldie D. Moore; to the Committee on Pensions.

Also, a bill (H. R. 15241) granting a pension to Mary Jane Howell; to the Committee on Invalid Pensions.

By Mr. FULLER of Illinois: A bill (H. R. 15242) granting an increase of pension to Mary Butler; to the Committee on Invalid Pensions.

By Mr. HAYS: A bill (H. R. 15243) granting an increase of pension to Peter N. Troutman; to the Committee on Pensions.

Also, a bill (H. R. 15244) granting a pension to Jesse A. Smith; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15245) granting an increase of pension to Mary E. Emery; to the Committee on Invalid Pensions.

By Mr. JOHNSON of Washington: A bill (H. R. 15246) to change the retired status of Chief Pay Clerk R. E. Ames, United States Navy, retired; to the Committee on Naval Affairs.

By Mr. KELLEY of Michigan: A bill (H. R. 15247) granting an increase of pension to Emma C. Rogers; to the Committee on Invalid Pensions.

By Mr. MCKINLEY: A bill (H. R. 15248) granting an increase of pension to Mary McEvoy; to the Committee on Pensions.

By Mr. MAJOR: A bill (H. R. 15249) granting a pension to W. H. Hoback; to the Committee on Pensions.

By Mr. MANN of Illinois: A bill (H. R. 15250) granting an increase of pension to Henry N. Conden; to the Committee on Invalid Pensions.

By Mr. MEAD: A bill (H. R. 15251) granting a pension to Katherine Timlin; to the Committee on Pensions.

Also, a bill (H. R. 15252) granting a pension to Bridget Stody; to the Committee on Pensions.

Also, a bill (H. R. 15253) granting a pension to William J. Hines; to the Committee on Pensions.

Also, a bill (H. R. 15254) granting a pension to Mary L. Rupert; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15255) granting a pension to Jane N. Ashley; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15256) granting a pension to Marion F. Forse; to the Committee on Pensions.

Also, a bill (H. R. 15257) granting a pension to Menora Sweetland; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15258) granting an increase of pension to George Plewacki; to the Committee on Pensions.

By Mr. PURNELL: A bill (H. R. 15259) granting an increase of pension to Lucinda Welch; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15260) granting a pension to Mary A. Rodman; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15261) for the relief of Frederick Sparks; to the Committee on Military Affairs.

By Mr. REAVIS: A bill (H. R. 15262) granting a pension to Alice Haskins; to the Committee on Invalid Pensions.

By Mr. RIDDICK: A bill (H. R. 15263) for the relief of George Emerson; to the Committee on Claims.

By Mr. SELLS: A bill (H. R. 15264) granting a pension to Mary Crawford; to the Committee on Pensions.

By Mr. SLEMP: A bill (H. R. 15265) authorizing the President to appoint James G. C. Salyers to the position and rank of captain of Coast Artillery Corps in the United States Army; to the Committee on Military Affairs.

By Mr. TAYLOR of Tennessee: A bill (H. R. 15266) granting a pension to William Loy; to the Committee on Invalid Pensions.

Also, a bill (H. R. 15267) granting a pension to Stella Johnson; to the Committee on Pensions.

Also, a bill (H. R. 15268) granting an increase of pension to William Allen; to the Committee on Invalid Pensions.

By Mr. TREADWAY: A bill (H. R. 15269) authorizing the President to reinstate William Lloyd Wright as a lieutenant commander in the United States Navy; to the Committee on Naval Affairs.

By Mr. WILSON of Pennsylvania: A bill (H. R. 15270) for the relief of John R. Campbell; to the Committee on Claims.

#### PETITIONS, ETC.

Under clause 1 of Rule XXII, petitions and papers were laid on the Clerk's desk and referred as follows:

4600. By Mr. DYER: Petition of the John F. Scobee Lumber Co., favoring revision of the income-tax laws; to the Committee on Ways and Means.

4601. Also, petition of the Cole County (Mo.) League of Women Voters, favoring the Sheppard-Towner bill to aid maternity and infancy; to the Committee on Interstate and Foreign Commerce.

4602. Also, petition of the Travelers' Protective Association of America, of St. Louis, Mo., favoring legislation making the immigration laws more stringent; to the Committee on Immigration and Naturalization.

4603. Also, petition of the Travelers' Protective Association of America, urging amendment of the income-tax laws; to the Committee on Ways and Means.

4604. Also, petition of the Travelers' Protective Association of America, urging improvement of harbors and inland waterways; to the Committee on Interstate and Foreign Commerce.

4605. Also, petition of the St. Louis Assembly, Knights of Columbus, favoring Sherwood resolution for investigation of conditions in Ireland; to the Committee on Foreign Affairs.

4606. Also, petition of the Traffic Motor Truck Corporation favoring Patent Office relief legislation; to the Committee on Patents.

4607. Also, petition of H. Gatzert, favoring the Smith-Towner bill; to the Committee on Education.

4608. Also, petition of the Velle Automobile Co., of St. Louis, Mo., favoring increased appropriation for the Bureau of Foreign and Domestic Commerce; to the Committee on Appropriations.

4609. Also, petition of Emil E. Brill, jr., of St. Louis, Mo., favoring enactment of the Smith-Towner bill; to the Committee on Education.

4610. Also, petition of the Engineers Club of St. Louis, Texas section, opposing the passage of the Smith bill (H. R. 12466); to the Committee on the Public Lands.

4611. By Mr. ESCH: Petition of the First Baptist Church of Madison, Wis., favoring the continuation of the Volstead Act and opposing the plan recommended by the Federal grand jury of the eastern Wisconsin district; to the Committee on the Judiciary.

4612. By Mr. FULLER of Illinois: Petition of the Haddorff Piano Co., of Rockford, Ill., favoring the Nolan Patent Office bill (H. R. 11984); to the Committee on Patents.

4613. Also, petition of the Mendelssohn Club, of Rockford, Ill., and the Rockford Chapter, Daughters of the American Revolution, favoring the Sheppard-Towner maternity bill (H. R. 10925); to the Committee on Interstate and Foreign Commerce.

4614. Also, petition of Capt. William H. Maxwell, Fitzsimons Chapter, Fitzsimons Hospital, Denver, Colo., favoring bill for the retirement of disabled emergency officers of the Army; to the Committee on Military Affairs.

4615. By Mr. MOON: Papers to accompany bill (H. R. 14928) for the relief of the heirs of Robert E. L. Rogers; to the Committee on War Claims.

4616. By Mr. O'CONNELL: Petition of the Chamber of Commerce of the State of New York and The Bronx Board of Trade, of New York, favoring daylight-saving law in the eastern-time zone; to the Committee on Interstate and Foreign Commerce.

4617. By Mr. RANDALL of Wisconsin: Resolution of the Chamber of Commerce of Beloit, Wis., requesting the repeal of the excess-profits tax law and the passage of an internal-revenue law providing for a sales tax; to the Committee on Ways and Means.

4618. By Mr. ROWAN: Petition of The Bronx Board of Trade and Cushman & Denison Manufacturing Co., favoring daylight-saving law in the eastern-time zone; to the Committee on Interstate and Foreign Commerce.

4619. By Mr. SINCLAIR: Petition of the Tuesday Improvement Club, of Garrison, N. Dak., urging the passage of the Sheppard-Towner maternity bill; to the Committee on Interstate and Foreign Commerce.

4620. Also, petition of the Tuesday Improvement Club, of Garrison, N. Dak., opposing legislation permitting private interests to use the waters of our national parks; to the Select Committee on Water Power.

4621. By Mr. TAGUE: Petition of the Kistler Leather Co., of Boston, Mass., favoring the passage of House bill 7204, regarding the development of trade in China; to the Committee on Foreign Affairs.

4622. Also, petition of Mr. H. C. Doggett, civil engineer, of Boston, Mass., and Mr. Allan V. Garrett, of Boston, Mass., regarding the measuring of the flow of streams and the development of water power; to the Select Committee on Water Power.

4623. By Mr. TAYLOR of Colorado: Petition of citizens of Leadville, Colo., and vicinity, urging extension of time in which to perform mining assessment work for this year until July 1, 1921; to the Committee on Mines and Mining.

4624. By Mr. TAYLOR of Colorado: Petition of the board of county commissioners of Routt County, Colo., urging the passage of Senate bill 3982; to the Committee on Roads.

4625. Also, petition of the Society of the Sons of the Revolution, of Colorado, regarding immigration to the United States; to the Committee on Immigration and Naturalization.

4626. Also, petition of sheep and wool growers of Montezuma County, Colo., urging import tariff duty on mutton and wool; to the Committee on Ways and Means.

4627. Also, petition of the Uncompahgre Valley Cattle and Horse Growers' Association, of Montrose, Colo., protesting against the passage of the proposed increase in grazing fees in national forests; to the Committee on Agriculture.

4628. By Mr. YATES: Petition of J. D. Hollingshead Co., Chicago, Ill., urging the passage of 1-cent drop-letter postage; to the Committee on the Post Office and Post Roads.

4629. Also, petition of the Marshall Field & Co., of Chicago, Ill., by W. H. Mann, general manager, urging that the great need of Alaska is the development of a constructive policy by our Government to make possible the utilization of her rich natural resources in creating local industries and developing a permanent population of home builders; to the Committee on the Territories.

4630. Also, the following petitions protesting against the Smith bill (H. R. 12406) and amending the Federal water power act: George R. Roberts, Chicago; Anna Jaderholm, Chicago; Miss Jessie R. Knowles, Chicago; and the River Forest Women's Club, of River Forest, all of the State of Illinois; to the Select Committee on Water Power.

## SENATE.

MONDAY, December 20, 1920.

The Chaplain, Rev. Forrest J. Prettyman, D. D., offered the following prayer:

Almighty God, we come to Thee after the sacred and hallowed influences of the Sabbath day as we begin our new week of work. We thank Thee that Thou didst give to us in Thy divine providence a day that is hallowed by such sacred memories, and that brings us back, week by week, to the old associations and the blessed influences of child life. We thank Thee for the emphasis that Thou dost put upon the ministry of the Sabbath Day by continuing it as a holy institution through the years, giving to us an opportunity to worship God and to serve our fellow men. We pray that we may bring to the service of this day the influences of the Sabbath, and that we may remember if we are to be right toward our fellow man we must first be right toward God. Grant us the holy influence of Thy presence as we address ourselves to the tasks of a new day. For Christ's sake. Amen.

The reading clerk proceeded to read the Journal of the proceedings of the legislative day of Thursday, January 16, 1920, when, on request of Mr. CURRIS and by unanimous consent, the further reading was dispensed with and the Journal was approved.

### PUBLICATIONS OF THE DEPARTMENT OF AGRICULTURE.

The VICE PRESIDENT laid before the Senate a communication from the Secretary of Agriculture, transmitting, pursuant to law, a statement showing the number of publications issued by the Department of Agriculture during the fiscal year ended June 30, 1920, which was referred to the Committee on Printing.

### CREDENTIALS.

The VICE PRESIDENT laid before the Senate a certificate of the governor of Idaho, certifying to the election of Frank R. Gooding as a Senator from that State for the term of six years, beginning March 4, 1921, which was read and ordered to be filed, as follows:

STATE OF IDAHO,  
Department of State.

To the PRESIDENT OF THE SENATE OF THE UNITED STATES:

This is to certify that on the 2d day of November, 1920, FRANK R. GOODING was duly chosen by the qualified electors of the State of Idaho a Senator from said State to represent said State in the Senate of the

United States for the term of six years, beginning on the 4th day of March, 1921.

Witness his excellency our governor, D. W. DAVIS, and our seal hereto affixed at Boise City, the capital of Idaho, this 3d day of December, in the year of our Lord 1920.

[SEAL.]

By the governor:  
Attest:

D. W. DAVIS, Governor.

ROBERT O. JONES,  
Secretary of State.

The VICE PRESIDENT laid before the Senate a certificate of the governor of Iowa, certifying to the election of ALBERT B. CUMMINS as a Senator from that State for the term of six years beginning March 4, 1921, which was read and ordered to be filed as follows:

STATE OF IOWA,  
Executive Department.

To the PRESIDENT OF THE SENATE OF THE UNITED STATES:

This is to certify that on the 2d day of November, 1920, ALBERT B. CUMMINS was duly chosen by the qualified electors of the State of Iowa a Senator from said State, to represent said State in the Senate of the United States for a term of six years, beginning on the 4th day of March, 1921.

In testimony whereof, I have hereunto set my hand and caused to be affixed the great seal of the State of Iowa.

Done at Des Moines, Iowa, this 16th day of December, 1920.

[SEAL.]

By the governor:

W. T. HARDING, Governor.

W. C. RAMSAY,  
Secretary of State.

The VICE PRESIDENT laid before the Senate a certificate of the governor of Kansas, certifying to the election of CHARLES CURTIS as a Senator from that State for the term of six years, beginning March 4, 1921, which was read and ordered to be filed, as follows:

### CERTIFICATE OF ELECTION.

STATE OF KANSAS,  
Executive Department.

To the PRESIDENT OF THE SENATE OF THE UNITED STATES:

This is to certify that on the 2d day of November, 1920, CHARLES CURTIS was duly chosen by the qualified electors of the State of Kansas a Senator from said State to represent said State in the Senate of the United States for the term of six years, beginning on the 4th day of March, 1921.

Witness his excellency our governor, Henry J. Allen, and our seal hereto affixed at Topeka, Kans., this 13th day of December, in the year of our Lord 1920.

[SEAL.]

By the governor:

HENRY J. ALLEN, Governor.

L. J. PETTIJOHN,  
Secretary of State.

### MESSAGE FROM THE HOUSE.

A message from the House of Representatives, by D. K. Hempstead, its enrolling clerk, announced that the House had passed, with amendments, the joint resolution (S. J. Res. 212), directing the War Finance Corporation to take certain action for the relief of the present depression in the agricultural sections of the country, and for other purposes, in which it requested the concurrence of the Senate.

The message also announced that the House had passed a bill (H. R. 15130) making appropriations to provide for the expenses of the government of the District of Columbia for the fiscal year ending June 30, 1922, and for other purposes, in which it requested the concurrence of the Senate.

The message further announced that the House disagrees to the amendments of the Senate to the bill (H. R. 13931) to authorize association of producers of agricultural products, agrees to the conference asked for by the Senate on the disagreeing votes of the two Houses thereon, and had appointed Mr. VOLSTEAD, Mr. GRAHAM of Pennsylvania, and Mr. SUMNERS of Texas, managers at the conference on the part of the House.

The message also announced that the House had passed the bill (S. 4565) extending the time for the doing of annual assessment work on mining claims for the year 1920 to and including July 1, 1921.

### ENROLLED BILL SIGNED.

The message further announced that the Speaker of the House had signed the enrolled bill (S. 4526) to amend section 501 of the transportation act, 1920, and it was thereupon signed by the Vice President.

### PETITIONS AND MEMORIALS.

Mr. WARREN. Mr. President, the extreme condition, in fact, the crushing condition of the market, or almost no market for wool, sheep, beef, and mutton brings me a great many petitions in the form of telegrams and otherwise. I have in my hands 15 or 20 of the briefest, which I am going to ask to have noted in the RECORD, but not extended. I wish to quote a few words from one or two for the RECORD, as they will show the nature of the others. They not only come from Wyoming, but from other States as well. Here is one from one of the largest farmers' feeding associations in the country, located in Colorado, which says:

The Sheep Feeders' Association of Northern Colorado, representing the owners of nearly 2,000,000 head of sheep being fed for market in northern Colorado, urge that everything be done that possibly can be

amendment as follows: In lieu of the matter stricken out insert:

"The name of Christine E. Geiger, widow of Austin Geiger, late of the Fortieth and Eighty-fifth Companies, United States Coast Artillery Corps, Regular Establishment, and pay her a pension at the rate of \$12 per month, and \$2 per month additional on account of the minor child of said Austin Geiger, until she reaches the age of 16 years."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 131, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Mary Michel, widow of John N. Michel, late of Company A, Twelfth United States Infantry, War with Spain, and pay her a pension at the rate of \$12 per month, and \$2 per month additional on account of the minor child of said John N. Michel, until she reaches the age of 16 years."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 138, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Anna M. Neill, widow of Jesse A. Neill, late of Company E, Eleventh Regiment, United States Infantry, War with Spain, and pay her a pension at the rate of \$12 per month, and \$2 per month additional on account of each of the minor children of said Jesse A. Neill until they reach the age of 16 years."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 155, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Bridget Reynolds, widow of James C. Reynolds, late of Company F, Thirty-fifth Regiment, Michigan Infantry, and Company H, Forty-second Regiment United States Volunteer Infantry, War with Spain, and pay her a pension at the rate of \$12 per month and \$2 per month additional on account of each of the minor children of said James C. Reynolds, until they reach the age of 16 years."

And the Senate agree to the same.

P. J. McCUMBER,  
REED SMOOT,  
*Managers on the part of the Senate.*  
SAM R. SELLS,  
EDGAR R. KIESS,  
*Managers on the part of the House.*

Mr. McCUMBER submitted the following conference report, which was read and ordered to lie on the table:

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 10515) granting pensions and increase of pensions to certain soldiers and sailors of the Regular Army and Navy, and certain soldiers and sailors of wars other than the Civil War, and to widows of such soldiers and sailors, having met, after full and free conference have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendments numbered 5, 6, 12, 21, 22, 34, 53, 64, 66, 91, 94, 104, and 107.

That the House recede from its disagreement to the amendments of the Senate numbered 1, 2, 3, 4, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 95, 96, 97, 98, 99, 100, 101, 102, 103, 105, 106, 108, 109, 110, and 111, and agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 39, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Islay T. Pittman, widow of George L. Pittman, late first lieutenant, Second Regiment North Carolina National Guard Infantry, border defense, and pay her a pension at the rate of \$17 per month, and \$2 per month additional on account of each of the minor children of said George L. Pittman until they reach the age of 16 years."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 78, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Mary Furfey, widow of Edward A. Furfey, late Battery I, Seventh Regiment United States Artillery, War with Spain, and pay her a pension at the rate of \$12 per month,

and \$2 per month additional on account of each of the minor children of said Edward A. Furfey until they reach the age of 16 years."

And the Senate agree to the same.

P. J. McCUMBER,  
REED SMOOT,  
*Managers on the part of the Senate.*  
SAM R. SELLS,  
EDGAR R. KIESS,  
*Managers on the part of the House.*

Mr. McCUMBER submitted the following conference report, which was read and ordered to lie on the table:

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 11554) granting pensions and increase of pensions to certain soldiers and sailors of the Regular Army and Navy, and certain soldiers and sailors of wars other than the Civil War, and to widows of such soldiers and sailors, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendments numbered 8, 9, 12, 14, 16, 39, 66, 67, 71, 76, 80, 85, 87, 91, 96, 97, 101, 111, 140, 151, 152, 156, 172, 192, 194, 196, and 197.

That the House recede from its disagreement to the amendments of the Senate numbered 1, 2, 3, 4, 5, 6, 7, 10, 11, 13, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 68, 69, 70, 72, 73, 74, 75, 77, 78, 79, 81, 83, 84, 86, 88, 89, 90, 92, 93, 94, 95, 98, 100, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 131, 132, 133, 134, 135, 136, 137, 138, 139, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 153, 154, 155, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 193, 195, and 198, and agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 82, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Emma R. Foster, widow of Benjamin Foster, late of Company I, Eighteenth Regiment United States Infantry, Indian war, and pay her a pension at the rate of \$20 per month in lieu of that she is now receiving."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 99, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of Charles H. Heimlich, alias Charles H. Henderson, late of Company E, Third Regiment United States Infantry, Indian war, and pay him a pension at the rate of \$30 per month in lieu of that he is now receiving."

And the Senate agree to the same.

That the House recede from its disagreement to the amendment of the Senate numbered 130, and agree to the same with an amendment as follows: In lieu of the matter stricken out insert:

"The name of May A. Sanders, widow of William J. Sanders, late of Company F, Thirty-fourth Regiment Michigan Infantry, War with Spain, and pay her a pension at the rate of \$12 per month, and \$2 per month additional on account of each of the minor children of the said William J. Sanders until they reach the age of 16 years."

And the Senate agree to the same.

P. J. McCUMBER,  
REED SMOOT,  
*Managers on the part of the Senate.*  
SAM R. SELLS,  
EDGAR R. KIESS,  
*Managers on the part of the House.*

#### KÉRENSKY GOVERNMENT OF RUSSIA.

Mr. NORRIS. Mr. President, yesterday I submitted a resolution calling on the Treasury Department for certain information, and it went over under the rule on the suggestion of the senior Senator from Alabama [Mr. UNDERWOOD]. I have talked with him about it to-day, and he said he has no objection to it; that he had talked it over with his colleague, and there was no objection to its passage. He authorized me to make this statement if I could get the floor this afternoon, and ask that the resolution be taken up and passed. I therefore ask for its immediate consideration.

The VICE PRESIDENT. Is there any objection?

There being no objection, the resolution (S. Res. 417), submitted yesterday by Mr. NORRIS, was considered and agreed to, as follows:

*Resolved*, That the Secretary of the Treasury be, and he is hereby, directed to furnish to the Senate the following information:

1. Are funds of the United States being used either directly or indirectly to support or maintain an embassy in the city of Washington, D. C., representing the so-called Kerensky government of Russia, and if so, how much money has been thus expended and what authority is there for such expenditure?

2. Was money advanced from the Treasury of the United States to establish a credit on behalf of the Kerensky government, and if so, in what amount, and for what purpose was it used?

3. What amount of money, if any, does the Kerensky government owe to the Government of the United States; how is it secured; what rate of interest does it bear, and when does it mature?

4. After the downfall of the Kerensky government did the Government of the United States purchase war material or other supplies from the officials of the Kerensky government with funds of the United States, and if so, what was the nature of the supplies; how much money was paid for the same; and was the purchase made at a time when the Kerensky government was indebted to the United States, and, if so, in what amount?

5. Has the Government of the United States taken any steps to reimburse itself for money advanced or loaned to the Kerensky government?

TARIFF ON ZINC.

Mr. SPENCER. I desire to present an amendment which I shall propose at the proper time as a substitute for the bill (H. R. 6238) to provide revenue for the Government and to establish and maintain the production of zinc ores and manufactures thereof in the United States. I ask that the proposed amendment may be referred to the Committee on Finance for their consideration.

The VICE PRESIDENT. Is there objection to the request of the Senator from Missouri?

Mr. UNDERWOOD. What is the request?

The VICE PRESIDENT. The request is that his proposed amendment, in the nature of a substitute for House bill 6238, be referred to the Finance Committee.

Mr. SMOOT. Let me suggest to the Senator from Missouri that he does not desire the original bill to be taken from the calendar, does he?

Mr. SPENCER. No. The original bill, as I understand, is left upon the calendar unaffected. The amendment is sent to the Secretary's desk to be printed, with a notice that it is intended to be offered as a substitute when the original bill comes up for consideration. In the meantime, for information and for such consideration as the committee may desire to give it, it is requested that the amendment be referred to the Finance Committee.

The VICE PRESIDENT. The Chair will suggest that the Senator ask that his proposed amendment lie on the table, to be called up when the bill to which it is offered is reached on the calendar.

Mr. SMOOT. That is what I was going to suggest.

Mr. SPENCER. That is quite satisfactory to me.

The VICE PRESIDENT. Without objection, that will be the procedure.

THE OIL SITUATION.

Mr. McKELLAR. Mr. President, if no other Senator has given notice of an intention to address the Senate after the morning business on Thursday next, I desire to give notice that I wish to make a few remarks in reference to the subject of oil on that day after the morning business shall have been concluded.

ADJOURNMENT.

Mr. CURTIS. I move that the Senate adjourn.

The motion was agreed to; and (at 4 o'clock and 25 minutes p. m.) the Senate adjourned until tomorrow, Wednesday, January 5, 1921, at 12 o'clock meridian.

HOUSE OF REPRESENTATIVES.

TUESDAY, January 4, 1921.

The House met at 12 o'clock noon.

The Chaplain, Rev. Henry N. Couden, D. D., offered the following prayer:

Our God and our Father, constant in Thy ministrations unto Thy children, faithful, kind, generous, just, and merciful, impart upon us plentifully of these gifts that we may live together in harmony and peace, according unto others every natural right we claim for ourselves, that honesty, justice, and truth may harmonize all differences, that love may be in the ascendancy after the manner of the world's great exemplar, our Lord and Master. Amen.

THE JOURNAL.

The SPEAKER. The Clerk will read the Journal of the proceedings of yesterday.

The Clerk began the reading of the Journal.

During the reading,

Mr. CANNON. Mr. Speaker, the Clerk is reading the Journal; is it a long message from the President?

The SPEAKER. The message was read last night.

Mr. CANNON. But is it a long one?

The SPEAKER. Quite long, requiring about 10 minutes to read, the Chair is informed.

Mr. CANNON. Mr. Speaker, I ask for a reading of the Journal in full. I did not happen to be here, and I have no time to read it nor the eyesight to read it.

The SPEAKER. The Clerk will read the message of the President.

Mr. CLARK of Missouri. Mr. Speaker, is that the same message read yesterday?

The SPEAKER. Yes.

Mr. CLARK of Missouri. Why is the Clerk reading it again?

Mr. CANNON. It is part of the Journal, and I demanded it be read.

Mr. CLARK of Missouri. The gentleman wants to hear it twice, does he?

Mr. CANNON. I did not happen to be here.

Mr. McFADDEN. Mr. Speaker, this is an important message, and I make the point of order there is no quorum present.

The SPEAKER. The gentleman from Pennsylvania makes the point of order that there is no quorum present, and the Chair will count. [After counting.] It is obvious there is no quorum present—

Mr. McFADDEN. I withdraw it.

The SPEAKER. The Chair has already stated there is no quorum present.

Mr. MONDELL. Mr. Speaker, I move a call of the House.

A call of the House was ordered.

The Clerk called the roll, and the following Members failed to answer to their names:

Andrews, Md.	Dunn	Loneragan	Rainey, H. T.
Babka	Ellsworth	Lufkin	Reber
Bacharach	Emerson	McAndrews	Reed, W. Va.
Baer	Evans, Nev.	McCulloch	Riddick
Bell	Fields	McKenzie	Riordan
Bland, Ind.	Fuller, Mass.	McKeown	Robinson, N. C.
Bland, Mo.	Gallagher	McKiniry	Rouse
Booher	Ganly	McLane	Rowan
Bowers	Greene, Vt.	McPherson	Sabath
Britten	Hamill	Maher	Sanders, N. Y.
Brooks, Pa.	Hamilton	Major	Sanford
Brumbaugh	Harrell	Mann, S. C.	Scully
Burdick	Hicks	Mason	Sells
Burke	Hill	Mead	Smith, Ill.
Caldwell	Hoey	Monahan, Wis.	Smith, N. Y.
Campbell, Pa.	Houghton	Moon	Snyder
Carew	Ireland	Mooney	Stegall
Carrs	James, Mich.	Moore, Ohio	Stiness
Casey	James, Va.	Moore, Va.	Strong, Pa.
Cole	Jones, Pa.	Morin	Sullivan
Costello	Jones, Tex.	Mott	Swope
Crago	Juul	Mudd	Yare
Crisp	Kennedy, R. I.	Nelson, Wis.	Ward
Currie, Mich.	Kettner	Nicholls	White, Me.
Dale	Kincheloe	O'Connell	Williams
Davey	Kitchin	Park	Wilson, Pa.
Dempsey	Kleczka	Peters	Wise
Donovan	Kreider	Porter	Wright
Dooling	Lehbach	Pou	Yates
Drewry	Leshner	Rainey, Ala.	Young, Tex.

The SPEAKER. Three hundred and eight Members have answered to their names, a quorum is present.

Mr. MONDELL. Mr. Speaker, I move to dispense with further proceedings under the call.

The motion was agreed to.

The SPEAKER. The Clerk will resume the reading of the Journal.

The Clerk resumed and completed the reading of the Journal in full.

The SPEAKER. Without objection the Journal will stand approved.

There was no objection.

FINANCING AGRICULTURAL OPERATIONS.

The SPEAKER. The unfinished business when the House adjourned yesterday was the reconsideration of Senate joint resolution 212 notwithstanding the objections of the President. The question before the House is, Will the House on reconsideration pass the joint resolution notwithstanding the objections of the President to the contrary notwithstanding?

Mr. STRONG of Kansas. Mr. Speaker, I yield to the gentleman from Wyoming [Mr. MONDELL].

Mr. MONDELL. Mr. Speaker, we have all listened to the President's message with a great deal of interest. I think we all realize that while the President has presented a very excellent argument in support of the position he has taken, he has