responsibility in respect to future flood-protection measures in the lower Mississippi Valley; to the Committee on Flood Control.

5218. Also, addresses submitted by the Navy Yard Retirement Association, navy yard, New York, in re retirement legislation; to the Committee on the Civil Service.

5219. Also, petition of New York Photo-Engravers' Union, No. 1, favoring the passage of House bill 9575 and Senate bill 2440; to the Committee on Printing.

5220. By Mr. SHREVE: Petition of numerous residents of Erie and Crawford Counties, Pa., protesting against the passage of the Lankford Sunday observance bill (H. R. 78); to the Committee on the District of Columbia.

5221. By Mr. SWING: Petition of citizens of Arlington, Calif., protesting against compulsory Sunday observance laws; to the Committee on the District of Columbia.

5222. By Mr. THOMPSON: Petition of citizens of Defiance and Paulding Counties, Ohio, protesting against Sunday legislation for the District of Columbia; to the Committee on the District of Columbia.

5223. Also, petition of citizens of Van Wert County, Ohio, urging the passage of a Civil War pension bill; to the Committee on Invalid Pensions.

5224. By Mr. TINKHAM: Petition of Betsy Ross Tent No. 31, Daughters of Union Veterans of Civil War, for increase in pension of all Civil War veterans and widows of Civil War veterans; to the Committee on Invalid Pensions.

5225. By Mr. WELLER: Petition of the New York State Council of the Knights of Columbus, urging full Federal responsibility in respect to future flood-protection measures in the lower Mississippi Valley; to the Committee on Flood Control.

SENATE

SATURDAY, *March 10, 1928*

(Legislative day of Tuesday, March 6, 1928)

The Senate reassembled at 12 o'clock meridian, on the expiration of the recess.

The VICE PRESIDENT. The Senate resumes the consideration of the unfinished business, Senate Joint Resolution 46, and the junior Senator from Nebraska [Mr. HOWELL] is entitled to the floor.

MUSCLE SHOALS

The Senate, as in Committee of the Whole, resumed the consideration of the joint resolution (S. J. Res. 46) providing for the completion of Dam No. 2 and the steam plant at nitrate plant No. 2 in the vicinity of Muscle Shoals for the manufacture and distribution of fertilizer, and for other purposes.

Mr. LA FOLLETTE. Mr. President, I suggest the absence of a quorum.

The VICE PRESIDENT. The clerk will call the roll.

The legislative clerk called the roll, and the following Senators answered to their names:

Ashurst	Edge	Kendrick	Reed, Pa.
Barkley	Edwards	Keyes	Robinson, Ark.
Bayard	Fess	King	Sheppard
Bingham	Fletcher	La Follette	Shipstead
Black	Frazier	McKellar	Shortridge
Blease	George	McLean	Simmons
Borah	Glass	McMaster	Smith
Bratton	Gooding	McNary	Smoot
Brookhart	Gould	Mayfield	Steck
Broussard	Greene	Neely	Steiwer
Bruce	Hale	Norbeck	Stephens
Capper	Harris	Norris	Swanson
Caraway	Harrison	Nye	Thomas
Copeland	Hawes	Oddie	Tydings
Couzens	Hayden	Overman	Tyson
Cutting	Heflin	Phipps	Walsh, Mass.
Dale	Howell	Pine	Walsh, Mont.
Deneen	Johnson	Pittman	Waterman
Dill	Jones	Ransdell	Wheeler

Mr. FESS. My colleague the senior Senator from Ohio [Mr. WILLIS] is absent from the Chamber on important business. I ask that this announcement may stand for the day.

The VICE PRESIDENT. Seventy-six Senators having answered to their names, a quorum is present.

Mr. NORRIS. Mr. President, I ask my colleague to yield while I submit a unanimous-consent request.

Mr. HOWELL. I yield for that purpose.

Mr. NORRIS. I ask unanimous consent that when the Senate completes its business to-day it shall take a recess until 12 o'clock Monday, and that, beginning at 12 o'clock Monday, all speeches on any amendment and on the joint resolution now pending shall be limited to 15 minutes, and that no Senator shall be allowed to speak more than once upon any amendment or upon the joint resolution.

The VICE PRESIDENT. Is there objection?

Mr. BLACK. Mr. President, I object to that arrangement at the present time.

Mr. HARRISON. Mr. President, I hope the Senator from Alabama will not insist upon his objection. I have been wanting to speak for some time during the discussion, and have given way to this Senator and that Senator. There is another rather important piece of legislation which is soon to be before us. It seems to me the agreement would give any Senator ample time, as it allows 30 minutes in which to speak. If we do not get some kind of an agreement we shall be here until the end of next week on the joint resolution.

Mr. McKELLAR. Mr. President, I hope, too, that the Senator from Alabama will withdraw his objection, because we have the flood relief measure coming on very soon, and it is very important to all our people. While I have wanted to speak at some length, I am perfectly willing to cut my remarks down for the occasion.

Mr. ROBINSON of Arkansas. Mr. President, I merely desire to add to what has been said that I think the time has come when some arrangement for the limitation of debate on the joint resolution should be entered into. We have had a very full discussion of the joint resolution and of some of the amendments which have been before us. I believe that nearly all Senators who desire to discuss the measure at length have already spoken. I hope the Senator from Alabama may be able to withdraw his objection.

Mr. BLACK. Mr. President, at the time I made the objection I had not seen my colleague the senior Senator from Alabama [Mr. HEFLIN]. That is the reason why I stated I objected for the present. I did not want an agreement to be reached in his absence or without my having a chance to consult with him. We have no objection.

The VICE PRESIDENT. Without objection, the unanimous-consent agreement is entered into.

The agreement was reduced to writing, as follows:

UNANIMOUS-CONSENT AGREEMENT

Ordered, by unanimous consent, That when the Senate concludes its business to-day it take a recess until 12 o'clock noon Monday, and that after that hour no Senator shall speak more than once nor longer than 15 minutes upon the joint resolution S. J. Res. 46, the Muscle Shoals resolution, or upon any amendment proposed thereto.

Mr. McNARY. Mr. President, a few days ago I had inserted in the RECORD a report from the Secretary of Agriculture on the pending joint resolution. This morning I have received a very brief report from the Secretary on the so-called Willis-Madden bill, which I should like to have read at the desk by the clerk.

The VICE PRESIDENT. Without objection, the clerk will read, as requested.

The legislative clerk read as follows:

DEPARTMENT OF AGRICULTURE,
Washington, D. C., March 9, 1928.

Hon. CHARLES L. McNARY,
United States Senate.

DEAR SENATOR McNARY: Your letter of January 25, inclosing a copy of S. 2786, has been received. This is a bill introduced by Mr. WILLIS "To authorize and direct the Secretary of War to execute a lease with Air Nitrates Corporation and American Cyanamid Co., and for other purposes."

I am advised that the legislation proposed in S. 2786 would not be in conflict with the financial program of the President.

Sincerely yours,

W. M. JARDINE, *Secretary.*

MESSAGE FROM THE HOUSE

A message from the House of Representatives, by Mr. Farrell, its enrolling clerk, announced that the House, having considered the joint resolution (S. J. Res. 47) proposing an amendment to the Constitution of the United States fixing the commencement of the terms of President and Vice President and Members of Congress, and fixing the time of the assembling of Congress, did not agree thereto, two-thirds of the Members not having voted in the affirmative.

The message also announced that the House had passed the following bills, in which it requested the concurrence of the Senate:

H. R. 4115. An act for the relief of Winfield Scott;

H. R. 4116. An act for the relief of W. Laurence Hazard;

H. R. 4117. An act for the relief of Harriet K. Carey; and

H. R. 10141. An act granting pensions and increase of pensions to certain soldiers and sailors of the Regular Army and Navy, etc., and certain soldiers and sailors of wars other than the Civil War, and to widows of such soldiers and sailors.

AUTHENTICATED U.S. GOVERNMENT INFORMATION GPO

PETITIONS AND MEMORIALS

Mr. ASHURST presented the petition of Mrs. Jennie McKee, of Phoenix, Ariz., praying for the passage of legislation granting increased pensions to Civil War veterans and their widows, which was referred to the Committee on Pensions.

Mr. REED of Pennsylvania presented a petition of the Philadelphia (Pa.) Board of Trade, praying for the passage of Senate bill 3434, the so-called Jones flood control bill, which was ordered to lie on the table.

Mr. FRAZIER presented a resolution of Kringen Lodge, No. 25, Sons of Norway, of Fargo, N. Dak., favoring the repeal of the so-called national-origins quota provision of the immigration law of 1924, which was referred to the Committee on Immigration.

Mr. COPELAND presented petitions of sundry citizens of the State of New York, praying for the passage of legislation granting increased pensions to Civil War veterans and their widows, which were referred to the Committee on Pensions.

Mr. FESS presented petitions of sundry citizens of Delphos and Washington County, in the State of Ohio, praying for the passage of legislation granting increased pensions to Civil War veterans and their widows, which were referred to the Committee on Pensions.

Mr. JONES presented a memorial of sundry citizens of Bellingham, Wash., remonstrating against the passage of legislation providing for compulsory Sunday observance in the District of Columbia, which was referred to the Committee on the District of Columbia.

He also presented a memorial of sundry citizens of Chehalis, Wash., remonstrating against adoption of the proposed naval building program, which was referred to the Committee on Naval Affairs.

He also presented a petition of sundry citizens of Clark County, Wash., praying for the passage of legislation repealing the so-called national-origins quota provision of the existing immigration law, which was referred to the Committee on Immigration.

He also presented a memorial of sundry citizens of Wenatchee, Wash., remonstrating against the passage of Senate bill 1271, the so-called migratory bird conservation bill, which was referred to the Committee on Agriculture and Forestry.

He also presented petitions of sundry citizens of Olympia and Tacoma, in the State of Washington, praying for the passage of legislation creating a Federal department of education, which were referred to the Committee on Education and Labor.

He also presented petitions of sundry citizens of Plaza, Retsil, and vicinity, in the State of Washington, praying for the passage of legislation granting increased pensions to Civil War veterans and their widows, which were referred to the Committee on Pensions.

INTERNATIONAL ASSOCIATION OF POLICEWOMEN

Mr. CARAWAY. Mr. President, in discussing associations in the District of Columbia which largely are engaged in extracting money from people away from here and spending it for the benefit of themselves and nobody else, I mentioned the International Association of Policewomen. A very excellent lady, who is connected with that association, came to me and argued with me that I had done that particular association an injustice. Without knowing much about the facts, I told her if she would write me a letter stating their side of the matter for the public, I would ask to have it included in the RECORD. Therefore I ask unanimous consent to have the letter made a part of my statement.

The VICE PRESIDENT. Without objection, it is so ordered.

The letter is as follows:

INTERNATIONAL ASSOCIATION OF POLICEWOMEN (INC.);
Washington, D. C., March 8, 1928.

Hon. T. H. CARAWAY,
Senate Office Building, Washington, D. C.

MY DEAR SENATOR CARAWAY: In reading your report, Senate 342, on the bill to require registration of lobbyists, in which you mention certain fake organizations having headquarters in Washington, I regretted to find listed the name of the International Association of Policewomen.

Our association is educational in character and aims to stimulate the appointment of policewomen of high caliber, who have training in social work, to take care of the problems of unfortunate women and children coming to the attention of the police departments. We wish to place an emphasis on finer personnel and more effective preventive measures by the police, to the end that our national crime problem shall be diminished. We answer the call for technical service and educational information in all parts of the country, from public officials, civic organizations, universities, and women's clubs. Since so many of these groups have their headquarters in Washington, it is a matter of convenience to be located here. Our presence in the Capital has no relation whatsoever to the National Congress, and, with the exception of one bill relating to the District, we have had no contact with Congress, nor is it likely that we shall have in the future.

From the names listed on this paper I am sure you will realize that we have the sympathy and understanding of people of broad civic interest and high professional standing. Knowing your fine spirit of justice, I place the facts before you, feeling sure you will wish to correct any misunderstanding which may arise from your report.

I am, most respectfully yours,

(Miss) HELEN D. PIGEON,
Executive Secretary.

CONTRACTS FOR THE AIR MAIL

Mr. ROBINSON of Arkansas. Mr. President, I ask to have printed in the RECORD and referred to the Committee on Post Offices and Post Roads a letter which has come to me from E. F. Stewart in relation to contracts for the carriage of air mail.

The VICE PRESIDENT. Without objection, it is so ordered.

NEW YORK, *March 8, 1928.*

Hon. JOSEPH T. ROBINSON,
Senate Office Building, Washington, D. C.

DEAR SENATOR ROBINSON: H. R. 10553, known as the Kelly bill, has passed the House and undoubtedly now comes to your committee.

The undersigned, long actively interested in practical aviation and formerly the officer in charge of flying at Payne Field, West Point, Miss., first appeared before your committee in 1919–20 and fathered the clause in that year's bill authorizing the Postmaster General to contract for carrying mail by airplane. This was the first legislation of its kind.

In 1927 I underbid the present contractor for the New York-Chicago air mail service an average of 75 cents per pound. I also agreed in my proposals to carry not only air mail but enough regular first-class mail to make up 20,000 pounds daily, and at 35 cents per pound. The present law authorizes the Postmaster General to contract for carrying first-class mails at not more than 60 cents per pound.

The bill now before you is the logical outcome of the past history of air mail. In plain terms, it authorizes the Postmaster General to decrease the postage rate on air mail 75 per cent.

In view of my bid of 35 cents per pound for ordinary first-class mail between New York and Chicago, the only end which the present pending legislation may accomplish is to increase the volume of business for the benefit of the holders of existing contracts for carrying air mails at the expense of the Government.

The clause permitting the Postmaster General to contract ahead for 10 years can only be designed to the same end. Aviation is making rapid strides, and even the present limit of five years is probably too long a term for the Government to contract for.

I desire a hearing when this present bill is discussed in your committee, and will be greatly obliged if you will arrange that I may be heard at that time.

Very truly yours, E. STEWART.

DISABLED EMERGENCY OFFICERS AND ENLISTED MEN

Mr. BINGHAM. I present correspondence from the Director of the United States Veterans' Bureau, with accompanying statements and tables showing the extent of major disability, degree of impairment, number, and amount of monthly compensation payments being made to emergency Army, Navy, and Marine officers and enlisted men, and also showing the compensation status and estimated cost of retirement of emergency officers of the Army, Navy, and Marine Corps who are permanently disabled to a degree of 30 per cent or more, which I ask may be printed in the RECORD and lie on the table.

There being no objection, the matter was ordered to lie on the table and to be printed in the RECORD, as follows:

UNITED STATES VETERANS' BUREAU,
OFFICE OF THE DIRECTOR,
Washington, February 29, 1928.

Hon. HIRAM BINGHAM,
United States Senate, Washington, D. C.

MY DEAR SENATOR BINGHAM: In reply to your verbal request that you be furnished with current information relative to disabled emergency officers, as shown on page 17 of the report of the Senate Military Affairs Committee, March 5, 1926, together with similar information covering enlisted men, you are advised that there are inclosed herewith statements as of December 31, 1927, showing the extent of major dis-

ability, degree of impairment, number, and amount of monthly compensation payments being made to emergency Army, Navy, and Marine officers and enlisted men.

Very truly yours,

FRANK T. HINES, *Director.*

Compensation—Active disability awards—Enlisted men receiving compensation as of December 31, 1927

Degree of impairment	Number	Monthly payment
Per cent temporary partial:		
10-19	12,809	$163,439
20-29	17,738	406,665
30-39	7,714	248,678
40-49	5,019	201,751
50-59	7,091	240,309
60-69	2,984	172,306
70-79	6,370	438,409
80-89	1,206	91,790
90-99	164	14,108
Total	61,095	2,077,455

Compensation—Active disability awards—Enlisted men receiving compensation as of December 31, 1927—Continued

Degree of impairment	Number	Monthly payment
Per cent permanent partial:		
10-19	60,902	$1,688,240
20-29	34,342	1,027,607
30-39	12,794	454,704
40-49	7,481	325,015
50-59	6,204	323,652
60-69	4,500	282,375
70-79	3,165	233,404
80-89	1,942	163,035
90-99	547	50,580
Total	131,877	4,548,612
Per cent temporary total: 100	15,066	1,329,880
Per cent permanent total: 100	31,784	2,876,707
Per cent double permanent total: 200	53	12,520
Grand total	[1] 239,875	10,845,174

[1] This figure includes noncommissioned officers.

Compensation, active disability awards—Emergency Army, Navy, and Marine officers, showing extent of major disability, degree of impairment, number and amount of monthly payment as of December 31, 1927

Degree of impairment	Army															
	General		Colonel		Lieutenant colonel		Major		Captain		First lieutenant		Second lieutenant		Total	
	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment
Per cent temporary partial:																
10-19					3	$30	23	$420	94	$1,430	141	$2,220	131	$1,758	392	$5,858
20-29					6	125	41	938	160	3,676	237	5,453	179	4,230	623	14,422
30-39			1	$30	1	40	30	945	82	2,610	135	4,431	95	3,074	344	11,130
40-49					5	193	16	625	62	2,468	96	3,886	40	1,638	219	8,810
50-59			2	103	2	95	28	1,379	118	5,782	120	5,862	95	4,578	365	17,799
60-69					4	259	20	1,159	60	3,608	59	3,462	42	2,487	185	10,975
70-79			2	143	5	337	16	1,088	105	7,417	122	8,639	87	5,948	337	23,572
80-89					2	165	12	940	23	1,769	39	3,016	13	1,019	89	6,909
90-99							2	167	2	165	16	1,361	6	517	26	2,210
Total			5	276	28	1,244	188	7,661	706	28,925	965	38,330	688	25,249	2,580	101,685
Per cent permanent partial:																
10-19			4	118	16	485	92	2,745	446	12,121	915	25,242	795	22,497	2,268	63,208
20-29			3	79	7	194	53	1,511	268	8,047	484	13,927	307	8,795	1,122	32,553
30-39			3	97	5	167	35	1,176	130	4,463	197	6,805	181	6,260	551	18,968
40-49					4	170	27	1,137	99	4,275	135	5,822	105	4,487	370	15,891
50-59					1	56	20	1,044	100	5,204	150	7,794	102	5,327	373	19,425
60-69	1	$60	1	68	4	260	14	895	55	3,476	76	4,881	51	3,205	202	12,845
70-79					3	225	12	899	50	3,696	72	5,346	44	3,277	181	13,443
80-89							4	337	20	1,698	27	2,257	23	1,886	74	6,178
90-99									7	652	8	737	6	549	21	1,938
Total	1	60	11	362	40	1,557	257	9,744	1,175	43,632	2,064	72,811	1,614	56,283	5,162	184,449
Per cent temporary total: 100			2	195	4	375	29	2,689	121	11,227	181	16,568	128	11,505	465	42,559
Per cent permanent total: 100			7	800	12	1,250	93	9,688	350	36,610	441	45,760	372	37,186	1,275	131,294
Per cent double permanent total: 200											1	200	2	500	3	700
Grand total	1	60	25	1,633	84	4,426	567	29,782	2,352	120,394	3,652	173,669	2,804	130,723	9,485	460,687

Degree of impairment	Navy														Marine											
	Commodore or captain		Commander		Lieutenant commander		Lieutenant		Lieutenant (junior grade)		Ensign		Total		Colonel		Major		Captain		First lieutenant		Second lieutenant		Total		Grand total	
	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment
Per cent temporary partial:																												
10-19					2	$17	2	$31	4	$40	10	$123	18	$211					3	$36	1	$7	2	$19	6	$62	416	$6,131
20-29			1	$23	1	50	4	109	5	133	22	515	33	830					1	23	1	24	1	20	3	67	659	15,319
30-39			3	80			8	273	7	236	10	310	28	899							1	32	1	36	2	68	374	12,097
40-49					1	40	6	231	5	206	4	128	16	605													235	9,415
50-59			1	45	1	53	7	332	6	303	13	633	28	1,366													393	19,165
60-69					1	50	1	49	3	167	5	280	10	546													195	11,521
70-79			1	71			6	400	4	309	12	788	23	1,568			2	$120					3	215	5	335	365	25,475
80-89					2	162	3	239	5	390	4	321	14	1,112					1	76	1	91			2	167	105	8,188
90-99									1	90			1	90													27	2,300
Total			6	219	8	372	37	1,664	40	1,874	80	3,098	171	7,227			2	120	5	135	4	154	7	290	18	699	2,769	109,611
Per cent permanent partial:																												
10-19	1	$10	2	31	4	65	23	871	16	509	67	2,041	113	3,527	1	$15			3	46	8	196	10	184	22	441	2,403	67,176
20-29					2	55	13	372	10	333	26	778	51	1,538					2	45	6	139	3	62	11	246	1,184	34,337
30-39	1	60					7	214	4	143	9	305	21	712	1	33			3	105	1	36			5	174	577	19,854
40-49					1	45	3	124	5	207	6	267	15	643													385	16,534

Compensation, active disability awards—Emergency Army, Navy, and Marine officers, showing extent of major disability, degree of impairment, number and amount of monthly payment as of December 31, 1927—Continued

Degree of impairment	Navy														Marine													
	Commodore or captain		Commander		Lieutenant commander		Lieutenant		Lieutenant (junior grade)		Ensign		Total		Colonel		Major		Captain		First lieutenant		Second lieutenant		Total		Grand total	
	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment
Per cent permanent partial—Continued.																												
50-59					1	$50	1	$50	2	$102	6	$323	10	$525							3	$161			3	$161	386	$20,111
60-69	1	$63	1	$65			2	130	1	61	4	241	9	560					1	$61					1	61	212	13,466
70-79					1	70	3	223	1	70	1	79	6	442													187	13,885
80-89							1	86	2	163			3	249													77	6,427
90-99							1	94			1	90	2	184													23	2,122
Total	3	123	3	96	9	285	54	2,164	41	1,588	120	4,124	230	8,380	2	$48			9	257	18	532	13	$246	42	1,083	5,434	193,912
Per cent temporary total: 100	1	90	1	90	4	324	8	735	17	1,490	31	2,877	62	5,606	1	63			1	95	2	210	4	385	8	753	535	48,918
Per cent permanent total: 100	1	100	3	350	7	750	18	1,770	28	2,920	62	5,847	119	11,737					2	200	2	200	3	300	7	700	1,401	143,731
Per cent double permanent total: 200																											3	700
Grand total	5	313	13	755	28	1,731	117	6,333	126	7,872	293	15,946	582	32,950	3	111	2	$120	17	687	26	1,096	27	1,221	75	3,235	10,142	496,872

UNITED STATES VETERANS' BUREAU,
OFFICE OF THE DIRECTOR,
Washington, February 26, 1927.

Hon. HIRAM BINGHAM,
United States Senate, Washington, D. C.

MY DEAR SENATOR BINGHAM: There are attached for your information copies of statements showing the compensation status and estimated cost of retirement of emergency officers of the Army, Navy, and Marine Corps who are permanently disabled to a degree of 30 per cent or more. If these officers were retired with 75 per cent of their base pay, it is estimated that there would be an annual increased cost of $2,254,500 over the compensation they are now receiving.

Very truly yours,

FRANK T. HINES, *Director.*

Emergency officers rated on a permanent basis at 30 per cent or more, showing amount of compensation and cost of retirement December 31, 1927

Rank	Permanent partial, 30 per cent or more		Permanent total		Total		Pay rate	75 per cent of pay rate	Cost on basis of 75 per cent of pay rate
	Number	Monthly payment	Number	Monthly payment	Number	Monthly payment			
ARMY									
General	1	$60			1	$60	$500.00	$375.00	$375.00
Colonel	4	165	7	$800	11	965	333.33	250.00	2,750.00
Lieutenant colonel	17	878	12	1,250	29	2,128	291.66	218.75	6,343.75
Major	112	5,488	93	9,688	205	15,176	250.00	187.50	38,437.50
Captain	461	23,464	350	36,610	811	60,074	200.00	150.00	121,650.00
First lieutenant	665	33,642	442	45,960	1,107	79,602	166.66	125.00	138,375.00
Second lieutenant	512	24,991	374	37,686	886	62,677	125.00	93.75	83,062.50
Total	1,772	88,688	1,278	131,994	3,050	220,682			390,993.75
NAVY									
Commodore or captain	2	113	1	100	3	213	333.33	250.00	750.00
Commander	1	65	3	350	4	415	291.66	218.75	875.00
Lieutenant commander	3	165	7	750	10	915	250.00	187.50	1,875.00
Lieutenant	18	921	18	1,770	36	2,691	200.00	150.00	5,400.00
Lieutenant (junior grade)	15	746	28	2,920	43	3,666	166.66	125.00	5,375.00
Ensign	27	1,305	62	5,847	89	7,152	125.00	93.75	8,343.75
Total	66	3,315	119	11,737	185	15,052			22,618.75
MARINE									
Colonel	1	33			1	33	291.66	218.75	218.75
Lieutenant colonel							250.00	187.50	
Major							200.00	150.00	
Captain	4	166	2	200	6	366	166.66	125.00	750.00
First lieutenant	4	197	2	200	6	397	125.00	93.75	562.50
Second lieutenant			3	300	3	300	125.00	93.75	281.25
Total	9	396	7	700	16	1,096			1,812.50
Total emergency officers	1,847	92,399	1,404	144,431	3,251	236,830			415,425.00

$415,425×12=$4,985,100, annual cost of retirement.
$236,830×12=$2,841,960, annual compensation now being paid.
$4,985,100−$2,841,960=$2,143,140, annual increased cost of retirement.
This statement excludes the following arrested T. B. cases receiving a statutory $50 award where the tuberculosis has been evaluated according to the rating schedule at less than 30 per cent permanent partial: Army, 1,134; Navy, 66; Marine, 3.

REPORTS OF COMMITTEES

Mr. EDGE, from the Committee on Interoceanic Canals, to which was referred the joint resolution (H. J. Res. 175) to change the name of the Ancon Hospital in the Panama Canal Zone to the Gorgas Hospital, reported it without amendment.

Mr. BAYARD, from the Committee on Territories and Insular Possessions, to which were referred the following bills, reported them each with amendments and submitted reports thereon:

A bill (H. R. 340) to authorize the incorporated town of Anchorage, Alaska, to issue bonds for the construction and equipment of an additional school building, and for other purposes (Rept. No. 509); and

A bill (H. R. 7367) to authorize the incorporated town of Seward, Alaska, to issue bonds in any sum not exceeding $50,000 for the purpose of constructing and equipping a public-school building in the town of Seward, Alaska (Rept. No. 510).

Mr. THOMAS, from the Committee on Finance, to which was referred the bill (S. 1768) to authorize the city of Muskogee, Okla., to remove and retain title to the boilers from the municipal hospital building recently conveyed by the city to the United States Veterans' Bureau Hospital No. 90, at Muskogee, Okla., reported it with an amendment and submitted a report (No. 511) thereon.

Mr. BARKLEY, from the Committee on Finance, to which was referred the bill (S. 1763) for the relief of the Sunny Brook Distillery Co., reported it with an amendment and submitted a report (No. 512) thereon.

Mr. McNARY, from the Committee on Agriculture and Forestry, to which was referred the bill (S. 2830) authorizing the adjustment of the boundaries of the Carson, Manzano, and Santa Fe National Forests in the State of New Mexico, and for other purposes, reported it with an amendment and submitted a report (No. 513) thereon.

Mr. SHORTRIDGE, from the Committee on Finance, to which was referred the bill (S. 3311) to provide for advances of funds by special disbursing agents in connection with the enforcement of acts relating to narcotic drugs, reported it without amendment and submitted a report (No. 514) thereon.

Mr. FRAZIER, from the Committee on Indian Affairs, to which was referred the bill (S. 3354) for the preservation and administration of the forests of the Colville Indian Reservation, reported it without amendment and submitted a report (No. 515) thereon.

Mr. JONES, from the Committee on Indian Affairs, to which was referred the bill (H. R. 173) to provide funds for the upkeep of the Puyallup Indian Cemetery at Tacoma, Wash., reported it without amendment and submitted a report (No. 516) thereon.

Mr. THOMAS, from the Committee on Indian Affairs, to which was referred the bill (H. R. 8326) to authorize the construction of a dormitory at Riverside Indian School at Anadarko, Okla., reported it without amendment and submitted a report (No. 517) thereon.

Mr. KENDRICK, from the Committee on Indian Affairs, to which were referred the following bills, reported them each without amendment and submitted reports thereon:

A bill (H. R. 356) to amend section 2 of the act of March 3, 1905, entitled "An act to ratify and amend an agreement with the Indians residing on the Shoshone or Wind River Indian Reservation, in the State of Wyoming, and to make appropriations to carry the same into effect" (Rept. No. 518); and

A bill (S. 710) conferring jurisdiction upon the Court of Claims to hear, adjudicate, and render judgment in claims which the northwestern bands of Shoshone Indians may have against the United States (Rept. No. 519).

Mr. ASHURST, from the Committee on Indian Affairs, to which was referred the bill (S. 2306) for the relief of William E. Thackrey, reported it without amendment and submitted a report (No. 520) thereon.

Mr. McMASTER, from the Committee on Indian Affairs, to which was referred the bill (S. 3355) to authorize the cancellation of the balance due on a reimbursable agreement for the sale of cattle to certain Rosebud Indians, reported it without amendment and submitted a report (No. 521) thereon.

Mr. PINE, from the Committee on Indian Affairs, to which were referred the following bills, reported them each without amendment and submitted reports thereon:

A bill (H. R. 8542) to provide for the construction of a hospital at the Fort Bidwell Indian School, California (Rept. No. 522); and

A bill (H. R. 8543) to provide for the construction of a school building at the Fort Bidwell Indian School, California (Rept. No. 523).

Mr. BRATTON, from the Committee on Public Lands and Surveys, to which was referred the bill (S. 2535) granting to the State of New Mexico certain lands for reimbursement of the counties of Grant, Luna, Hidalgo, and Santa Fe for interest paid on railroad-aid bonds, and for the payment of the principal of railroad-aid bonds issued by the town of Silver City, and to reimburse said town for interest paid on said bonds, and for other purposes, reported it with amendments and submitted a report (No. 524) thereon.

BILLS INTRODUCED

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

By Mr. WALSH of Massachusetts:

A bill (S. 3582) for the relief of Percie D. Jordan; and

A bill (S. 3583) for the relief of Lieut. Henry Dewey Bennett; to the Committee on Claims.

By Mr. REED of Pennsylvania:

A bill (S. 3584) allowing rank, pay, and allowances of a captain, Medical Corps, United States Navy, to the medical officer assigned to duty as personal physician to the President; to the Committee on Naval Affairs.

By Mr. HOWELL:

A bill (S. 3585) authorizing and directing the Inland Waterways Corporation to initiate water carriage upon the Missouri River; to the Committee on Commerce.

By Mr. PINE:

A bill (S. 3586) granting an increase of pension to Margaret J. McQuerry; to the Committee on Pensions.

By Mr. THOMAS:

A bill (S. 3587) granting an increase of pension to Nancy Henson; to the Committee on Pensions.

By Mr. SHIPSTEAD:

A bill (S. 3588) to amend and correct the military record of Abram Palo; to the Committee on Military Affairs.

A bill (S. 3589) to prevent the flooding of lands of the United States within the Superior National Forest in the State of Minnesota; to the Committee on Agriculture and Forestry.

By Mr. DALE:

A bill (S. 3590) to amend section 110 of the Judicial Code; to the Committee on the Judiciary.

By Mr. COPELAND:

A bill (S. 3591) granting World War adjusted compensation to Margaret A. Joyce; to the Committee on Finance.

A bill (S. 3592) to regulate the practice of the healing art to protect the public health in the District of Columbia; to the Committee on the District of Columbia.

By Mr. WHEELER:

A bill (S. 3593) to authorize the leasing or sale of lands reserved for agency, schools, and other purposes on the Fort Peck Indian Reservation, Mont.; to the Committee on Indian Affairs.

By Mr. FRAZIER (by request):

A bill (S. 3594) to extend the period of restriction in lands of certain members of the Five Civilized Tribes, and for other purposes; to the Committee on Indian Affairs.

By Mr. BRATTON:

A bill (S. 3595) for the relief of Arch L. Gregg (with accompanying papers); to the Committee on Claims.

By Mr. HAWES:

A bill (S. 3596) granting an increase of pension to Eliza J. McKee (with accompanying papers); and

A bill (S. 3597) granting an increase of pension to Lottie F. Bentley (with accompanying papers); to the Committee on Pensions.

A bill (S. 3598) authorizing Dupo Bridge Co., a Missouri corporation, its successors and assigns, to construct, maintain, and operate a bridge across the Mississippi River at or near Carondelet, Mo.; to the Committee on Commerce.

COLUMBIA RIVER BASIN PROJECT

Mr. WHEELER submitted an amendment intended to be proposed by him to the bill (S. 1462) for the adoption of the Columbia Basin reclamation project, and for other purposes, which was ordered to lie on the table and to be printed.

CAPITAL STOCK OF INLAND WATERWAYS CORPORATION

Mr. SHIPSTEAD submitted an amendment intended to be proposed by him to the bill (S. 1760) to increase the capital stock of the Inland Waterways Corporation, which was referred to the Committee on Commerce and ordered to be printed.

WITHDRAWAL OF PAPERS—MARY WILLARD

On motion of Mr. JONES, it was—

Ordered, That the papers accompanying the bill (S. 5475, 69th Cong., 2d sess.) granting a pension to Mary Willard, be withdrawn from the files of the Senate, no adverse report having been made thereon.

DEATH OF CAPT. WILLIAM C. BYRD, UNITED STATES MARINE CORPS, OF SOUTH CAROLINA

Mr. BLEASE. Mr. President, a few days ago Capt. William C. Byrd, of South Carolina, an officer of the United States Marine Corps, was killed in an airplane accident in Nicaragua. I ask that the article which I send to the desk, which was published in the Charleston (S. C.) News and Courier in reference to him may be printed in the RECORD.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

BYRD, MARINE PILOT, SOUTH CAROLINIAN, DIES WHEN HIS PLANE FALLS IN NICARAGUA

Capt. William C. Byrd, marine pilot, South Carolinian, graduate of the Citadel, and Sergt. Rudolph A. Frankforter, native of New York

State, were killed yesterday afternoon when an American observation plane crashed near Esteli, 40 miles northeast of Matagalpa, according to an Associated Press dispatch received here last night.

Captain Byrd married Miss Harriett Wannamaker, of Orangeburg. His mother, Mrs. George Byrd, sr., lives at Greenwood, as does a brother, George Byrd, jr., proprietor of a shoe store there. James Izlar Sims, publisher of the Times and Democrat, Orangeburg, is a brother-in-law and Tuesday received a letter from Captain Byrd mailed from Nicaragua. He was with Captain Byrd at Hampton Roads and took a two-hour ride with him just before he sailed for Central America on the airplane carrier *Saratoga* in January. The letter Tuesday was the first that Mr. Sims had had from the brother-in-law since he left the United States.

THOUGHT UNITED STATES RIGHT

Captain Byrd thought that the United States was right in intervening in Nicaragua, said Mr. Sims over long distance last night. "He went down willing to do his part to help curb the guerilla warfare."

"By armed force was the only way my brother-in-law thought any peace could be brought to the little nation. He had been sent by the United States Government there two or three years ago to help the natives organize a constabulary to maintain peace. He went back to that country this time convinced that Nicaragua would do nothing for itself and could not have peace without outside supervision. He saw in Nicaragua two bands who had rather fight than do anything else. As a marine pilot he went to do what he considered his duty."

Captain Byrd had been with the Marine Corps 12 years, and a year ago began flying. He saw service in Haiti with the United States marine guard there.

WIDOW IN CHARLOTTE

Captain Byrd's widow is now in Charlotte, N. C., visiting her sister, Mrs. W. A. Bloodworth.

It is thought that the dead South Carolinian was second in command of the United States flying forces in the little war-torn Republic. Maj. Ross E. Rowell is in charge.

Meager advices received here indicate that the accident occurred near the landing field at Esteli, and that the two men were killed instantly. The bodies will be brought to Managua.

BELIEVE PLANE STRUCK BUZZARD

MANAGUA, March 9 (Special).—The plane carrying Captain Byrd and Sergeant Frankforter was flying southward, bound from Ocotal on a test flight. It is believed it struck a flying buzzard, which broke a strut supporting the right wing, causing it to collapse when about to land on the Esteli Field.

The plane began to turn over and the aviators jumped from a height of about 250 feet, their parachutes being useless at that altitude. The plane was considered sound, having been recently overhauled.

Captain Byrd had been with the marines for 12 years, but had only about 1 year aviation service. He trained at Pensacola. Frankforter was an experienced aviator.

The two men came to Nicaragua about three weeks ago aboard the airplane carrier *Saratoga*. Byrd previously had service in this country. Frankforter leaves besides his widow three children.

MANY BUZZARDS IN NICARAGUA

Buzzards in Nicaragua are almost as plentiful as English sparrows in the United States. They seem to sense with uncanny accuracy when a battle is about to begin and often circle above moving bodies of men until an engagement, following which they sight and devour the carcasses of not only the animals slain but the humans. Marine aviators have learned to investigate wherever a swarm of buzzards are circling. There usually it is found a battle has taken place or a band of men from the brush have encamped and left the half-used carcass of some cow or wild boar slain for food. The buzzard, while not protected by law or sentiment in Nicaragua, is the national scavenger and, despite its not infrequent gruesome occupation, fills an important place in the Central American Republic which knows so little of modern methods of sanitation and apparently cares less. In the streets, on the housetops above the patios of the homes of the wealthy, as well as in the heart of the jungle, the buzzard, or zopoloti, is a familiar, albeit repulsive, figure.

Esteli, at which Capt. William C. Byrd fell to his death, is in the mountainous section of the Nicaraguan wilds, in the department of Esteli. It is a tiny village inhabited mainly by Indians or that class of Nicaraguan peasant known as the "mozo," a mixture of Indian and Spanish. The sympathies of the people in Esteli are with the Liberal Party and with Augustino Sandino, who has retired to the mountain fastness in resistance against the marines. Captain Byrd was one of the recent contingent of marines sent to Nicaragua to put an end to Sandino.

SMALL LANDING FIELD

At Esteli there is a small landing field built by orders of the marine aviation force under Maj. Ross E. Rowell. The field is a cleared space in the midst of jungle undergrowth. Barefooted, half-naked mozo with the long, curved knife of the banana cutter, the machette, hacked and slashed until a space several acres in length and possibly 2 in width had been cleared. Stumps were dug out and uprooted by hand, the earth was packed with logs, and drainage ditches constructed to make it safe in the rainy season. Sheets were driven into the ground at the four corners of the field and a white line of pounded limestone spread down the center to indicate to those in the air that a landing could be safely made there. The field is in a tiny valley between two mountain ranges and is at all times dangerous and treacherous because of the cross currents blowing down from the mountain tops or around the mountains down the valley. In this the dry season the air in Nicaragua is devoid of moisture and therefore very light. Airplanes are very hard to handle in such atmosphere, and a landing must be made at a much greater speed than in this country else the plane will drop in an air pocket, lose its flying speed, and crash. Sometimes the sun brings up moisture from Lake Nicaragua, 92 miles long, or Managua, 46 miles in length, and those moisture-laden clouds are blown by gale like winds over the mountain ranges near by. When a plane hits such a heavy cloud after flying in the lighter atmosphere, the results are loss of balance, and as the plane dives again into the light and barely supporting atmosphere the tendency is to drop suddenly, causing often temporary or complete loss of control. If such should happen as a plane was preparing to land on a space-limited field, such as at Esteli, down in a valley, few pilots could recover in time to avert cracking up.

AWARD OF CORN CUP TO DAN BICKLEY, OF LEXINGTON COUNTY, S. C.

Mr. BLEASE. Mr. President, I ask permission to have inserted in the RECORD an article from the Herald and News of Newberry, S. C., relative to the award to Dan Bickley, an 11-year-old boy of Lexington, S. C., of the Southern Railway system's corn cup, which was awarded to him as the grower of the best 10 ears of corn produced in 1927 in the eight Southeastern States served by the Southern Railway.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

DAN BICKLEY, 11-YEAR-OLD BOY OF LEXINGTON COUNTY, S. C., WHO WON THE SOUTHERN RAILWAY SYSTEM'S CORN CUP IN 1927

COLUMBIA, S. C.—In the rotunda of South Carolina's historic statehouse on January 12, Dan Bickley, 11-year-old boy of Lexington County, received from the hand of Governor Richards the Southern Railway system's corn cup, awarded to him as the grower of the best 10 ears of corn produced in 1927 in the eight Southeastern States served by the Southern.

This handsome trophy was offered first in 1925 and was won by Willie Pat Boland, a corn-club boy of Newberry County, S. C. In 1926 it was won by J. A. Patterson of Rowan County, N. C., a young man just out of the State Agricultural College. The names of the three winners have been engraved on the cup as a lasting testimonial of their success.

The cup will remain in the possession of young Dan Bickley until the time for the award for 1928 arrives. The cup will be offered again this year under the same conditions as in the past. In order to contest for the cup, a grower must qualify by winning a prize at one of certain designated State and district fairs for the best exhibit of 10 ears of corn. The contest is open to all corn growers in Virginia, North Carolina, South Carolina, Georgia, Alabama, Kentucky, Tennessee, and Mississippi, without regard to age.

The exhibits which qualify by winning prizes at the State fairs will be brought to the office of the general agricultural agent of the Southern in Atlanta and will be judged by a committee of experts. The committee which made the award in 1927 consisted of Director H. P. Stuckey, of the Georgia Experiment Station; Director J. R. Ricks, of the Mississippi A. and M. College Experiment Station; and I. O. Schaub, director of extension in North Carolina.

The judges expressed pleasure and surprise at the high character of the exhibits, and in announcing their decision said:

"The growers who selected these samples showed unusual skill and are to be particularly commended for their efforts. The Southern Railway has performed a real service to southern agriculture in initiating and carrying on this contest. We wish to commend the Southern and the various fairs which have cooperated in bringing together at one central point the prize-winning samples of the various States. The competition serves an inspirational purpose that reaches many farmers. It is bound to have a very material effect in producing better corn throughout the whole region."

MUSCLE SHOALS

The Senate, as in Committee of the Whole, resumed the consideration of the joint resolution (S. J. Res. 46) providing for the completion of Dam No. 2 and the steam plant at nitrate plant No. 2 in the vicinity of Muscle Shoals for the manufacture and distribution of fertilizer, and for other purposes.

Mr. HOWELL resumed and concluded the speech begun by him yesterday. His speech entire follows:

Mr. HOWELL. Mr. President, in my remarks on yesterday respecting the pending joint resolution affecting the Muscle Shoals development, I called attention to the fact and demonstrated that, as compared with private ownership, the advantages of public ownership can and do enable an average

utility plant to be paid for within 12 years. I also afforded evidence that the advantages of public ownership apply in connection with hydroelectric power developments the same as in connection with other utilities. I compared the rates charged for domestic use for small power and for large power in Niagara Falls, Ontario, where public ownership prevails, with the rates charged by an electrical utility for similar service upon the American side of the Niagara River, in Niagara Falls, N. Y., where the people support the luxury of private ownership under legal regulation.

So far as domestic rates are concerned, it is a fact that the average charge to the consumer in Ontario is less than 2 cents a kilowatt-hour, whereas in the United States to-day under private ownership, largely subject to legal regulation, the charges are about 7.4 cents a kilowatt-hour.

I also demonstrated by the bills which I quoted that in Ontario the low rates were not merely enjoyed by domestic consumers but also by power users. I further called attention to the fact that it probably does not cost more than 6 mills a kilowatt-hour to produce electrical energy in the city of Washington and to place it on the switchboard; that in Toronto, for instance, 90 miles from Niagara Falls, that city pays the hydroelectric commission of Ontario 4 mills a kilowatt-hour for energy delivered from Niagara Falls; in short, that the low rates enjoyed in Toronto, an average of 1.7 cents a kilowatt-hour for domestic current during the year 1926, evidently were not due to the mere fact that they had the advantage of hydroelectric power, because the advantage of water power is only about 2 mills, but were due to the three advantages of public ownership, which I illustrated in connection with the publicly owned plants—water, gas, and ice—in Omaha.

Furthermore, I called attention to the fact that taxes, which are so much talked about, average here in the District of Columbia 3 mills a kilowatt-hour for energy sold. Therefore the difference in the cost to private utilities of switchboard energy using steam and paying taxes as compared with Toronto was only about 5 mills and that if the 5 mills be added to the 1.7 cents paid by the domestic consumer in Toronto it would make only 2.2 cents, as compared with the 6 cents now charged the domestic consumer here in Washington, the 10 cents charged here in Washington within the last four years, and as compared with 7.6 cents charged in Birmingham, Ala., supplied by energy purchased from the Government of the United States at Muscle Shoals 100 miles away, or about the same distance that Toronto is from Niagara Falls, at 2 mills per kilowatt-hour, whereas Toronto pays about 2.9 mills at Niagara Falls and 1.1 mills for transmission. Therefore, allowing 2 mills for transmission from Muscle Shoals to Birmingham, the cost in Birmingham of that energy supplied there at a profit—because 2 mills will afford a profit in connection with the transmission—was identical with the cost on the switchboard in Toronto; and yet in Toronto the rate in 1926 was 1.7 cents on an average to the domestic consumer, while the rate that must be paid by the consumer in Birmingham, Ala., is about 7.6 cents a kilowatt-hour. Moreover, the consumer is required to enter into a five-year contract in order to secure service.

Mr. President, in my opinion the following unavoidable conclusions are to be deduced from these facts:

First, that, inasmuch as the difference between the cost of hydroelectric and steam-electric energy seldom exceeds 4 mills per kilowatt-hour, it is evident that, so far as affecting domestic rates in this country is concerned, this difference is of comparatively small moment. What have 4 mills to do with the average rate paid in this country for domestic service?

Second, that public ownership and operation of hydroelectric power plants will avail the public little or nothing if the installation and operation of transmission lines to points of use are to be left to private enterprise, just as is done by the Government at Muscle Shoals. The Government receives but 2 mills a kilowatt-hour for energy delivered to the Alabama Power Co. at that point, which has a transmission line leading from it. The Government has no transmission line; as a consequence, it has to accept for its energy whatever the Alabama Power Co. will pay therefor, as is shown by the fact that Toronto is paying the hydroelectric commission for electric energy at Niagara Falls 2.9 mills.

Third, that we can not expect to enjoy electric rates comparable with those obtaining in Ontario without adopting public ownership of local distribution systems, as well as of power plants and transmission lines.

Fourth. That the development by the public of large, modern steam electric plants and the transmission of the energy developed to points of use, as done in the case of hydroelectric energy in Ontario, will enable large sections of the country to enjoy rates nearly comparable with those obtaining in Ontario, notwithstanding the lack of water-power possibilities.

Mr. President, the Senator from Alabama [Mr. HEFLIN] asked that there be printed in the RECORD on yesterday a letter signed by the president of the Alabama Power Co. I have not had the opportunity of analyzing the letter in detail, but there are certain features thereof to which I have given attention. On page 4403 of the RECORD of that date is found a table forming a part of this letter, in which there are enumerated 13 towns in Alabama that formerly were not served by the Alabama Power Co. In other words, the Alabama Power Co. has purchased the plants in those towns; and the president of the company in this letter sets forth the rates that were formerly charged and the rates that are now charged by the Alabama Power Co. The average population of those towns, 13 in number, is 1,816, and the average rate charged in these 13 towns, all within about 100 miles of Birmingham, is 9 cents plus.

This is a rate resulting, under such conditions, from private ownership. In Ontario, within 100 miles of Niagara Falls, I have selected 13 towns at random, the average population of which is but 1,400, or 400 inhabitants less on the average than the number in the 13 Alabama towns quoted; and what rate do we find public ownership affords these towns, supplied under similar conditions? An average of 2.9 cents, as compared with 9 cents in Alabama.

The able Senator from Kentucky [Mr. SACKETT] on yesterday cited similar facts to those that have been used by myself to show that the difference between the cost of producing electrical energy by water power and by steam is probably only 2 mills. He further went on and urged that a saving of 2 mills would not make any appreciable difference if deducted from the average domestic bill rendered throughout the country. Of course, that must be evident. Then he drew the conclusion that we should not consider public ownership and operation of Muscle Shoals because of the low domestic rates that might result to consumers because such results would be negligible—in other words, that a saving of 2 mills in cost of producing energy is of no moment to domestic consumers.

Mr. President, last year there were over 500,000,000 kilowatts of energy sold to the Alabama Power Co. by the Government at Muscle Shoals. Two mills a kilowatt-hour on this amount of energy exceeds a million dollars. A million dollars placed in a sinking fund, invested at 4 per cent, would equal the total cost of the Muscle Shoals development, $50,000,000, within 26 years.

Is this a trifle? What is the advantage of a great power, such as that at Muscle Shoals, to municipalities within practical transmitting distance? It means that no municipality served need maintain a separate power plant. All that is necessary is to maintain and operate a local distribution plant. That can be done about as cheaply per consumer in a town of a thousand inhabitants in a well-settled region as in a city of 10,000 inhabitants. Therefore a small town receiving, by transmission, energy from a great central plant such as Muscle Shoals should enjoy, under public ownership, as low electric rates as they have in the larger cities of the same region, just as, for instance, in Ontario.

This is the tremendous advantage arising from a great central power plant. Not only can cities and villages alike have the low rates which they are enjoying in Ontario—less than 2 cents a kilowatt-hour as compared with 9 cents, quoted for these 13 towns by the Alabama Power Co.—but more, for of the 284 municipalities in Ontario, served by the Hydroelectric Commission, 51 have current assets equal to their current liabilities. In other words, the debts of their plants are wiped out, or what is equivalent thereto.

As an example of what a great central electric plant, publicly owned and operated, can do for scattered communities, small and large, is the most valuable use to which we can dedicate Muscle Shoals to-day. We can do with Muscle Shoals on a smaller scale just what Ontario has done with Niagara Falls for both its urban and suburban populations.

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

The PRESIDING OFFICER (Mr. HAYDEN in the chair). Does the Senator from Nebraska yield to the Senator from North Carolina?

Mr. HOWELL. I yield.

Mr. OVERMAN. I understood the Senator to say that steam power used for the generation of electricity is cheaper than water power.

Mr. HOWELL. No; not as cheap as water.

Mr. OVERMAN. I understood the Seantor to say that steam is cheaper.

Mr. HOWELL. Oh, no. If I made such a statement, it was an error.

Mr. OVERMAN. I may have misunderstood the Senator.

Mr. HOWELL. I assume, for instance, that water power can be developed on an average for about 4 mills. That was

practically the statement made by the Senator from Kentucky [Mr. SACKETT] yesterday. I pointed out that steam power could be developed here in Washington and was being developed here, in all probability, by the Potomac Electric Power Co. for 6 mills a kilowatt-hour, including all costs, capital, and so forth; in other words, that the difference, generally speaking, is only 2 mills; but that difference of 2 mills on the output of Muscle Shoals if no more than that purchased by the Alabama Power Co. last year, would equal more than a million dollars, and that million dollars invested annually at 4 per cent, compounded, would equal $50,000,000 within 26 years.

Mr. OVERMAN. The reason why I asked the question was that the Senator referred to the possibility of steam plants being dispensed with by the communities in the vicinity of Muscle Shoals which now have their electricity furnished by steam power. Would they scrap those plants and take the Muscle Shoals power? Unless it was very much cheaper, they would not do it.

Mr. HOWELL. Of course, a small steam plant shows no such economy. I had in mind and was contemplating a large steam plant, such, for instance, as is necessary to supply the city of Washington.

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

Mr. HOWELL. I yield.

Mr. FLETCHER. If it costs 4 mills per kilowatt-hour to produce electric energy, then the Government must be losing about 2 mills per kilowatt-hour at Muscle Shoals now. They are only getting 2 mills per kilowatt-hour for their output.

Mr. HOWELL. Why, Mr. President, of course, the Government is losing money on its investment. Its total income from this plant last year was only about $1,169,000 at 2.06 mills per kilowatt-hour. It has invested in this hydroelectric plant in the neighborhood of $50,000,000, and 4 per cent on $50,000,000 would be $2,000,000 a year alone; and one of the remarkable recent developments in connection with the Muscle Shoals plant is this:

A year ago this spring I was waited upon by a delegation from the town of Muscle Shoals, Ala. They said, "We should like some of this power supplied by Muscle Shoals for our town. The Government has entered into a contract with the Alabama Power Co. under which the company can take whatever power it sees fit; however, the Government is not prohibited from selling to others and there is a surplus of energy available. We want to buy some for our distribution plant in Muscle Shoals. We have offered the War Department 4 mills per kilowatt-hour to furnish us this energy, but they refused to do so."

I asked, "Why?" Because, they stated, it is urged that if the War Department proceeds to deal with Muscle Shoals, the Alabama Power Co. might take offense, and it is the only large customer for the power. When I inquired into the matter further, I concluded that this refusal was because of a policy adopted by the administration, and hence the War Department did not dare to allow the little community of Muscle Shoals to have electrical energy at a rate twice that for which the Government is selling it to the Alabama Power Co., although the Government has energy to spare.

It is going to waste, as a matter of fact. In short, energy was refused the little village of Muscle Shoals at 4 mills a kilowatt hour, whereas the Alabama Power Co. is paying but 2 mills. Yet there is nothing in the contract with the latter company to prevent the Government from supplying Muscle Shoals if the War Department saw fit to do so.

Mr. FLETCHER. And the Alabama Power Co. does not take half of the capacity of the plant?

Mr. HOWELL. That is practically correct.

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

Mr. HOWELL. I yield.

Mr. BLACK. I understood that the Senator had learned the reason. I was with the delegation, and I have never been informed as to the reason why the War Department would not permit the town of Muscle Shoals to have it. The Senator did not get his information from the War Department; did he? I am asking for information, because I have been curious to know why they would not supply that power to the town of Muscle Shoals.

Mr. HOWELL. My information came from this delegation, including the mayor, as I remember, and several councilmen. Subsequently I interceded with the War Department and urged that the department could not properly refuse the request under the circumstances. However, I concluded that the department felt that it could not furnish this energy to Muscle Shoals, although it was right under the shadow of the great dam, because other neighboring municipalities might want it also, and to thus supply such municipalities would be contrary to the policy of the administration. In short, the department did not want to begin anything of the kind, because it was afraid there would be no end to it. The Alabama Power Co. is in the saddle. If we are to take care of the little municipalities throughout Tennessee, Alabama, and Mississippi, we shall have to do for them just what Ontario has done for the little municipalities of Ontario, and our failure to do so would be a lasting shame to Congress.

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

Mr. HOWELL. I yield.

Mr. COPELAND. Does the Senator understand that under the terms of the Norris resolution the Secretary of War could fix the price at which the current should be sold?

Mr. HOWELL. I should assume that it would be determined by bids. The Secretary would have the bargaining power and, as I understand it, under the resolution he would be required to sell it at the best price that could be obtained, taking everything into consideration.

Mr. COPELAND. I wonder if the measure really does provide for that. That is one question that has arisen in my mind. I think it is extremely important that the Government should have its hand on the switchboard, but I am not clear, from a reading of the resolution, whether or not those municipalities and persons who receive power from the plant would receive it at a cheap price, such as the Senator suggests is being done in Ontario. Perhaps the senior Senator from Nebraska would answer the question.

Mr. HOWELL. I would be glad to have the senior Senator from Nebraska answer the question.

Mr. NORRIS. Mr. President, under the resolution the Secretary of War would be given authority without his hands being tied in any way. It seemed to me, and it seemed to the committee, that we ought to place him in the same position in which we would place a business man to whom we might turn the plant over. I do not think it would be the policy of the Government to say how much money they could make out of it. I would not like to see an amendment put on the resolution that would provide that the Secretary should not charge more than a certain price or should charge under a certain price. I think he ought to be nondiscriminatory in the sale of the power. I think that is the real intent. I have not tried to fix a price.

Mr. COPELAND. The junior Senator from Nebraska was arguing about the cheap price which the people in Ontario pay for current. That raised a question in my mind as to whether or not there was any guaranty in this measure that there would be such a cheap rate here.

Mr. NORRIS. That is not guaranteed in so many words; no.

Mr. COPELAND. Suppose there were a Secretary of War who was unfriendly to the principle of Government operation and sought to defeat it by excessive charges. Of course, I understand that the profits would go to this other work, the development of the fertilizer plant; but, nevertheless, the idea of Government operation would have a black eye if the Secretary of War charged excessive rates.

Mr. NORRIS. Yes; it would. There are a thousand other ways by which the Secretary of War could, in effect, nullify any law we might pass, if he started out to do it. I have not assumed he would do anything of that kind. I am assuming he will exercise sensible business judgment and that, in the first place, he will not try to overcharge anybody for electricity, that he will not try to see how much money he can make out of it, and he will carry out, as the law provides he shall, the intent of the law, to see that the surplus power not utilized in the manufacture of fertilizer shall be scattered over the country, within distributing distance, without discrimination against anybody. The intent of the act, I think, is very plainly set forth. But what might be a good price for electricity now might not be good in 5 or 6 or 7 or 10 years from now. I would not like to say to the Secretary of War, "You must sell the current at 2 cents a kilowatt-hour at the switchboard," or that he shall charge 4 cents, or anything of that kind. We have to depend, as a business institution would, upon the managers of this institution to carry out the intent of the law, and we have to give them discretionary power to do that. The Secretary would not carry out the intent of the law if he said, "You can not have this power for less than 10 cents a kilowatt-hour." Nobody would buy it. He would not succeed in carrying out the intent of the law.

Mr. COPELAND. Are we not likely to be met by one of these two situations: In the first place, the Secretary of War might charge a price so high that the municipalities and persons interested might not receive the current at a low price; or he might sell it so cheaply that there would not be anything left to go on with this fertilizer experimentation?

Mr. NORRIS. Oh, no; the fertilizer comes first.

Mr. COPELAND. That is safeguarded in the measure?

Mr. NORRIS. Yes.

Mr. COPELAND. The Senator has already made his reply to the other suggestion.

Mr. HOWELL. Mr. President, again I wish to emphasize the advantages of public ownership of an electric plant.

Mr. GEORGE. Mr. President, before the Senator proceeds, may I suggest to the Senator from New York, and also to the Senator from Nebraska, that the Federal Water Power Commission has jurisdiction in this case. It has jurisdiction, of course, not merely over rates, but it has jurisdiction over service, it has jurisdiction over capitalization, and, where the company developed is private, over all water-power improvements put in navigable streams or on public reservations; so that the Federal Water Power Commission has jurisdiction in this case.

Mr. COPELAND. Would it have under this resolution?

Mr. GEORGE. I was going to suggest, it could easily be given the jurisdiction to fix and regulate the rates and service.

Mr. NORRIS. Mr. President, if my colleague will yield again, I had a communication from the executive secretary of the Federal Power Commission, and I regretted very much that I had not received that communication before the committee had acted upon this resolution, and before it was brought into the Senate. He made several suggestions, one of which was that we give to the Federal Power Commission the same jurisdiction I give under my resolution to the Secretary of War. I would not have any objection to that whatever. That commission is very well equipped to handle the matter.

Mr. GEORGE. The Secretary of War is a member of the Federal Power Commission, as a matter of fact.

Mr. NORRIS. Yes; he is.

Mr. GEORGE. I merely suggest that would be a relief from all practical difficulty, and it would insure a uniform and nondiscriminatory rate.

Mr. NORRIS. If Senators think it ought to be safeguarded, while I do not want to put a limitation in the resolution that would take away the discretion, it is perfectly agreeable to me to provide by an amendment, if the Senate wants to, although I do not think it is at all necessary, that the rates and the regulation of rates, all jurisdiction about rates that shall be charged, shall be under the jurisdiction and control of the Federal Power Commission. They are equipped to do the work, they have the experts, and the Secretary of War, I assume, would avail himself, he being a member of the commission himself, of anything of that kind. If the Senate wants to be more specific, I have no objection.

Mr. SMITH. Mr. President, I want to ask the Senator, before he takes his seat, whether in the absence of any legislation specifying that the Power Commission would not do it anyway?

Mr. NORRIS. I judge it is the opinion of the Senator from Georgia that they would.

Mr. GEORGE. I think they could. They might not do so; but I think they could.

Mr. NORRIS. At least there would be no confliction.

Mr. GEORGE. There would be no confliction.

Mr. NORRIS. The Secretary of War is a member of the commission anyway. I do not think it would change the effect one particle, but I have no objection to putting the amendment on the resolution. There is always danger, however, when we are delegating authority, especially when we come in competition in a business way or semibusiness way, that by trying to be specific we take away the discretionary power, and that it will come back to trouble us on something else we do not think of at the time we pass the legislation.

Mr. COPELAND. Mr. President, will the junior Senator from Nebraska yield for one more question?

Mr. HOWELL. I yield.

Mr. COPELAND. The senior Senator from Nebraska says that the experimentation in fertilizer is provided for and that this experimentation is the first call upon the Secretary of War; but, of course, that is predicated upon the idea that he will have funds from the sale of power. If he were generous enough to sell this power at a very low rate, for the benefit of municipalities in the locality, there might not be any profit.

Mr. NORRIS. Yes; that is true, but does the Senator think, with the provision in the law as to what we are going to do with the surplus, provision made for turning it over to the Treasury, and its segregation there in this particular fund, that the Secretary of War would say, "Well, I don't want any fund there, and I will give this away"? He might do that, and, of course, if we gave jurisdiction to the Federal Power Commission, it is possible that the Federal Power Commission would be corrupt, and that they would say, "We will charge a dollar a kilowatt-hour, and just kill this thing right off." That is possible. If we should turn it over to the President, we might get a President who would do the same thing. There are a thousand ways in which anything can be killed, if we assume that the things would happen which everybody has to admit might possibly happen.

Mr. FLETCHER. Mr. President, may I suggest that the statement of the junior Senator from Nebraska seems to me to suggest some possibility that constitutes a greater danger than other things that might be mentioned. For instance, suppose we authorize the Secretary of War to complete these dams and to do this and to do the other thing. But suppose we are in the hands of an administration that does not approve of that policy, we would be right back to the present condition, that here we have power going to waste, and the department will not let the city of Muscle Shoals have one kilowatt of it, even though they offered twice as much as the Alabama Power Co. is offering for what they choose to take. If we are in that situation, where do we get by simply authorizing the doing of certain things?

Mr. NORRIS. Can the Senator from Florida suggest a way the thing could be done so that no one could imagine a condition of things that would thwart the purpose?

Mr. FLETCHER. I confess that is the great difficulty in my mind.

Mr. NORRIS. I confess I am not able to imagine such a condition. I can not draft a resolution which can not be nullified if we assume that those who are supposed to carry it out are dishonest, or that for any reason they do not want to carry it out. If I were starting in now, after all the debate has taken place, and with all the communications I have had, to draft a new resolution, I think I would provide for supervision of these rates by the Federal Power Commission rather than by the Secretary of War. I think that would be an improvement. As a matter of fact, when it comes to carrying out the measure in practical application, I do not think it would make a particle of difference, because the Secretary of War is a member of that commission, and his employees and those of the commission would be practically the same; but it would be perfectly agreeable to me to say that the Federal Power Commission shall have jurisdiction to fix these rates, or that any other board that is properly equipped for it shall have jurisdiction. We must concede that that commission is better equipped, perhaps, than any Federal board that we have.

Mr. FLETCHER. We might also, instead of merely authorizing, direct and compel the doing of things in the law itself.

Mr. NORRIS. I know we might. That is a dangerous thing to do, because we do not know what the conditions will be next year even; and we would not do it as a business proposition. We must assume, for the purpose of any legislation, that the executive officers are going to carry it out in good faith, and we know we may have a different Secretary of War to-morrow. If we should turn it over to the commission, all three members of the commission might change to-morrow, they would change with the change of an administration always; but the real experts, the men who do the work, will probably be the same from one administration to another, as has been the case in the past.

Mr. HOWELL. Mr. President, let me reiterate this fact: It does not make much difference what charge is made to a municipality for energy at Muscle Shoals, it will always be within the limit of what steam-electric power would cost, and steam power would be only about 2 mills more.

If Ontario had no Niagara Falls, if Ontario did not own 21 other hydroelectric plants besides Niagara Falls, if Ontario were in a position to purchase coal for $4 a ton and operate a steam electric plant instead of a hydroelectric plant, it could still afford service in Ontario at rates comparable to those charged to-day. Why? Because they are publicly owned, and they all would enjoy the three advantages of public ownership which I have enumerated.

Mr. President, in view of the facts presented, why should we shrink from public operation of the great Muscle Shoals power plant? We own it. We have been long committed to public ownership and operation of utilities generally. Every sewage system is a public utility and publicly owned, though there are exceptions—cities which have granted franchises for this utility. In my State, the most profitable public utility of which I have knowledge is such a sewage system.

Forty years ago the promotion of water plants was nearly as popular as the promotion of electric plants to-day. My first employment as an engineer was by a gentleman who had promoted, constructed, and rebuilt some 20 water plants. To-day there are but two major cities in the country that do not own their water systems. Public ownership and operation of this particular utility, as in the case of sewage systems, is nearly universal. Why, then, should we hesitate respecting electric

plants, whether operated by steam or water power? Is it not a fact that if, like water plants, they were not highly profitable, there would be little objection?

The electric utility business in this country is highly profitable, so profitable in fact that there has been a pyramiding of electric securities that has no counterpart save in the days of the frenzied financing of our railroads. Congress is responsible for the expenditure of about $50,000,000 upon the Muscle Shoals development. The pending resolution includes a plan that will ultimately render this tremendous expenditure worth while to the public, and especially that public within striking distance of Muscle Shoals.

However, if this resolution fails, and Muscle Shoals ultimately falls into private hands, it will not result in cheap fertilizer or the cheapenening of electric energy, distributed therefrom in any appreciable degree—in short, Muscle Shoals will continue to be just what it is to-day, a net loss so far as the people who have paid the bills for the construction of that great hydroelectric plant are concerned.

When I listen to the stock objections to public ownership and operation offered in connection with Muscle Shoals I can almost hear voices out of the dim and distant past—reverberations from the Roman forum about the time of Cæsar.

A majority of the dwellings in ancient Rome were constructed of wood and, as a consequence, a conflagration, under favoring circumstances, often swept extensive areas of the city. Fire was the terror of Rome in those days, there being no adequate provision for contending with this consuming element. Crassus, who, if he were living in the present, would have been one of the leading captains of industry, hit upon an idea in this connection. He organized a private fire brigade composed of slaves. Training his organization with great care, he equipped it with all the fire-fighting appliances known at that time, including a few of his own invention. Not only that, he stationed lookouts in various parts of the city to bring word of a threatening fire in the shortest possible time. At first thought, one might conclude that Crassus was a highly public-spirited man. But wait! When a fire broke out, Crassus, or one of his agents, and the fire brigade were promptly on the ground. Did they proceed to put out the conflagration at once? Oh, no. Instead, they sought out the owners of the adjacent threatened properties and demanded what they would take for their holdings. If the price was too high, the laconic reply was, "Let it burn." If the price meant a bargain, the fire was ordered extinguished. As a result, Crassus became the largest real-estate owner in the imperial city. Not only did he become the Astor of Rome, but the J. P. Morgan also. Subsequently, I presume, a tribune arose and urged that it was a scandal that people's property should be taken for a song as the result of threatened danger. Why not a publicly owned and operated fire department?

I said I almost could hear voices out of the dim and distant past. Yes; I imagine I can hear them now, charging that "our form of Government is not adapted to public ownership of a fire department; our present system is good enough; why change?" That "the public ownership of a fire department will increase taxes"; that "public ownership can only be inefficient and wasteful"; that "a publicly owned fire department will give poorer service than one privately owned"—and that "such a step will sound the knell of private initiative." Of course, I hear nothing about socialism, because they did not know anything about it in those days. However, public ownership ultimately triumphed, and from that time until this there have been public fire departments. Surely, history repeats itself now in connection with Muscle Shoals.

Mr. TYSON. Mr. President, I know the Senate is worn out with the discussion which we have had here so many days, but as the subject affects my State so materially I feel that it is incumbent upon me to say something in regard to it. I have listened with a great deal of interest to all that has been said. I have attended the sessions of the Senate and have listened to nearly every speaker who has spoken on the subject. I know the importance of the subject, it having been before the Senate for something like 8 or 10 years and not yet disposed of, a matter which is getting on the nerves of the American people as well as of the Senate and the other branch of Congress.

I believe that everyone who has undertaken to solve the problem has tried to solve it in the best interests of his country, but it has not yet been solved. It must be solved, and I think it ought to be solved without any further delay if it is possible to do so. In solving the problem we can not possibly solve it exactly as each one of us would like to have it solved. I have no doubt it will be a compromise solution at last, as has been said by the distinguished senior Senator from Nebraska [Mr. NORRIS], who has spoken so fully upon the subject.

The Government has at Muscle Shoals a very great investment of something like $150,000,000. Every day of delay, it seems to me, we are not only losing interest on our investment but losing still more which we might earn on that investment if we had the property properly in operation. Many bills have been brought before the Senate; some of them are perhaps good bills; but none of them have been entirely satisfactory, and certainly have not received the support of a majority of both Houses of Congress.

The joint resolution which is now before the Senate has had nearly the unanimous recommendation of the Agricultural Committee, only two members, as I understand, voting against it. I am especially interested in keeping this question before the Senate and having it concluded, for two reasons: In the first place, I have a desire as a Senator of the United States to have it settled; and, in the second place, I am greatly interested in the matter because of the profound interest my State has in it and because of the fact that delay has had a bad influence upon the industrial development of my State.

The State of Tennessee is supposed to have as much of hydroelectric possibilities as has any State east of the Mississippi River, and yet, notwithstanding that, the State of Tennessee has not developed anything like as much hydroelectric power as has been developed by many of the other States of the South. There have been filed a great many applications for permits to develop water power in the State of Tennessee during the last three years; it has been desired to develop the water power on a very large scale; but owing to the fact that the Senate and the House of Representatives could not come to any conclusion or pass any bill on the subject, or dispose of Muscle Shoals, such development in my State has been very badly retarded. There are now on file with the Federal Water Power Commission 37 different applications for permits to develop water power in the State of Tennessee, and yet not a single permit has been granted during the last three years.

I wish to read to the Senate a list of the applicants for such permits, in order to show that they have not been asked for by one big power corporation but by a number of them. Three have been asked for by the Holston River Power Co.; 3 by the Tennessee Eastern Electric Power Co.; 5 by the Tennessee Hydroelectric Co.; 4 by the Union Carbide Co.; 11 by the East Tennessee Development Co.; 1 by Allen, Slining & Spaulding; 1 by H. A. Spaulding; 4 by the Federal Power Co.; 1 by Robert G. Gordon; and 4 by the Eastern Tennessee Electric Co. There are altogether 20 sites, and 37 applications for the 20 sites, and yet no permits have been granted during the last three years.

However, I am glad that the Senator from Nebraska [Mr. NORRIS] has at last put before the Senate a joint resolution that with certain amendments I hope will accomplish a solution of this problem. That Senator more than any other Senator, perhaps, has been responsible for the delay in the development of Muscle Shoals. I do not claim that he has not acted in the best interest of the country as he saw it, but whatever effect his activity may have had on the country at large, it has had, as I see it, a very bad effect upon the State of Tennessee.

In order to show the amount of power which has been developed in Tennessee in comparison with other States that have no such amount of water-power possibilities as has Tennessee, I wish to read the record as contained in Geological Survey Bulletin 20804, under date of February 11, 1928:

Developed powers in Southeastern States: Virginia, 141,471 horsepower; North Carolina, 643,768; South Carolina, 574,478; Georgia, 463,453; Kentucky, 142,255; Tennessee, 177,425; and Alabama, 646,423.

In other words, we are behind all but two of the other great Southern States that have possibilities of power development, that condition having been due partly to the fact, perhaps, that the Tennessee Basin has not been fully surveyed; but largely, if not mostly, due to the fact that Muscle Shoals has not been developed.

The joint resolution which is before the Senate provides for a method of disposing of Muscle Shoals. In the first place, it provides for completing the dam. That is considered very important, and I am strongly in favor of that. It will take about $8,000,000 to do that work, and about a million dollars more to complete the steam plant. It is not necessary, however, to complete that development unless it shall be desired to do so, as already a very large amount of horsepower can be developed there provided the steam plant is run regularly, which I understand has not been done during the last two years since the Government has been operating it.

The second section of the joint resolution provides that the current generated shall be sold to States, counties, municipalities, and so forth; and the preference shall be given to such

States, counties, and municipalities purchasing the current. That may be a very good provision, and it does give an advantage, in a sense, to States and to such municipalities as may want to buy current; but it is further provided that the current must be equitably distributed among the States within transmission distance. While I am in favor of giving every State that wants to obtain power as much of a preference as can be given, and at the same time conform to good business methods, I doubt very seriously if these conditions can be carried out—that is to say, giving preference, and at the same time equitably distributing the power—for the reason that there are necessary limitations, and I think much confusion will ensue. However that may be, I am satisfied to vote for such a measure if it can be carried into effect.

Mr. President, we are undertaking to change the nature of this great plant; that is to say, it was built for the purpose of producing fertilizer for the farmers in time of peace and to manufacture nitrates for explosives for the Government in time of war. What is proposed under this joint resolution is to change the nature of the plant and to make it largely a power plant, and to make the fertilizer feature merely incidental. There is no bill that has recently been brought before the Senate which proposes to place the production of fertilizer on a parity with power production. Even the cyanamide bill, which is not now before the Senate but has been considered by the committee, makes the fertilizer feature secondary, because it is made conditional, whereas the production of power will go on continuously and, if the power can be sold, will be a continuing operation. There are conditions in all the measures which have been presented to Congress, as I understand, which will make fertilizer a secondary consideration.

Mr. President, we are faced with the problem of determining what is the best method of disposing of Muscle Shoals. I do not believe that all of the power that can be generated there is necessary in the manufacture of fertilizer; that is to say, we will have a great deal of surplus power even if we manufacture fertilizer to the utmost limit of 40,000 or 50,000 tons of nitrate, as is provided for in the most favorable bills that have been presented.

The pending joint resolution provides that the Secretary of War shall operate the plant at Muscle Shoals. It is a question whether or not the plant should be leased for power purposes or whether it should be operated by the Secretary of War, which amounts, of course, to its operation by the Government. From what has been said here, we must consider whether we are going to undertake to make of Muscle Shoals a plant at which to demonstrate how to manufacture and distribute electric power as cheaply as possible, or whether we are going to try to get out of it as much as we can in the interest of the farmers of the country by manufacturing fertilizer as cheaply as possible.

My idea about the operation of the Muscle Shoals property is this: As I have said, we will not require anything like the power that will be generated there for the manufacture of fertilizer. At the same time, I want to see as much fertilizer manufactured there as can be manufactured and sold to the farmers.

I know that they are not going to buy fertilizer unless it can be bought under as favorable conditions and as cheaply as it can be bought from private manufacturers. If we can make it cheaper there and sell it to the farmers, I want to see that done, whether by private operation or by Government operation. I do not know whether it can be done there so as to make fertilizer cheaper, but I think we ought to make the effort to see if it can be done. I am in favor of the most extensive experimentation, either by private or by Government operation, in order to ascertain what is the best method of manufacturing fertilizer and whether it can be manufactured there, either on a small scale or a large scale, in such a way as to make it available more cheaply to the farmers.

But, in addition to all that, there is a very great amount of power that can be generated there, and if the plant is properly administered and the money received from the sale of the surplus power is properly applied, I think, possibly, the farmers can be very greatly aided in securing cheaper fertilizer than they have heretofore ever been able to obtain.

Mr. President, the question is whether we are going to undertake to operate this plant as a power proposition on business principles, or whether we are going to undertake to sell the power at a price that will be satisfactory to certain people, at a lower price than could be obtained if we should go out in the open market and sell it to the highest bidder. That is the question. Shall we sell it now to the highest bidder and get the greatest amount of money out of it, or shall we sell it for such price as will be satisfactory to certain people who may have the idea that the Government ought to sell it cheaper than would anybody else? Considering it as a business proposition, the thing to do is to sell it at the market price. My idea about selling anything is that it should be sold at the market price. When the Government undertakes to sell anything else it sells it at the market price. If it has land anywhere in the country or supplies which it desires to dispose of, it obtains the best price it can for such land or such supplies; and that is my idea as to the operation of the power plant at Muscle Shoals—to get a fair and reasonable market price and use all of the surplus money which may be obtained, first, in taking care of interest on the investment at Muscle Shoals, and then applying all the surplus to the manufacture, experimental or otherwise, of fertilizers for the benefit of the farmer.

Mr. BRUCE. Mr. President——

The PRESIDING OFFICER (Mr. COPELAND in the chair). Does the Senator from Tennessee yield to the Senator from Maryland?

Mr. TYSON. I yield to the Senator from Maryland.

Mr. BRUCE. Rather than sell it, why might the Government not lease this great property under such conditions and terms as might be thought best for the purpose of promoting the production of power or of fertilizer or what not? In other words, why might not the Government deal with it just as cities now so often deal with property rights they have in their streets? Cities give long leases with a provision that, after a certain time, the title to the property shall revert to the city, and in the meantime the lessee or the grantee of the franchise, of course, pays annual rentals to the city. That practice we pursue most satisfactorily in the city of Baltimore.

In addition to what the city derives by way of compensation from public franchises in its highways, some years ago the city of Baltimore constructed a number of large docks and piers for the accommodation of the commerce of the port of Baltimore. Those docks and piers have been leased, and the commerce of the port has been very much promoted thereby, and the city has received, of course, annual rentals from the spaces leased. It seems to me such a plan would be much more satisfactory than an outright sale of the Muscle Shoals property, for then the title to the property would be gone forever from the public, and nobody would know just what uses it might be put in the future. It might be very difficult to tie the property up with such restrictions and conditions as to carry out the public purpose that might have inspired the transaction.

The main thing that I am opposed to in this case, if the Senator will pardon me for a moment, is Government operation. I have no faith in it, and I think that it has loaded down this Muscle Shoals situation from the beginning like the Old Man of the Sea. The only real reason why some satisfactory solution of this Muscle Shoals question has not been reached already is because these visionary suggestions of one kind or another, originating in theories of Government operation, have been brought forward and have made any practical disposition of the property impossible. If that element had not come into the case, I think that long, long ago the property would either have been sold by the Government, as is now being suggested by the Senator, or, better still, would have been leased by the Government. I think the sooner we cut adrift from all these suggestions about Government operation the better.

Mr. TYSON. I had not intended to say that I wanted to sell the property, Mr. President.

Mr. BRUCE. The Senator used the word "sale."

Mr. TYSON. I only used the expression "sale of the power," not of the property.

Mr. BRUCE. Oh, I misunderstood the Senator. I ask him to excuse me.

Mr. TYSON. I would not think of either selling it or leasing it for any long term of years.

Mr. BRUCE. I think it would even be a great deal better to sell it—inadvisable as that would be—than to have it operated by the Government, because I know that such operation will simply result in inefficiency and waste and in deficits from year to year. I agree with the Senator, however, in thinking that there is no occasion to sell the plant. The right thing, in my judgment, is to lease it on proper rentals and subject to proper conditions and restrictions of every kind, and with a clause for recapture after the end of 40 or 50 years. That is the time which is usually fixed in Baltimore, if my memory does not fail me, when we lease franchises in the public streets. At the end of the lease the title to the property reverts to the city.

Mr. SIMMONS. Mr. President——

Mr. TYSON. I yield to the Senator.

Mr. SIMMONS. Let me ask the Senator from Maryland a question. Does the Senator mean that he would lease this power without any restrictions as to what use should be made of it?

Mr. BRUCE. No, Mr. President; I do not mean to say that, because there would appear to be some special uses to which the property might be profitably turned. Perhaps it might be applied to a threefold purpose: To the production of nitrates, if that be deemed expedient; to the production of power; and to the production of fertilizers.

Mr. SIMMONS. The Senator realizes, does he not, that one of the greatest needs of the farmer to-day is a cheaper fertilizer, and that means a cheaper nitrate than we now are able to get, or have been in the past able to get; and does not the Senator think that the Government, owning this great power plant, in case it should lease it, should provide specifically and unequivocally for the use of it to such an extent as may be found practicable for the purpose of manufacturing a cheaper nitrate?

Mr. BRUCE. I have no objection at all to that, provided the operation of the property passes into private hands, with the superior efficiency and economy that always attaches to private operation.

Mr. SIMMONS. Would the Senator go further than that and agree that the primary purpose specified in such legislation as Congress may see fit to enact should be the production of fertilizer?

Mr. BRUCE. Yes; I would, provided, as I say, the property passed under private control. I would object to that as far as Government operation was concerned, first, because if I am not wrong Government operation is very inefficient and wasteful, and, secondly, because it is not fair to the people of the United States that the Government should come into competition with private enterprise. If the Government rates were really lower than they should be, lower than working conditions justified, of course the deficit would have to be made up, not by the people who were in the immediate vicinity of Muscle Shoals alone but by the entire people of the United States; or, in other words, by the Treasury of the United States. The result would be just the result that has followed from the Government subsidization of the Mississippi Barge Line. New Orleans, because of its site on the Mississippi, derives very considerable advantage from that barge line, which is conducted at a loss by the Government; but it does so at the expense of the other great Atlantic seaports, including Baltimore.

Mr. McKELLAR. Mr. President——

Mr. SIMMONS. But the point I wish to call to the Senator's attention is this: While it would be probably true, as he said, that that part of the power that was used in making a mixed fertilizer might give an advantage to the local customer which the more distant customer would not enjoy, the proposition that I am in favor of contemplates two things: First, that we shall make nitrogen, and then that we shall mix not all of that nitrogen with other elements so as to make a perfect fertilizer, but that we may secure the concentrated nitrogen. The volume of that is small, and the freight on that nitrogen to the most distant part of the United States would be very inconsiderable, and it would be probably less than the rate for which nitrogen obtained from Chile can be carried to the more distant parts of the country. I would provide for both those conditions: First, mixed fertilizer for the use and benefit of those who lived within a reasonable radius, and were able, therefore, to bear the freight rate; secondly, the manufacture of nitrate alone, that may be shipped without much cost to the most distant parts of the country, so that every section of the country would enjoy the benefits of cheap nitrogen.

Given cheap nitrogen, the farmer is going to get cheap fertilizer; and one of the greatest problems that confronts agriculture to-day is that of cheap fertilizer. Take the barren hills of western North Carolina that formerly were considered hardly worth cultivation. They are now producing crops that are far above the average produced in the richest natural soils of this country. Why? Because the people of those regions have learned how to apply fertilizer to the soil to the best advantage, and to improve the soil gradually and rapidly, so that they are producing large crops. When, however, the fertilizer is so high that it takes an unreasonable proportion of the profits from the cultivation of the crop to pay for the fertilizer, it does not result in the net benefit to the farmer which he has a right to expect.

If the Senator will pardon me a little bit longer, during the war, when the question of large production was one of great emergency, we started this scheme at Muscle Shoals to produce nitrogen from the air, with the hope of producing it more cheaply than the cost if imported Chilean nitrates. That was no reason why we could not get nitrates from Chile during the war. There was no blockade against us, no impediment in our shipping facilities, with reference to that country; and the first act that we passed upon this subject specifically dedicated this plant to the production of nitrates from the air, so that the farmer might eventually get cheap fertilizer.

The war closed. We ceased to use the plant. Private industry did not supply what was necessary in order to give the farmer cheap nitrates, and private capital having failed in its opportunity and its duty to furnish the farmer with a cheap nitrogen we are now discussing the old question, whether it is not now the duty of the Government, by some plan, to use this particular property which belongs to it, and which it paid for, so that the farmer may get what he needs so much, and which would be a greater relief to him to-day, I will say to the Senator, than a lower freight rate.

The farmer has many problems. High freight rates constitute one of his problems, and a serious one; but the most serious problem that confronts the farmer in my country, and I think in other sections of the country where they are using fertilizer at all, is the high price of nitrates, which makes the high price of mixed fertilizer; and the amount that he has to pay for it operates to reduce his net profits to such an extent that it leaves him scarcely sufficient for a mere living.

Mr. BRUCE. I will say to the Senator from North Carolina, if the Senator from Tennessee will excuse me just one moment, that if this property should be leased to private parties I am absolutely in favor of the farmer being given a preferential claim on its benefits.

Mr. SIMMONS. I am very glad to hear the Senator say that.

Mr. TYSON. I wish to say, in that connection, that I have not stated that I am in favor of Government operation except as a last resort. My idea—and I have offered an amendment to the pending joint resolution to that effect—is that the Secretary of War should lease the plant, and, failing to find a satisfactory lessee, then he should operate it.

I am in favor of private operation wherever it can be done as well as or better than Government operation; but there are times when the Government has to operate, and whenever that time comes and we have something that is necessary to be done, and we can not get anybody else to do it satisfactorily, then my idea is to have the Government do it as a last resort.

It may be the case here that we can not properly and satisfactorily lease this property. If we can not do it, then I want to see the Government operate it to the very best advantage in the interest of the farmer and make all the fertilizer it can at the lowest price it can, and sell the power that is surplus at the best price it can, and get all the money it can, and use it in the interest of the farmer. The idea of taking this plant—after we have all heard so much about dedicating it to the farmers of this country for manufacturing fertilizer—and making it into a philanthropic exposition of what can be done in the manufacture and sale of power, it seems to me is not a proper one. If we want to go into the power business and show what can be done with power, let us do it, and dedicate a power development to that particular object and not to fertilizer.

Mr. BRUCE. Mr. President, may I interrupt the Senator just a moment?

Mr. TYSON. Certainly.

Mr. BRUCE. Does the Senator think there would probably be any real difficulty about leasing this property to private parties if the Government took the proper steps to do it?

Capital is very eager to utilize water powers throughout the country, and we all know at what a tremendous pace the development of water power has gone in recent years. If the Government would frame its suggestions properly and invite bids for leases, it is inconceivable to my mind that, with the enormous amount of capital we have in the United States and the spirit of enterprise that is rife in the United States, the Government would not be able to lease the property, subject to proper restrictions and conditions, to private business agencies.

Mr. TYSON. I think it is going to be a very difficult thing to lease this property, in so far as the manufacture of fertilizer is concerned. I do not think there will be any difficulty in leasing it in so far as power is concerned. I believe that the Government can get plenty of lessees for the power, because that is something that can be sold and is being sold regularly at a profit, and you can not ordinarily get people to go into business unless they feel they are going to make a profit; but nobody has yet been able to show that a profit can be made in the manufacture of fertilizers at Muscle Shoals.

Mr. BRUCE. Does not the Senator think that if private parties could not make a profit out of the plant, the Government could not do so? What reason is there to believe the Government could make a profit out of any enterprise out of which private parties could not make a profit?

Mr. TYSON. No effort has been made at Muscle Shoals to manufacture fertilizers, and we have had bids on the part of

the Cyanamid Co. during two sessions of Congress. The Associated Power Cos. came here and made a bid at the last session of Congress, but neither one of the bids was at that time accepted. As to whether or not they could have made fertilizer at a profit, I do not know. They assumed they could make it at a satisfactory profit if they had the power as a subsidy; but there is no question in my mind that every bid we have ever had before Congress has been a subsidy bid, because nobody has up to the present been willing to go down there and take over the fertilizer plant and undertake to make fertilizer and sell it to the farmers, even though we were willing to furnish the power at a very low price.

As I understand it, the Senator from Nebraska has introduced a bill which would permit the Federated Farmers' Union to use nitrate plant No. 2 without a single dollar of expense for rental and give them other things which would be valuable to them. Yet, so far as I know, they have made no effort to accept this proposition. Therefore it is a question now whether we can manufacture fertilizer at Muscle Shoals or not. My idea is that we ought to make the effort. The Government is the only one that can or will make the effort, and I think we ought to spend some money in trying out that effort before we say it can not be done.

Last year the Senator from Illinois [Mr. DENEEN] made a speech in regard to the manufacture of fertilizer at Muscle Shoals, in which he showed that at that place nitrates could be manufactured by the synthetic process at $94 a ton, that ammonia could be manufactured at $156 a ton, and that if the synthetic process were used at any other place in the United States it would cost $96 a ton, or $2 a ton more than to manufacture at Muscle Shoals. That is only an estimate. Nobody knows exactly what can be done until it is tried out.

If that is the case, it seems to me that Muscle Shoals, after all, is not an impossible place for the manufacture of fertilizers, and as it has been dedicated to the farmers of the country, I think we ought to try it out, whether by private operation or by Government operation.

Mr. BAYARD. Mr. President, I want to ask the Senator a question if he will yield.

Mr. TYSON. I yield.

Mr. BAYARD. The Senator is speaking continually—and most of our colleagues have been speaking all the way through—about the manufacture of fertilizer. As a matter of fact, when the Government first installed the plant at Muscle Shoals, or started to install it, it was for the sole purpose of extracting nitrogen from the air, was it not?

Mr. TYSON. To be used for the manufacture of explosives in time of war.

Mr. BAYARD. That was one of the bases of phosphate, as they call it.

Mr. TYSON. Not the basis.

Mr. BAYARD. It is one of the bases of fertilizer, is it not?

Mr. TYSON. It is combined with phosphate.

Mr. BAYARD. The resolution of the Senator from Nebraska [Mr. NORRIS] provides for doing more than that. One object is to get out the nitrate, and the other is to have a fertilizer plant, using the nitrate as one of the mixtures in making up the fertilizing product. Is not that correct?

Mr. TYSON. I understand the Senator from Nebraska desires through his resolution for experimentation in the manufacture of nitrates, and then in the combination of these nitrates with other fertilizer ingredients, making fertilizer and distributing it throughout the country, as far as possible, to aid the farmers in ascertaining just what kind of fertilizer is best for each farmer to use on the particular kind of soil on which he has to use fertilizer.

Mr. BAYARD. Yes; but the Senator from Nebraska wants the operation to be conducted on the basis of the manufacture of general farm fertilizers. Is not that right?

Mr. TYSON. I understand the resolution also provides for experimentation plants for the manufacture of nitrates or phosphoric acid—whatever is necessary in the manufacture of fertilizer.

Mr. BAYARD. As a matter of fact, historically speaking, the Government took this place over and established a plant primarily for the purpose of extracting nitrates to be used for governmental purposes simply, and thereafter, when the opportunity is presented now by the Government no longer having that use for the plant, the idea has been to take over that plant and to manufacture not only nitrates but fertilizers as well.

Mr. TYSON. I understand so.

Mr. BAYARD. And all at Government expense.

Mr. TYSON. The Government's idea was to manufacture fertilizers in time of peace.

Mr. BAYARD. But it was not originally the idea to manufacture fertilizers in time of peace; it was simply to produce nitrate, was it not?

Mr. TYSON. I understand it was to manufacture nitrate to be put into fertilizers for the farmers in time of peace, and I assume that there was also to be a manufacturing plant at Muscle Shoals for the production of fertilizers.

Mr. BAYARD. A general fertilizer plant, notwithstanding the fact that the only thing gotten out of the plant by the actual operation was nitrate from the air, and that they would have had to buy and bring together and mix all the other ingredients going into fertilizer?

Mr. TYSON. I understand that is the only thing we have there now, a plant to manufacture nitrates, and nothing more.

Mr. KING. Will the Senator yield?

Mr. TYSON. I yield.

Mr. KING. Mr. President, I have understood that the resolution before us, offered by the Senator from Nebraska, sought to utilize Muscle Shoals for power purposes rather than for the manufacture of fertilizers. I have understood that the issue presented for determination by the Senate was whether Muscle Shoals, including the power to be developed from additional dams in the Tennessee River, was to be devoted to the production of hydroelectric energy which was to be sold by the United States to the people residing in that vicinity, or whether the needs of the farmers were of primary and paramount importance and the power developed at Muscle Shoals and vicinity should be used to manufacture nitrogen and various forms of fertilizers for agricultural purposes. I do not want to misinterpret the position of my friend the Senator from Nebraska, but I had supposed from the discussion in which he participated that his position was that the power developed and to be developed was to be distributed for lighting and heating purposes and that if there was any surplus that it might be used by the Government for experimental purposes in connection with the production of nitrogen from the atmosphere.

I call attention to the fact that the Government has already expended millions of dollars in its efforts to obtain nitrogen from the air. Plant No. 1, costing more than $13,000,000, was employed to develop nitrogen. Several millions of dollars in addition were expended in these experimental activities. The whole sum has been wasted. If I understand the Senator from Tennessee, he contends that the Senator from Nebraska does not make the production of power the principal purpose of this bill or that he regards as of paramount importance the production of nitrogen as the basis of fertilizers. Mr. President, if the Senator from Tennessee is correct, I have not understood the arguments in support of the pending resolution. I have understood from its advocates that a "Power Trust" exists and that electric energy is to be developed at Muscle Shoals for the purpose of furnishing cheaper power to the people and breaking the so-called power monopoly. I have understood from the debate that it was intended by the supporters of this bill that the Federal Government should spend millions of dollars to build power plants and distributing systems; to furnish electricity to the people to illume their houses and streets and to aid them in their industrial enterprises; that in this undertaking it was to be hampered by no State laws or the utilities commission of any State. It was to generate power, sell and distribute the same, without regard to private corporations or the limitations fixed by State laws or by State commissions set up for the purpose of regulating power rates. If I am in error in the conclusions which I have reached respecting the purpose of this bill, I shall be glad to be set right.

Mr. TYSON. I understand that is the position of the Senator from Nebraska, so far as power is concerned; but I think the Senator from Nebraska at the same time desires also to do everything he can to see that the farmer gets nitrates that will be suitable for fertilizer, and that we experiment in such a way so that the farmer will get the very best results from the manufacture of fertilizer that can be had, and that the money which is to be received from the sale of power is to be used for the benefit of the farmer. I think the Senator from Utah has not given the Senator from Nebraska credit for the full idea of this resolution.

I agree with him in so far as his idea about power is concerned. I think he has it exactly right, but I agree with the Senator from Nebraska in so far as he goes in the matter of aiding the farmer in the manufacture of fertilizer. I do not think he goes far enough.

Mr. KING. Mr. President, will the Senator permit a further inquiry?

Mr. TYSON. I shall be glad to.

Mr. KING. I think the Senator's statement corroborates my interpretation of the position of the Senator from Nebraska.

He wants the Government to use Muscle Shoals for the generation of power which is to be sold to private corporations and to individuals, and the proceeds thereof, or a portion of the same, may then be devoted to experimentation for the purpose of obtaining nitrogen from the air; but power is the great object; the generation of electric power is the primary thing in view. If revenue is derived from its sale, then it can be used by the Government to produce nitrogen. However, in the meantime we are to appropriate $2,000,000 out of the Treasury to be available for use by the Department of Agriculture for further experimental purposes by that department.

Mr. TYSON. I do not think the Senator goes far enough. A part of section 6, subdivision (b), provides:

> To contract with commercial producers for the production of such fertilizers or fertilizer materials as may be needed in the Government's program of development and introduction in excess of that produced by Government plants.

Providing there is enough revenue to be derived from power. It also provides:

> Such contracts may provide either for outright purchase by the Government or only for the payment of carrying charges on special materials manufactured at the Government's request for its program;
>
> (c) To arrange with farmers and farm organizations for large-scale practical use of the new forms of fertilizers under conditions permitting an accurate measure of the economic return they produce; and
>
> (d) To contract with said farmers and farm organizations to pay the special costs and losses, etc.

Mr. KING. Does the Senator think Congress will turn over to the Department of Agriculture, or some other executive agency, its investments at Muscle Shoals, and all the power potentialities of the Tennessee River, in order that the same may be used by such department or agency, or lease by it, for the generation of power—the power so developed to be sold, and the proceeds, or a part thereof, to be devoted to the manufacture of fertilizer, and that it will supplement the funds derived from the sale of power by large appropriations from the Federal Treasury, for the purpose of building fertilizer plants, and organizing distributing agencies, to carry to all the farmers of the country the fertilizers so manufactured?

Mr. TYSON. Mr. President, I do not see why a reasonable amount of money should not be used in that way. We are spending now, through the Agriculture Department, $143,000,000. I do not believe it will take more than $5,000,000—that is just a guess, or an estimate—for the Secretary of Agriculture to put up all of the experimental plants that would be required.

So far as I am concerned, I do not believe in having more than two or three of these experimental plants for the extraction of nitrogen from the air, because I think that with the plants that have already been established throughout the country, like the one at Hopewell and the one at Charleston, we will be able to see at what cost nitrogen can be bought or fixed by the synthetic process. So that only 1 or 2 or 3, perhaps, of these experimental plants are needed.

The greatest difficulty in all business is distribution. Very few people seem to realize the great cost of distribution. Any kind of manufacturing plant can manufacture, and they can determine what it will cost to manufacture, they can find out all of the elements of manufacturing; but after a thing is manufactured a market must be found for it, and if a market can not be found at a profitable price, there is no use manufacturing the product. That is the great difficulty in connection with this particular problem which people do not seem to appreciate. They seem to have the idea that the generation of power cuts a great figure in the cost of power delivered in the home. The power can be manufactured by steam at 4 mills per kilowatt-hour almost anywhere in this country. It can be manufactured at the mouth of the coal mines at 2½ mills per kilowatt-hour.

In fact, we can manufacture power cheaper at the mouth of a coal mine than we can in almost any hydroelectric plant in the country. That being the case, we have to find a sale for it, we have to find a market for it, we have to put it in every man's home at the place where he can use it at the time he wants it. People do not seem to realize that that costs an enormous amount of money, and that we have to have the service ready, that we have to have all the power that you or I or anyone else will require right at the switch at the time we want it. It costs money to do that. Unless we have it right there we are not giving service. We may develop the power we want to at a certain price, but we do not know until we have had experience what it will cost to distribute it. The hardest thing in the world is to find a market. We are trying now in this country to find markets all over the world for our manufactures, and we can not find them. If there is any unemployment in this country, it is due to a lack of markets and a lack of distribution; and until we learn how to distribute what we manufacture we never can accomplish the end successfully.

Mr. KING. Mr. President, will the Senator yield further?

Mr. TYSON. Certainly.

Mr. KING. Does the Senator mean to leave the impression, and I ask for information, that because of the difficulties of distribution which, of course, includes transportation, which I concede, because there are difficulties, financial and otherwise, in carrying all commodities to every part of the country, that the Government of the United States should, therefore, become a manufacturer of fertilizers and a distributor of them? That would mean organizing transportation companies or agencies, the building of warehouses, and the establishing of huge distributing organizations. I think that we have the most efficient railroad system and, therefore, the best distributing system in the world, the cheapest per ton-mile, and the facility with which freight and all forms of commodities are carried to all parts of our country by railroads and auto trucks is remarkable. And we are developing our internal waterways, and by so doing it is thought that rates will be reduced and transportation facilitated.

I hope that the Senator does not mean that if the Government undertakes the task of distributing fertilizers and commodities the problems of transportation will vanish like mists before the rising sun, or that the Government can distribute cheaper or better or more efficiently than private enterprise.

Mr. TYSON. Not at all. I know that the Government can not distribute as cheaply as private parties ordinarily do. But this is a problem we have to face. We have a farm problem in the country. The farmers are complaining more than any other set of business men in the country. We have a Department of Agriculture that is costing us $143,000,000 annually. We have an agricultural and mechanical university or college in every State in the Union and we are helping them. Those institutions have county agents who go out, and it costs the States of the Union a great deal of money to maintain them. What are they doing? They are trying to teach the farmer how to farm better than he has farmed before. It is our duty, as I see it, if we are going to be efficient, to teach the farmer the very best methods, to teach him the most intelligent methods that can be taught.

The fertilizer proposition, as everybody admits, is the most important proposition to-day, perhaps, before the farmer. Why should not the Government, if it is going to teach him in other ways, teach him how to use fertilizer satisfactorily, how to use it by the very best methods possible? I think that it is as much a duty of the Government to educate the farmer in how to farm as it is to educate him in books or in any other way. As a matter of fact, if I were to be asked which is the most necessary education in this country to-day, I would say that to learn how to farm best would be the finest education a farmer could have.

Mr. KING. Mr. President, will the Senator suffer another interruption?

Mr. TYSON. I am glad to do so.

Mr. KING. I concede what the Senator said about the importance of the agricultural problem and the importance of the farmers knowing how to farm. My opinion is that the farmers know far more about farming than some of the so-called experts in agriculture, and some who are offering panaceas and remedies for the purpose of curing all agricultural ills.

Mr. TYSON. Does the Senator mean to say that the farmers have not been helped by the Agricultural Department?

Mr. KING. No; I concede that it has rendered important service to the cause of agriculture, but I have thought that the department has suffered too much from bureaucracy, and that it has at times been too ambitious for power and too indifferent to the rights of the States and individuals therein. In some cases I have believed that incompetent and inefficient persons have been employed in the department, and that some officious employees have effected knowledge which they did not possess, and a rather contemptuous attitude toward practical industries, and competent farmers whose knowledge of the problems of agriculture is greater than such officious persons. It is obvious that the Department of Agriculture, with the millions which it is expending, is accomplishing good and rendering valuable service to the agriculturists of our country; that the farmers are obtaining all the benefits which they should in view of the huge expenditures of the department there is diversity of opinion.

However, I interrupted the Senator to inquire whether it is his position that in order to obtain fertilizer the Government must engage in the manufacture of the same and in its distribution. The Senator knows that scientific and business men are engaged in the production of fertilizer, not only in the United

States but in other countries. Hundreds of millions of dollars have been invested in various countries by corporations and individuals to produce nitrogen and to manufacture and distribute to the farmers of this and other countries fertilizers for the purpose of replenishing exhausted soils.

The great output of nitrates from Chile undoubtedly has prevented larger capital investments in the United States as well as in other countries for the production of fertilizers. When nature has produced it and it can be obtained cheaply, capital, of course, will be hesitant in engaging in the manufacture of that which nature has produced. However, it has been demonstrated that nitrogen can be obtained from the atmosphere at a relatively small cost, and as a result the exports from Chile to some countries have practically ceased, and private capital in those countries has supplied that which formerly was furnished by Chile.

Germany, a few years ago, as the Senator is aware, imported hundreds of thousands of tons of Chilean nitrates annually. But the German chemists and scientists discovered the nitrogen fixation process, and German companies are now supplying the agriculturists of their country with needed fertilizers.

As I said yesterday, I visited in Germany in 1923 a number of privately owned plants which were producing thousands of tons of nitrogen annually. Some of these plants used the synthetic and others the cyanamide process. German agriculture is rapidly developing, and German manufacturing plants owned by private persons and corporations are supplying the soil needs of the farmers. In the United States private capital is producing nitrogenous and other products required for plant life. Capital is available for the production of fertilizer, and capital will cheapen the cost and make available for the farmers of our country the character of fertilizers required by them.

The farmers of the United States are not so helpless and inefficient and lacking in ability and courage as some would have us believe. They have contributed to the progress and development of our country. They are not asking favors or demanding paternalistic or socialistic experiments. The farmers of our country have been and are now individualists. They believe in initiative, in personal independence and freedom. All they desire is equal opportunity, economic, industrial, and political. They are opposed to special privileges and to discriminations; they want a square deal, nothing less and nothing more. They do not want Federal bureaucrats to assume that they are incapable of walking and that, therefore, the Federal Government must put crutches under their arms. The farmers are readers and thinkers. From the farms come the strongest men in our country.

There are some employees of the Government and some who want to be employed by it, and some who make a living by agitation and propaganda and by affecting great solicitude for the farmers and wage earners, who are importunate in their demands that the Government shall own and operate the railroads and the merchant marine, the mines and smelters; that it shall build all sorts of manufacturing plants and engage in many forms of private business. They would convert the Government into a big business machine and the people into automatons to be moved by Federal direction.

I believe in the American people, in the American farmer, and in the American business man. They are competent to govern themselves and to run their own business. They do not want the inefficient hand of federalism laid upon their shoulders. We have reached the highest standard of efficiency through individualism, and the highest achievements in industry obtained by any people have been reached in the United States through our democratic institutions, not through socialism or by the Federal Government owning or controlling or supervising the lives or the business of the people.

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

Mr. TYSON. I would like to answer the Senator from Utah. However, I yield.

Mr. SMITH. If the Senator will just let me make one observation I shall be glad. I do not think any Senator on this floor is afraid that any initiative the Government may take will ever stop private initiative. What the Senator from Tennessee and others of us who are interested in the matter are contending for is not so much the Government continuing permanently in the operation, but certainly continuing long enough to demonstrate to us the practicability of it at a reasonable cost. We can not get any of these matters so long as the processes are owned and controlled and developed by private enterprise. There is not a man on this floor who knows anything about the cost of the new process of transmitting messages by radio. I happen to be a member of the Committee on Patents, and there is not a member of that committee who can of his own knowledge know what the instruments and processes of broadcasting will cost. All he can know is the price that is said to be a reasonable one. The Government dedicated Muscle Shoals to the one vital thing of producing this ingredient, nitrogen, and I believe it is our duty to develop the process until we know what can be done and at what price it can be done.

Mr. TYDINGS, Mr. BRUCE, and Mr. HARRIS addressed the Chair.

The PRESIDING OFFICER. Does the Senator from Tennessee yield; and if so, to whom?

Mr. TYSON. I should be glad to yield to the junior Senator from Maryland for a short question, but I will never get through my speech if I have half a dozen speeches by other Senators every time a question is asked. I do wish Senators would limit themselves to a question. I yield first to the junior Senator from Maryland, who rose first.

Mr. TYDINGS. As I understand the Norris resolution, the main purpose is to generate power and sell it to communities near Muscle Shoals. Assuming that the incidental part of it, or even the main part of it, is the fertilizer business, I would like to ask the Senator whether he is in favor of permitting the Federal Government to engage in the manufacture and sale of electricity unregulated, not subject to State laws, not subject to price fixing.

Mr. TYSON. I will come to that subject later on, if I only have the opportunity.

Mr. TYDINGS. Without any regulation whatsoever, in conflict and competition with private capital which has gone in as the pioneer and developed the subject?

Mr. TYSON. I would say decidedly no.

Mr. TYDINGS. I would like to ask the Senator this further question: If the Norris resolution is adopted, will not that state of affairs come into existence?

Mr. TYSON. I think not. It may, so far as the Norris resolution is concerned, but if we pass it here I do not think anybody can come into my State with a transmission line and sell electricity in the State of Tennessee without the consent of the State, nor could they do it in any other State in the Union.

Mr. TYDINGS. I would like to call the Senator's attention to the fact that in the Constitution one of the 18 special grants of power given to Congress is the right to regulate interstate and foreign commerce. Taking electric current from Alabama into Tennessee is certainly interstate commerce, and no State can impose any restriction on it, because the courts have overwhelmingly held that any tax on interstate commerce is in fact a power which they have no right to assume. Here we have the Federal Government. We can not tax the Federal Government by State law. We will have the Federal Government coming into the State of Tennessee free of tax, free of regulation, paying out of the Treasury of the whole American people any deficit that may accrue, and directly in conflict with all the private enterprises which have been pioneers and have risked their money to build up the business.

Mr. TYSON. If that is the case, I hope the Senator will offer an amendment which will cure that defect. I shall be very glad to vote for it, because I do not want to have anybody coming into my State who does not get in there on the same basis that every other person or corporation does.

Mr. BROOKHART. Mr. President——

The PRESIDING OFFICER. Does the Senator from Tennessee yield to the Senator from Iowa?

Mr. TYSON. I yield.

Mr. BROOKHART. I would suggest that this matter of regulating the United States Government is a new proposition to me. I did not know it needed regulation. I presumed we would like to have the States regulate the business as the business comes into the States. In fact, Government regulation of the thing is the strongest and most extreme regulation that could be had.

Mr. TYDINGS. Mr. President, will the Senator yield again?

Mr. TYSON. I yield.

Mr. TYDINGS. I would like to call the attention of the Senator from Iowa to the fact that the Government, when it is experimenting in the making of munitions and shells at the various places he mentions, is not selling those things to the American people? They are not in competition. They are developing a business which is essentially a governmental business.

I would also like to say in answer to the Senator from Iowa that he will recall from his reading of the Constitution that there are 18 specific grants of power given, and among them is the regulation of interstate and foreign commerce and a provision that no State can tax any interstate commerce. The Supreme Court of the country has held that time and time again. If current is taken into Tennessee or Iowa, it must come in without the State having the slightest color of right to do anything in its regulation, fixing of price, distribution, or anything else.

Mr. BROOKHART. The point I am making is——

The PRESIDING OFFICER. Does the Senator from Tennessee yield to the Senator from Iowa?

Mr. TYSON. I yield.

Mr. BROOKHART. I have so much confidence in my Government that I think it is going to do the square thing in Alabama and in every other State. I do not think there is any such thing as regulating the Government.

Mr. TYDINGS. The Senator misses the point.

Mr. BROOKHART. The Senator from Maryland raised the question of constitutional power.

Mr. TYDINGS. Yes; but the Senator misses the point. My point was—and the Senator has agreed that I am right—that there is the Federal Government, on the one hand, unregulated, untaxed, uncontrolled, and, on the other hand, there is private capital regulated, taxed, and controlled. Does the Senator think it would be fair for an individual who has put his money into business to be subjected to that kind of competition?

Mr. TYSON. Mr. President, I want to say to the Senator from Maryland that there is now pending before the Senate an amendment offered by the senior Senator from Mississippi [Mr. HARRISON] which provides for the regulation by the States. I am for that amendment, and I am not for any measure that does not carry regulation by the States. Furthermore, I do not believe that any measure can pass the Senate that does not carry the authority for State regulation.

Mr. TYDINGS. I appreciate what the Senator from Tennessee is saying, and, in the main, I am with him; but if he will bear with me just for one minute more I should like to point out that such regulation would be absolutely unconstitutional, and I will explain why in just a moment. If the State may undertake such regulation then, in the case of a man who had a pair of mules in Virginia and wished to sell them to a man in Maryland, the legislature of that State could pass a bill imposing a tax on mules coming from Virginia, and every State could have its own export and import taxes on commodities. In the end we should not have any regulation of interstate and foreign commerce by the Government. If the Senator will read the debates on the framing of the Constitution, he will find that when that clause of the Constitution was considered the power was expressly given to Congress in order to prevent a chaotic condition and one State hamstringing and keeping out the commerce of another State.

Mr. TYSON. Does the Senator mean to say that if we pass the pending joint resolution containing a provision that power transmitted from one State to another may be regulated by the States it would be unconstitutional?

Mr. TYDINGS. Does the Senator refer to Federal power?

Mr. TYSON. Does the Senator mean to say if we include a provision in the joint resolution that the power which is transmitted from one State to another may be regulated by the States that that would be unconstitutional?

Mr. TYDINGS. Yes, sir. I will explain that to the Senator, and the Senator, I think, will agree with me. If a State may tax interstate commerce for one purpose, it may tax it for another purpose, and if it is unconstitutional to tax interstate commerce, whether it be in the shape of mules or grain or coal or anything else, it would be just as unconstitutional when it comes to power.

Mr. TYSON. How would the Senator remedy that defect?

Mr. TYDINGS. I intend to vote against the power provision of this measure for two reasons: In the first place, to attempt to regulate power so produced would result in no regulation at all, because the Supreme Court would hold such action on the part of a State to be unconstitutional. Therefore, the States not being able to regulate it, it would be put on the same plane with private capital. So I shall be forced to vote against the entire joint resolution.

Mr. TYSON. Has the Senator from Maryland no remedy for the objection which he suggests?

Mr. TYDINGS. Yes. The Federal Government might produce power and sell it at the switchboard so that anybody could buy it.

Mr. TYSON. I wish to say to the Senator from Maryland that that is exactly what the amendment which we are now considering provides for. It provides for selling power at the switchboard.

Mr. TYDINGS. But I wish to call to the attention of the Senator from Tennessee the fact that even though the Federal Government did produce the power and did sell it at the switchboard, the State of Alabama, in my judgment, could not tax it, could not regulate it. It might, perhaps, tax the bed of the river; it might, perhaps, find some color of property tax, but it could not tax the interstate commerce in any way whatever.

Mr. TYSON. I do not understand that it would attempt to tax interstate commerce.

Mr. BROOKHART. Mr. President, will the Senator from Tennessee yield to me?

Mr. TYDINGS. Mr. President, I venture to say, in order to clear up that point, that if this question shall be taken, as it will be taken, to the Supreme Court, in my humble judgment the court will not be very long in deciding that if the power to regulate does not exist for one purpose the proposition can not be turned around and the power given for that same purpose. The proposition must stand or fall upon its own merits.

Mr. TYSON. Does the Senator from Maryland intend to say that if the power were sold at the switchboard an individual or a private company or a corporation or a municipality could not take their transmission lines to that point, with the consent of the utilities commission of the State, and get power and transmit it out of the State?

Mr. TYDINGS. The Senator from Tennessee misses my point. What I said was that if the Federal Government shall generate electricity, the State of Alabama can not regulate the Federal Government, no matter how many amendments may be placed in the joint resolution. Here is the junior Senator from Alabama [Mr. BLACK], himself an eminent lawyer, and enjoying a reputation as such in Alabama, and I do not think he would contend that if the Federal Government goes down to Alabama and produces electricity and sells it at the switchboard the State of Alabama can come along and tax and regulate that electricity. Certainly I believe the Senator will concede that it would be a very dubious proposition, and might be decided either one way or the other by the courts.

Mr. BROOKHART. Mr. President——

Mr. BLACK. Mr. President, will the Senator yield there for a question?

Mr. TYSON. I yield first to the Senator from Iowa [Mr. BROOKHART].

Mr. BROOKHART. Mr. President, I have had a little experience with the question just raised by the Senator from Maryland [Mr. TYDINGS] in regard to the power to regulate commerce. Congress always has the power to regulate interstate commerce any way it wants to. It may do so through the machinery of the States if it so desires.

Mr. TYDINGS. Oh, no.

Mr. BROOKHART. It might even submit to taxation.

Mr. TYDINGS. Let the Senator give me an illustration of where it has ever been done and I will agree that he is right.

Mr. BROOKHART. The States have always regulated it when the Government did not act.

Mr. TYDINGS. Cite me one instance where any State has regulated interstate commerce and I will sit down. The Senator can not name one in the whole history of the country.

Mr. BROOKHART. Take intrastate railroad rates. The States have always regulated them until act of Congress on the subject has been passed.

Mr. TYDINGS. Oh, no; the States have only regulated such commerce within the State's limits, which is an entirely different thing.

Mr. BROOKHART. I understand that; but they have regulated such rates and they have affected interstate commerce.

Mr. TYDINGS. Oh, no.

Mr. BROOKHART. However, I do not care anything about that. The point I am trying to make is that the idea that we can not trust the Government properly to regulate such a matter as this and give a square deal to the people and the States and everybody else is quite new to me.

Mr. TYDINGS. We can trust the Government, but the State of Alabama has no power to regulate the interstate commerce of this Nation.

Mr. BROOKHART. It ought not to ask for that power and does not want that power, but it ought to trust the Government the same as the rest of us do—and it will, I apprehend—and the Government's regulation, which will be the best regulation which can be provided.

Mr. BLACK. Mr. President, will the Senator now yield to me?

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

Mr. TYSON. I yield to the Senator from Alabama for one minute.

Mr. BLACK. Mr. President, with reference to Alabama, I have long since decided that Alabama's voice as to the disposition of this great natural asset which exists within its borders is very feeble in so far as giving effect to its desires is concerned. I have heard criticized on the floor of the Senate a citizen of Alabama on the ground that he expected his property to be enhanced in value by reason of this asset——

Mr. TYDINGS. The Senator does not mean to suggest that I said that?

Mr. BLACK. And that that was one of the reasons why his great-grandfather moved there many years ago. I have heard, further, that we have no right to tax any water power, a natural asset of the State; but that the State has to tax the farmers of Alabama and let them pay taxes on their farms while the power is shot out to every State within transmission distance.

Mr. TYDINGS. May I interrupt the Senator right there?

Mr. BLACK. I will yield in just a moment.

Mr. TYSON. Mr. President, I will have to ask Senators to give me a little time, in order that I may get through.

The PRESIDING OFFICER. The Senator from Tennessee declines to yield.

Mr. TYSON. No, Mr. President; I do not decline. I will yield to the Senator from Alabama.

Mr. BLACK. I will be glad if the Senator will let me finish what I was saying. I have also heard that the States that are not within transmission distance of Muscle Shoals are prepared now to have an amendment offered providing that the profits received from Muscle Shoals shall be equally divided among those States that are not within transmission distance. Since all of the States are equally entitled to everything that Alabama has within its borders, so far as Alabama is concerned, I assume that it has no right of taxation or anything else.

Mr. TYDINGS. Mr. President——

Mr. TYSON. I now yield to the Senator from Maryland.

Mr. TYDINGS. Mr. President, I should like to remind the Senator from Tennessee—and I believe he will appreciate the logic of the situation—how it was that Congress was given the power to regulate interstate and foreign commerce and why it is that a State can not regulate such commerce. For example, when our country was first formed and we had only 13 States, each one of them had restrictive laws in order to build itself up at the expense of its neighbors. Therefore when we came to be a united country the people realized that they could never stimulate commerce if each State had the right to tax the products of the other States in any way whatsoever. So authority was given to the Federal Congress, the body of which we are Members, to regulate interstate and foreign commerce. The Senator can at once see that if Alabama or Tennessee had the right to tax electric power it would have the right to tax coal coming in, or any other commodity of interstate commerce, and that would lead to a breakdown of the Union. That was the thought underlying the provision of the Constitution. I thank the Senator for his courtesy in yielding.

Mr. TYSON. I think, Mr. President, that if there is such a defect in the joint resolution, it ought to be remedied. If we have to accept the views of the Senator from Maryland on the subject, I do not see how we can operate Muscle Shoals at all without violating the laws of all the States that are within transmission distance. It may be that that is the case, but I hope we will manage to find some way by which we can operate Muscle Shoals and distribute the power that may be generated there.

Mr. President, I had not expected to discuss the fertilizer question so early in my address. I wish to go back a little now and say something about power, which seems to have been the main subject of the discussion in the minds of many Senators and especially in the mind of the Senator from Nebraska [Mr. HOWELL].

I think a great many people will be very much disappointed at the results of the operation of Muscle Shoals so far as the reduction in the price of power is concerned. I should like very much to be able to think otherwise; but, in view of the fact as I understand the joint resolution, that it provides only for the distribution of power to municipalities in the States and other organizations that want it at wholesale rates and not in a distributive way, I can not see how that will reduce the rates for electricity to the consumer below what those rates are now; certainly it will not do so in Tennessee unless the cities themselves shall take over their distributing plants and themselves distribute the current to customers.

The junior Senator from Kentucky [Mr. SACKETT] made this very clear when he said that steam plants could now generate electricity about as economically, if not more so, than it can be produced by hydroelectric processes. If any city in my State wishes to have a municipal plant, there is no reason why it should not have one; that is to say, if it is willing to put up the necessary capital and willing to build the necessary distributing plant and power house.

Take the city of Memphis, for instance, where my colleague [Mr. MCKELLAR] lives. I understand that some people think that Memphis might be able to obtain cheaper electricity if Muscle Shoals is operated and they have an opportunity to secure electricity from that source. I can not see how that can be done simply because Muscle Shoals is operated; I can see how it can be done if they go ahead and build their own power plants and distributing plants.

I have a telegram from the Public Utilities Commission of the State of Tennessee. I asked them at what price electricity was being generated in the city of Memphis by the power company or the distributing company now engaged in business there. To my surprise, they wired back and said that the generating cost of power at Memphis is 3.6 mills per kilowatt-hour. Including maintenance it costs 4.1 mills.

That is very cheap power, especially in view of the fact that the city of Memphis is at least 200 miles from the nearest coal mines that I know of. If power can be generated that cheaply at Memphis by any power company which has a plant which perhaps has been put in for five or ten years, any new plant, perhaps, could make it cheaper than that plant does. Therefore if the city of Memphis wants cheaper power there is no reason on earth why it should not get it, whether Muscle Shoals is operated or not. If it buys power from Muscle Shoals, either the Government or the city of Memphis or some combination of cities must build a transmission line, and, as I understand, being 150 miles away, a transmission line will cost not less than two to three million dollars. In addition to that, it will cost a good many millions of dollars to build a distributing plant in the city of Memphis, to say nothing of the great amount of inconvenience which will be had in the event a new plant is built in the city of Memphis, or in any other city, for that matter.

Mr. MCKELLAR. Mr. President, will my colleague yield to me?

The PRESIDING OFFICER (Mr. HARRIS in the chair). Does the Senator from Tennessee yield to his colleague?

Mr. TYSON. I do.

Mr. MCKELLAR. My colleague has given some very interesting figures about the cost of electricity in Memphis—4.1 mills, I believe, less than half a cent—and that includes depreciation and matters of that sort. As a matter of fact, the power company at Memphis is selling electricity to the general public at 10 cents a kilowatt. The spread is the difference between half a cent and 10 cents to the great body of consumers at Memphis, Tenn. Does not the Senator think that is too wide a spread between the cost of the current and the price to the consumer?

Mr. TYSON. Mr. President, as far as that is concerned, I do not know; it is impossible for me to state, not having all the facts before me. It looks to me as if it is a high price for power, a high price for electricity. I wish we could lower it. It seems to me we ought to lower it; but if we are paying too much, it is the Public Utilities Commission of Tennessee, it seems to me, that ought to see that it does get lowered. It is their job, and they ought to attend to it. I do not know whether they are doing their duty or not; but they are either failing to do their duty or they have been deceived in some way.

I assume that these gentlemen are honest. I believe they are. I believe they are fairly efficient. This thing has been going on not only in Memphis but all over my State. I should like very much to see electric light and power charges greatly reduced in the State of Tennessee, but I do not see how the operation of Muscle Shoals is going to do it.

Let us take the city of Nashville. The city of Nashville is paying 8.3 mills per kilowatt-hour for the power which they are buying at the gates of the city and then distributing. I consider that a very high price for wholesale power, and yet they seem to be paying it. If they can distribute power at a less price than they are distributing it now, which is about 9 cents for the average consumer, I can not understand why they do not build their own plant. They ought to do it if they can reduce the cost of power and the cost of electricity anything like what has been said by the Senators from Nebraska to be possible.

As a matter of fact, I am very confident that no city of any size in Tennessee or in Alabama or in Georgia will build a single municipal plant in order to get power from Muscle Shoals, because of the fact that they are not going to make the great outlay necessary for putting up a distributing plant; they are not going to go into debt for the purpose of building a transmission line and then driving out of business all of the people that are now in business there.

Take the city of Birmingham: I have information to the effect that a year or two ago they had two distributing systems in Birmingham. One was owned by private parties and the other was owned, I think, by the Alabama Power Co. The private distributing plant finally went out of business, because they could not sell power as cheaply as it was being sold by the Alabama Power Co.

Take my own town of Knoxville, Tenn.: We have coal mines within 30 miles of the gates of the city. I have bought coal laid down at the furnace for manufacturing purposes in the city of Knoxville for $1.25 a ton. That was good steam coal. You can buy good steam coal there to-day, laid down at the furnace, for $2 a ton. We can manufacture electricity in Knoxville at least 1 mill per kilowatt-hour cheaper than it can be manufactured in the city of Memphis; and yet, notwithstanding that fact, the city of Knoxville have not even considered the matter of putting up a municipal plant. It may be that they have exercised bad business judgment in not doing it, and yet they do not do it. So I am confident that Knoxville would not put up a municipal plant, and that is the only way in which the cost of power could be reduced to the consumer. They now pay 7½ mills per kilowatt-hour, wholesale. Of course, the cost of power to the consumer might be reduced 3 or 4 mills, but that would not be material, and nobody would consider the matter.

So, Mr. President, I believe that the Senator from Nebraska and every other one who feels that the operation of Muscle Shoals is going to reduce the cost of power to anybody except perhaps those who buy it wholesale is making a great mistake. I wish it could be so; and it may be that what has been brought out here in the Senate—the knowledge that they are getting power for 2 mills a kilowatt-hour in Ontario—may induce the people in these various cities to feel that they can put up a distributing plant and thereby reduce the cost of power to their citizens; but that is the only way in which it can be done unless the Government of the United States itself goes into the distributing business and distributes power all over that country. It can do it. I will admit that the Government of the United States, if it wants to go into the distribution of power to the consumer all over the country, in my judgment can do it cheaper than any corporation can do it, for the reason that it can get money at lower rates, and I believe it can have fairly efficient management.

But, Mr. President, if we undertake to distribute the power from Muscle Shoals to all of the various cities within transmission distance, we can see very well what an enormous outlay it would involve; and if we start in there it would have to go throughout the whole country ultimately, because if we start at Muscle Shoals there is no reason why we should not go as far as the limits of the country extend. If the Government goes into the business of giving cheaper power or electricity to the people in one section, it ought to do it in every section.

So I regret very much, Mr. President, that I am not able to agree with those gentlemen who think that the operation of Muscle Shoals is going to be of any great benefit to the people who live within transmission distance, except in so far as they are going to be able to get more power, and thereby have it better distributed, and through the fact that since there is more power to call on there is a greater amount of development and more power to be sold, and it may be possible to reduce the price, because there is more than can be sold; but as long as we have all the power that we can sell, and everybody is after it, as has been the case in the South for the last several years, I do not believe we are going to reduce the cost of power very much.

The Senator from Alabama [Mr. BLACK] a few days ago, in making his address, stated that he did not think there was any particular demand for that power. Mr. President, I think he made a very great mistake in that respect. I want to read just a short extract from the Commercial Survey of the Southeast, published by the Department of Commerce in 1927, page 113. It is shown there that in the 12-year period, from 1914 through 1925, manufacturing in the Southeast increased in greater proportion than for the United States as a whole, the percentage of increase in the value of manufactured products in the Southeast being 203 per cent, compared with 159 per cent for the country as a whole. Then it goes on to show the great increase in the amount of power, of kilowatt-hours used in those sections. It is stated that reports of the Geological Survey show that the output of power in the six States of North Carolina, South Carolina, Florida, Tennessee, Alabama, and Georgia increased from 3,820,281,000 kilowatt-hours in 1923 to 6,911,421,000 kilowatt-hours in 1927—in other words, almost double, or an increase of 78.6 per cent, compared with 46.8 per cent increase in the same period for the Nation as a whole.

So, Mr. President, that shows that we are in need of power down there; and in my opinion all of the power that can be generated at Muscle Shoals can be sold. Of course, it can not be sold in a day, because of the fact that it requires consumers as well as producers; and if an attempt were made to sell 220,000 horsepower at once it would perhaps be a little bit of a glut on the market. But it can be and will be absorbed, in all probability, in the course of one or two years, if made available for the manufacturers and the consumers in that section of the country, especially within transmission distance, which is 250 miles, which will take in the heart of the fastest-growing section of this country to-day.

Mr. President, I feel that we can get a great deal of money out of the operation of Muscle Shoals as a power proposition; and I want to show to the Senate the great possibilities of the amount of money that can be gotten out of operating Muscle Shoals and selling the power and selling it at a reasonable price, 3½ mills per kilowatt-hour. I am giving you an estimate made by Mr. Merrill, who is the secretary of the Federal Water Power Commission, and I think perhaps knows as much about power as any man in the country.

He shows, Mr. President, that with Dam No. 2 and the 60,000-kilowatt steam plant, on the basis of 3½ mills per kilowatt-hour for the primary power, 3 mills for part of the secondary power, 2 mills for another part, and 1 mill for still another part of the secondary power, we would have a total income of $4,500,000 a year just from that alone, and that the net income at the highest expense would be $1,657,000; that the maximum annual profit would be $3,759,000, and that the average annual profit would be $2,530,000.

If we go ahead and build Dams Nos. 2 and 3 and complete them, the average annual profit will be $3,591,000. If we should build Cove Creek Dam, as is provided in the Cyanamid bid, there will be a possibility of an average annual profit of $7,228,000.

So, Mr. President, it will be seen what an enormous amount of money could be realized if this plant were operated to its full capacity and the electricity sold at more reasonable prices than it is now being sold anywhere in Tennessee or Georgia or Alabama, so far as I know, wholesale. That enormous revenue could be used for the benefit of manufacturing fertilizers for the farmers.

That is an enormous amount of money—$7,000,000—and if it were used for the benefit of the farmers of the country, in my judgment, in the manufacture of fertilizer and helping to distribute it, it would be of incalculable value. Of course, we may not get that every year, but we will get an average, when the plant is run at full capacity, of from three to seven million dollars.

I do not want to take too much time, but I do want to say something about the Cyanamid bid.

Mr. BLEASE. Mr. President, I would like to ask the Senator a question for information.

Mr. TYSON. I yield.

Mr. BLEASE. I have listened very attentively to a good deal of the debate on this resolution, and am trying to learn something about the proposition. Does the Senator really believe that if this plant were operated and manufactured fertilizer it would bring fertilizers to the farmers of this country at any cheaper price?

Mr. TYSON. Mr. President, I doubt it very seriously. I want to be very frank about it. I do not know that it can be done. I think the only way in the world that we can find out—and this is my idea—is to make an experiment, to go ahead and try the matter out, and then we will be able to say what can be done, and not until then.

The farmers throughout this country feel that fertilizers can be manufactured at Muscle Shoals cheaper than the price at which they are now buying them. I doubt it very seriously. I talked to one of the experts in the Agricultural Department yesterday, and asked him whether under any process known to-day used in the most economical manner, we could make any reasonable reduction in the price of fertilizers to the farmer. He admitted to me that he doubted very seriously whether we could reduce the price of fertilizers more than $1 a ton. That is not much; that is very little. But he does not know; he has had no opportunity to do anything to enable him to find out on an experimental basis.

That is why I say that this resolution does not go far enough. I know very well that you can not manufacture in a small way and manufacture economically. You have to do it in a big way. You can reduce the price of any product anywhere from 10 to 20 per cent by manufacturing it in a large way, and fertilizers have to be manufactured by somebody in a large way in order to determine just what the cost of those fertilizers is.

We have to have a fund to use, and this would bring in the fund without any extraordinary expense to the Government. I have no prejudice for or against any process. I have heard the cyanamide process discussed here, and I have heard the synthetic process discussed. As a matter of fact, I do not know very much about either one of those processes, and from the amount of questions that have been asked in the Senate in

the last two weeks about these matters, I doubt very seriously whether anybody in the Senate, with one or two exceptions, does know anything about it.

I do not think it is necessary for us to know much about it. What we want to do is to put it in the hands of experts and let them do the very best that can be done. We can not undertake to go into all of the chemical details here as to what is nitrogen or what not. What we have to do is to put the matter into the hands of men who can properly handle it, and handle it in the most economical way, and then let them report back.

I want to have an opportunity to have an experiment on a large scale. I believe that Muscle Shoals is about as good a place to have that experiment as any other place. We own the property there; we have all the buildings, all the paraphernalia. It is true we have no very good plant, but if we are going to erect a plant anywhere, why should we not erect one at Muscle Shoals and try the experiment out there? Then the farmers of the country will realize that we have kept faith with them. If we do not put a plant of some size at Muscle Shoals and try the matter out there, the farmers of this country will always say that we did not keep faith with them. It has been said that the cyanamide process is obsolete. I will say this for the cyanamide process, without knowing anything about it, that no process can be obsolete that is now producing as much nitrates or as much ammonium or phosphates as is the cyanamide process. That process evidently is a success. Whether or not it is the most successful process I do not know.

It has been said that the synthetic process is the most successful of all the processes. That may be true, I do not know, but the only way by which we may know is for us to try it out, to put this experiment upon a large enough scale of production that we can see what can be done, and at what cost it can be done. Otherwise we never will know.

There are a great many different amendments suggested to this resolution. I have offered two. I have suggested one in regard to the power proposition. My amendment provides for the leasing of the power plant and the sale of the power to the very best advantage by the Secretary of War. Failing that, that he is to operate and sell the power to the very best advantage.

In view of the fact that the Senator from Mississippi has his amendment pending, and it is so much like the one I have on the table, I am going to support the amendment of the Senator from Mississippi, and I intend to vote for his amendment when it comes up. I do not know what my course will be after that, if it should be voted down.

I am deeply interested in what is known as the Willis-Madden bill. I believe that if we do not pass the Norris resolution we will have the Willis-Madden bill before us. It is going to be pressed at this session of Congress, in my judgment, if we do not pass the Norris resolution, amended or unamended. I believe that those gentlemen who are behind that bill are going to make a great effort to pass it in the House, and if it does pass there, of course, it will come over to the Senate.

I am not sure that the cyanamide process can not be made a success. As I said, I think at the place it is being used it is a success, and whether or not it can be made a success at Muscle Shoals remains to be seen.

I want to say something now about the Willis-Madden bill. We have heard a great deal about producing fertilizers at Muscle Shoals in large quantities. The public at large believes that under the Willis-Madden bill whatever subsidy it might give to the Cyanamid Co. would result in their producing fertilizers on a large scale. I say that that might be done. It is possible that fertilizers might be produced on a large scale by the cyanamide process under the Willis bill, but there is nothing in it that guarantees that. The only thing in the world that it guarantees is that after they have taken all the power that can be produced at Muscle Shoals, that can be produced after Dam No. 3 is built, after they have come up into Tennessee and taken the very best that we have up there, after they have gobbled up practically everything that is worth having in the Tennessee Basin, then they are willing to build a plant that will have a capacity of 10,000 tons a year. It will be three years before they have to build that. At the end of the third year they must have that ready. Then they produce 10,000 tons, and they put it on the market at cost plus 8 per cent, and if they can sell 10,000 tons for three successive years at cost plus 8 per cent, then they will build another addition to the plant, which will have a capacity of 10,000 tons. Then, after they have sold the 20,000 tons for three successive years at cost plus 8 per cent, they will build another plant. So that there will be three years to start with before they will have to build anything; there will be six years before they will have to build a second plant; and we may never get a second plant. I doubt seriously, Mr. President, whether they ever will be able to manufacture nitrates and sell them at the rate of 10,000 tons a year at 8 per cent above cost.

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

Mr. TYSON. I yield.

Mr. HEFLIN. That is what I meant yesterday when I said that I would not support the Willis-Madden bill as it now stands. I want to amend it in many particulars, and the Senator is now mentioning some of the particulars in which I want to amend it. I am willing to join with the Senator and any other Senator to perfect that bill and make those people do what we want down there.

Mr. TYSON. I sympathize most deeply with the Senators from Alabama in their desire to have a great fertilizer plant at Muscle Shoals. I think they are entitled to it. I think the State of Alabama is entitled to have some consideration at the hands of Congress, because of the fact that the water that goes down the Tennessee River ought to be Alabama's water to a certain extent. It has more interest in that water from the time it reaches Alabama until it leaves it than any other State. It owns the bed of that river, and I think it ought to have special consideration. It is true the Government built this great dam there for war purposes in time of war, and for the manufacture of fertilizer in time of peace. Now they are proposing to go up and take another dam, without the permission of Alabama, and use all the water as they deem best. I think Alabama has some rights there. They also want to go up and take what we have in Tennessee, and I think Tennessee has some rights up there, too, and I am going to fight for those rights right here on the Senate floor whenever it is necessary.

Mr. President, I believe this plant should be built there. But to go back to the amount of fertilizer that can be produced, just think of 10,000 tons of nitrate. It is proposed with that 10,000 tons to make 40,000 tons of fertilizer. It will take 18 years, under the terms of that contract, before they ever come up to 48,000 tons. We are talking about wanting a lot of fertilizers for the farmers of the country, and it will be 18 years, under the terms of the Willis-Madden bill, before there ever can be 48,000 tons unless they want us to have it, and we can never get more than 10,000 tons for the reason that if they should fail to sell 10,000 tons in any one year at 8 per cent above cost, then they have to keep on and start in and have three successive years, and it might be a hundred years before they would ever have to make more than 10,000 tons of nitrates.

Not only that, but they are only called on to keep 2,500 tons on hand. Whenever they can not sell it at 8 per cent above cost, 2,500 tons is all they are required to keep on hand.

Mr. BLACK. Mr. President, in the Military Affairs Committee an amendment has been agreed to, according to my understanding—and I do not care to discuss the Madden bill now—to meet the exact point which the Senator suggests, about waiting over a long period of time, providing a recapture clause in case the matter extends over a long period. I think the Senator and I are very much agreed on the necessities of the bill.

Mr. TYSON. There is one other question I want to touch on, because the Willis-Madden bill has been discussed here by Senators, and many of them appear to be in favor of it. I want to show what a delusion and a snare it is. I have shown, perhaps, enough already, as far as that is concerned; but under that bill there will be the greatest subsidy men ever had in this country. I showed that there would be $7,000,000 profit on the power at 3½ mills per kilowatt-hour. They have to have 8 per cent profit on all of the fertilizers that they manufacture. If they can not sell it at 8 per cent profit, they do not have to sell it at all; and they can get seven and one-half million dollars a year of profit from the power alone with an investment of $5,400,000 that they have to put in the steam plant. In other words, they are making 150 per cent a year, according to the statement and the report made last year by the Committee on Military Affairs of the House.

Let us go up into Tennessee and see what they are doing there. Not satisfied with taking Muscle Shoals, not satisfied with gobbling up the greatest single dam in the United States, they insist upon having Dam No. 3 in the State of Alabama 15 miles above there, where they insist upon having 250,000 more horsepower installed for their benefit. Then they go up into Tennessee and have the great Cove Creek Dam built for their benefit, which will produce 200,000 horsepower more. In other words, the sum total, the maximum of installed horsepower, under the terms of the Willis-Madden bill, will be 1,220,000 horsepower, from which they can get from $7,000,000 to $10,000,000 of profit every year, and we are practically

giving it to them for 4 per cent and taking 100 years to get our money back at that. If anybody is satisfied with that sort of proposition, then I can not see how he can say he is doing anything in the interest of the people.

The Willis bill provides that they shall have Dam No. 3, and that dam has to be built immediately. But the Government of the United States, under the terms of the bill, has five years within which it can go into the State of Tennessee and build a reservoir at Cove Creek which will cost the Government $37,000,000. They have five years within which to determine whether they will go or not, and in the event they do not choose to go, then the company has three years within which to determine whether it will build Cove Creek Dam. In other words, we in Tennessee, under the terms of the Willis bill, are compelled to wait perhaps eight years before we can get our power site developed.

Mr. President, I think the Cyanamid Co., if it wants to do the fair thing, if it really means business, should be satisfied if it got even Dam No. 2, because it would then be receiving an enormous subsidy. We would be giving away twice as much as can be produced at Dam No. 2, which is the most extraordinary proposition I have ever known sensible men even to consider. I can not understand how men can consider such a proposition. It is the most monstrous thing I have ever known sensible men even to think about.

I have endeavored to advise the Senate of the enormity of the proposition, and I hope that every Senator will read the report, after long hearings, made on page 1069 of the hearings before the Committee on Military Affairs, House of Representatives, Sixty-ninth Congress, second session. If anyone can come here then and vote for the bill conscientiously, I submit that he has a very different kind of mind than mine.

Here we are going up into Tennessee. That is what I object to especially. If they will go down to Muscle Shoals and give us a fair proposition, taking all the power necessary, we can develop at Muscle Shoals all the power that they will require even if we use the electric process in making phosphoric acid. I am informed that we do not need any electricity to make phosphoric acid. We can take sulphuric acid and put it on phosphate rock and get phosphoric acid. There is a camouflage in that thing. They can do that and thereby increase the cost of the fertilizer, and increase it to such an extent that they can not sell it, and then they will not have to make any more.

The Senator from Alabama said to me the other day, in reply to a question, that it would take 180,000 horsepower to make the phosphoric acid required. As I understand it, we have here two processes, known as the wet process and the electric process. If we use the wet process we do not have to use a single kilowatt of power in making phosphoric acid. Notwithstanding the Federal water power act provides that anyone who gets a permit has only three years in which to determine whether he will go ahead and build a dam under the permit, yet the bill provides further that they are to go up into my State and have five years within which they may determine whether or not they will take a permit on three great power sites in my State which will produce 100,000 horsepower more. Think of it, Mr. President. If all of that power should be given to these people they will have 55 per cent of the installed power of all the States of Virginia, North Carolina, South Carolina, Georgia, Alabama, and Tennessee in the year 1926. Talk about power trusts. We have heard Senators speak of power trusts and of being afraid that a power trust would gobble up something, and yet here are Senators deliberately considering the question of giving the greatest amount of power that any corporation now owns or operates to a power trust.

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

Mr. TYSON. I yield.

Mr. BLACK. I think the Senator is mistaken about that. The Alabama Power Co. now has more power alone than the total primary horsepower of all these dams put together. Of course, I do not mean installed.

Mr. TYSON. I am speaking about installed horsepower.

Mr. BLACK. I am talking about actual primary horsepower. Cove Creek would only give 20,000 horsepower according to the testimony of the engineers.

Mr. TYSON. I am basing my statement on the report made by the Committee on Military Affairs of the House last year, on which we have to act.

Mr. BLACK. That is installed horsepower.

Mr. TYSON. Yes; but they say that 78 per cent of that horsepower will be available all the time. We have to consider, when we get Cove Creek finished, Dam No. 3 finished, and all these other things finished, that every time we have a dam constructed we store that much more water, and we double and treble the value of many of the water-power sites below, and the farther down we are the more benefit we get or can have.

Here are 180,000 horsepower that they can use if they want to—or as much as they please of it—in the manufacture of the cyanamide, and they can charge it up as cost and will never have to make more than 10,000 tons of fertilizer from now until judgment day.

Mr. President, I have tried to put before the Senate my viewpoint of the situation. I have done it rather unsuccessfully, because I have not been allowed to proceed in an orderly way. I regret exceedingly that I have not been able to present the matter in the order in which I would like to have done, but I hope I have done it in such a way as to show that I am for any process that can make fertilizer at Muscle Shoals in an economical way and so that the farmers will get it at a reasonable price.

I have prepared an amendment which I intend to offer to the Norris resolution which provides that when the best process is found by the Secretary of Agriculture under the experimentation which we are now conducting that immediately he shall undertake to lease the plant at Muscle Shoals under certain conditions, so as to manufacture fertilizer as cheaply as possible and shall sell it upon a reasonable basis; and failing in that, the Secretary of Agriculture himself shall erect a plant or change over the present one and that he shall manufacture at least 5,000 tons of nitrates by 1931 and 5,000 additional tons of nitrates each year thereafter, provided the same can be sold. I have that amendment lying on the table. I expect to offer it at the proper time. I believe that the small processes which we have will not amount to much and that unless we go on to a large scale we never will know whether we can produce fertilizer at Muscle Shoals in a cheap way or not. It has its advantages. Later on it will have more advantages. When these rivers are made navigable coal can come down there and we can transport all the products made at Muscle Shoals to all parts of the country by water. It seems to me, if we have the right process, there is no reason why Muscle Shoals should not be one of the big fertilizer plants of the country.

Mr. BLACK. Mr. President, I merely wish to suggest, in line with the statement of the Senator from Tennessee that they could use the process which is the cheapest, that a great deal has been said about Doctor Cottrell and what he thought about the cyanamide process. I want to read in connection with that statement what Doctor Cottrell said about it yesterday:

> Doctor COTTRELL. At the present time cyanamide nitrogen sells in the market at a little lower price than nitrogen in other forms. You can buy it at a lower price, generally, than you can the other forms.
>
> Mr. GARRETT of Texas. Why?
>
> Doctor COTTRELL. Because it can be produced in that form more cheaply than it can in the other forms, and the cyanamide plants are operating and they are willing to operate on that market as their chief market.

A little later he was asked this question by Congressman JAMES:

> You said a little while ago that to-day the cyanamide people are underselling other people, and you included the synthetic ammonia process, did you not?
>
> Doctor COTTRELL. It is in the other forms of nitrogen.
>
> Mr. JAMES. They are underselling those?
>
> Doctor COTTRELL. Yes, sir.

I just wanted to call attention to that statement of Doctor Cottrell's as relating to an obsolete process and one that is now out of date.

Mr. HARRIS. Mr. President, I wish to remind the Senator from Tennessee that the principal reason the Government is developing Muscle Shoals for the manufacture of nitrates, used to make munitions in time of war and fertilizer in time of peace, is because our country is the only one in the world of any size that has no such plant.

During the war we were entirely dependent upon the nitrates purchased from Chile and it took one-fourth of all our tonnage in order to supply munitions to our soldiers and sailors.

In peace times we are to manufacture fertilizer to be sold to the farmers at cost and experiment in the manufacture of fertilizer with the hope of making it much cheaper than at present.

By using this plant to make fertilizer in time of peace it would enable our Government to use this plant to manufacture munitions any day our country should declare war. It is not only a help to the farmer, but a protection to our Government should we become involved in war, which I pray God may never be again.

Senators on the other side of the Chamber who are opposing the development of Muscle Shoals are free in their criticism of this legislation because they claim it puts the Government in business. Every year our Government appropriates millions

of dollars for experiments in making arms and munitions, but none of these Senators ever criticize the Government for doing that.

Some Senators seem to criticize everything that is suggested here that will benefit the farmers, who are in terrible financial condition. Some of them claim that the Government can not manufacture fertilizer cheaper than the fertilizer companies. If these fertilizer companies are not afraid of our Government cheapening fertilizer to the farmers, why is it they and the Water Power Trust have kept a lobby here for years trying to defeat Muscle Shoals legislation?

I think the water power and fertilizer companies have shown poor judgment in trying to destroy the Muscle Shoals legislation, which is the hope of the farmers; for the more prosperous the farmers are the more prosperous will be these companies. When the farmer prospers everything else is benefited.

Congress should adopt this legislation at this session. It is an outrage that it has been delayed so long. Congress has helped the manufacturers, the railroads, and many others, and it is time something was being done for the farmer.

I ask permission to have printed in the RECORD in connection with my remarks a letter from the Secretary of the Navy and a letter from the Ordnance Department of the Army with the accompanying statement, showing the Government activities in the manufacture of arms, munitions, and so forth.

There being no objection, the matter referred to was ordered to be printed in the RECORD, as follows:

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington, February 29, 1928.

MY DEAR SENATOR: There is forwarded herewith a list of articles manufactured at the various navy yards. In addition to this list, the following articles are manufactured by the Navy:

Guns and mounts complete and binoculars at Washington Navy Yard.

Torpedoes and primers at Newport.

Powder at Indianhead.

At the naval aircraft factory, Philadelphia, are manufactured spare parts for old types of planes, floats, aircraft trucks, catapults, experimental aircraft accessories, confidential or secret installations of aircraft, and one or two experimental aircraft per annum.

At the naval clothing factory, Naval Supply Depot, Brooklyn, N. Y., clothes stops; jumpers, blue, dress; overcoats; trousers, blue, dress.

At officers uniform shop, Naval Supply Depot, Brooklyn, N. Y., all items of outer uniform for officers and chief petty officers, except shoes and equipment, which latter items are, however, carried for sale.

Marine Corps Depot of Supplies, Philadelphia. The Marine Corps manufactures for its own use the following:

Clothing, including uniform coats; overcoats; trousers; drawers, knee; pajamas; leggins; flannel and cotton shirts. Tentage, including tent poles and tent pins. Equipment, including infantry packs; leather belts; clothing bags; hand carts; dispatch cases; barracks chairs; field cots; field desks; trunk lockers; flags; target frames; mosquito nets; field ovens; buckets; garbage cans; water cans; sheets; pillow cases; clothing rolls; mattress covers; clothing boxes; packing boxes; signboards, recruiting; bake pans; mess benches; mess tables; machine-gun carts; and steel lockers.

There are probably other activities not herein mentioned, but can not be thought of just at the moment.

Sincerely yours,

CURTIS D. WILBUR.

Hon. W. J. HARRIS,
United States Senate, Washington, D. C.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ORDNANCE,
Washington, February 29, 1928.

Hon. WILLIAM J. HARRIS,
United States Senate, Washington, D. C.

MY DEAR SENATOR: In compliance with your telephone request there are transmitted herewith data showing the ordnance establishments and the functions of each, together with the amount of money spent in the fiscal year 1927 at each of the manufacturing arsenals.

If any further information is required this office will be pleased to send it to you.

Very truly yours,

C. T. HARRIS, Jr.,
Major, Ordnance Department, United States Army,
Executive Assistant.

List of Ordnance establishments, their functions, and date acquired

Establishments	Functions	Date acquired or established	Ordnance funds expended in the fiscal year 1927
Manufacturing arsenals:			
Frankford Arsenal, Philadelphia, Pa	Manufacture of small-arms ammunition, all types; metal components of artillery and trench warfare ammunition; fire control and range finding instruments, including optical parts; manufacture and storage of gauges for small-arms ammunition, fire-control instruments, and drop bombs; reserve storage for fire control, optical and timing instruments; issue of small-arms ammunition and fire-control instruments.	May 27, 1816	$2,269,731.00
Picatinny Arsenal, Dover, N. J	Experimental ammunition development plant; manufactures powder, high explosives, and metal components, and loads ammunition and bombs; development station for military pyrotechnics. Storage of explosives and ammunition.	—— —, 1880	1,608,929.00
Rock Island Arsenal, Rock Island, Ill	Manufactures artillery matériel, including gun carriages, limbers, and caissons; tanks and tractors. Has plant facilities for the manufacture and repair of small arms and machine guns. Reserve storage for artillery 6-inch caliber and smaller; for all small arms, machine guns, and other Infantry weapons; tanks and tractors. Issues ordnance supplies to troops of the Fifth, Sixth, and Seventh Corps Areas, and ammunition for the Sixth and Seventh Corps Areas.	July 11, 1862	1,016,351.00
Springfield Armory, Springfield, Mass	Manufactures United States rifles, spare parts, appendages and bayonets; repairs all types of small arms, including rifles, revolvers, machine guns, and automatic rifles; inspects and stores all gauges for small arms, including gauges for machine guns, automatic rifles, pistols, and revolvers; inspects ordnance materials purchased at Colt's Patent Fire Arms Manufacturing Co., and other plants, and maintains in storage complete equipment for manufacture of caliber .45 pistols.	Apr. —, 1778	606,856.00
Watertown Arsenal, Watertown, Mass	Manufacture of gun forgings, seacoast gun carriages, railway mounts, and projectiles; steel, iron and nonferrous castings; stores and issues parts for seacoast artillery carriages and target material. Operates testing laboratory and is location of the Ordnance School.	Feb. 8, 1816	643,343.00
Watervliet Arsenal, Watervliet, N. Y	Manufacture of light and heavy cannon and accessories	—— —, 1813	371,538.00
Nitrate plants, Muscle Shoals, Ala	Maintenance of plant in stand-by condition for manufacture of ammonium nitrate by the cyanamide process. Sixty thousand (60,000) kilowatt steam-electric power plant under lease to and in operation by the Alabama Power Co.	Oct. 9, 1917	73,121.00
Proving grounds, Aberdeen Proving Ground, Md	Proof-firing of guns and carriages; acceptance and development firing of artillery ammunition and aerial bombs; acceptance and development firings of small arms and small arms ammunition and miscellaneous experimental work; development tests of tanks, tractors and trailers; storage, repair and maintenance of artillery, tractors, and tanks.	Dec. 14, 1917	660,797.00
Depots:			
Augusta Arsenal, Augusta, Ga	Storage and issue of ordnance matériel other than ammunition for the Fourth Corps Area; makes minor repairs to ordnance matériel.	Nov. 19, 1826	
Benicia Arsenal, Benicia, Calif	Stores and issues ammunition and other supplies for the Ninth Corps Area, and collects and forwards ordnance supplies for the Army insular possessions and Alaska. Overhauls and repairs ordnance equipment of troops in Ninth Corps Area.	Oct. 10, 1862	
Charleston Ordnance Reserve Depot, Charleston, S. C.	Storage of war reserve ammunition; issue of ammunition to Fourth Corps Area	June 3, 1918	
Curtis Bay Ordnance Reserve Depot, Curtis Bay, Md.	Permanent storage of war reserve ammunition and components. Stores and issues ammunition for Third Corps Area and Fifth Corps Area.	Oct. —, 1917	
Delaware Ordnance Reserve Depot, Pedricktown, N. J.	Storage of war reserve ammunition	Oct. —, 1918	
Erie Ordnance Reserve Depot, La Carne, Ohio	Storage and maintenance of tractors, automotive vehicles, and heavy artillery. Proving facilities are available in case of emergency.	Mar. 25, 1918	

List of Ordnance establishments, their functions, and date acquired—Continued

Establishments	Functions	Date acquired or established	Ordnance funds expended in the fiscal year 1927
Depots—Continued.			
Ogden Arsenal, Ogden, Utah	Storage of war reserve ammunition and components, and storage and issue of ammunition for the Ninth Corps Area, Alaska, and insular possessions.	Mar. 6, 1920	
Pig Point Ordnance Reserve Depot, Pig Point, Va.	Storage of war reserve ammunition and components	Nov. 2, 1917	
Raritan Arsenal, Metuchen, N. J	Stores, issues, and maintains ordnance supplies for troops of the First, Second, and Third Corps Areas; reserve storage for ammunition and components; issues ammunition for First and Second Corps Areas. Location of Ordnance Specialists' School.	Oct. —, 1917	
San Antonio Arsenal, San Antonio, Tex	Stores and issues all ordnance supplies and ammunition for the Eighth Corps Area; repairs field guns, optical instruments, and small arms.	Mar. 8, 1859	
Savanna Ordnance Reserve Depot, Savanna, Ill	Storage of artillery vehicles, tractors, ammunition, ammunition components, and sodium nitrate; overhaul and repair of tractors: proving facilities are available in case of emergency.	July 23, 1917	
Wingate Ordnance Reserve Depot, Fort Wingate, N. Mex.	Storage of bulk high explosives	Nov. 28, 1918	
District offices, Baltimore, Birmingham, Boston, Bridgeport, Buffalo, Chicago, Cincinnati, Cleveland, Detroit, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco.	For development of industrial war plans of the Ordnance Department and to maintain contact with industries.	May 17, 1922	
Activities under partial control of Ordnance Department:			
Hawaiian Ordnance Depot, Honolulu, Hawaii	Stores, issues, and maintains all ordnance supplies in Hawaiian Department	Sept. 25, 1916	
Panama Ordnance Depot, Corozal, C. Z	Stores, issues, and maintains all ordnance supplies in Panama Department	Sept. —, 1916	
Philippine Ordnance Depot, Manila, P. I	Stores, issues, and maintains all ordnance supplies in Philippine Department	—— —, 1898	
9 corps areas	Charged with the supervision of all functions assigned thereto by Army Regulations, namely: The supply, inspection, maintenance, and improvement of ordnance within the corps area or department and under the jurisdiction of their commanding generals.		
Field Artillery School, Fort Sill, Okla	Has certain responsibilities with reference to supply, inspection, and maintenance of ordnance matériel; also technical liaison for ordnance design.		
Infantry School, Fort Benning, Ga	do		
Edgewood Arsenal, Edgewood, Md	Chemical ammunition assembly plant		
Tank School, Camp Meade, Md	Has certain responsibilities with reference to supply, inspection, and maintenance of ordnance matériel; also technical liaison for ordnance design.		
Storage sections in general reserve depots:			
Columbus General Reserve Depot, Columbus, Ohio	Storage and distribution of various kinds of ordnance matériel		
Little Rock Air Intermediate Depot, Little Rock, Ark.	do		
New Cumberland General Reserve Depot, New Cumberland, Pa.	do		
New Orleans General Reserve Depot, New Orleans, La.	do		
Schenectady General Reserve Depot, Schenectady, N. Y.	do		

HOUSE BILLS REFERRED

The following bills were severally read twice by their titles and referred to the Committee on Pensions:

H. R. 4115. An act for the relief of Winfield Scott;

H. R. 4116. An act for the relief of W. Laurence Hazard;

H. R. 4117. An act for the relief of Harriet K. Carey; and

H. R. 10141. An act granting pensions and increase of pensions to certain soldiers and sailors of the Regular Army and Navy, etc., and certain soldiers and sailors of wars other than the Civil War, and to widows of such soldiers and sailors.

SURVEY OF AMMUNITION STORAGE

The PRESIDING OFFICER (Mr. HARRIS in the chair) laid before the Senate a communication from the Acting Secretary of War, transmitting, pursuant to law, a report of the proceedings of the joint board composed of officers of the Army and Navy to survey ammunition storage facilities and their points of location, which was referred to the Committee on Military Affairs.

RECESS

Mr. FESS. Mr. President, in accordance with the agreement entered into earlier in the day, I move that the Senate take a recess until 12 o'clock noon on Monday.

The motion was agreed to; and (at 3 o'clock and 15 minutes p. m.) the Senate, pursuant to the agreement previously entered into, took a recess until Monday, March 12, 1928, at 12 o'clock meridian.

HOUSE OF REPRESENTATIVES

SATURDAY, *March 10, 1928*

The House met at 12 o'clock noon and was called to order by the Speaker.

The Chaplain, Rev. James Shera Montgomery, D. D., offered the following prayer:

O Thou who givest to all men liberally, diminish all evil desire and give mastering strength to the one impulse of pure love. The tender and the mighty God longs for us to have the best. Oh, how wonderful it is for us to have visions, how great it is to do, but the grandest of all is to be. O take the indifferent and the chilled hearts of men and warm them; take their determined wills and soften them. Banish all unworthy fear; and may every to-morrow bring them into a new and beautiful relationship with Thee. We must serve Thee before we can be glad. Turn our frailties into strength and our disobedience into loyalty. Let us hear the loving litany of the pilgrim's chant. Be before us, with us, and after us. In the name of our Savior. Amen.

The Journal of the proceedings of yesterday was read and approved.

DATE OF FIRST SESSIONS OF CONGRESS

Mr. LAGUARDIA. Mr. Speaker, I ask unanimous consent to address the House for one minute.

The SPEAKER. The gentleman from New York asks unanimous consent to address the House for one minute. Is there objection?

There was no objection.

Mr. LAGUARDIA. Mr. Speaker, after the vote on the resolution yesterday and following the advice of the wise men of Congress, I have introduced a bill this morning in keeping with the provisions of the Constitution which would change the date of meeting of the first session of Congress to March 4, following the election on the first Monday of December. This would do away entirely with the lame-duck Congress, and I hope to have the sincere support of the gentlemen who urge that as a remedy instead of a constitutional amendment.

Mr. KVALE. Mr. Speaker, I ask unanimous consent to address the House for three minutes.

The SPEAKER. Is there objection to the request of the gentleman from Minnesota?

There was no objection.

Mr. KVALE. Mr. Speaker, I had planned to introduce a bill like the one introduced by the gentleman who has just preceded me. But when I went to confer with my good friend the gentleman from New York [Mr. LAGUARDIA] about some points in my bill I found to my surprise and pleasure that he was just finishing the drafting of his bill. Hence, I shall not introduce any bill but give my wholehearted support to his bill.

The majority floor leader [Mr. TILSON] has stated during the discussion on this resolution that Congress can meet on March 4 if it passes a law fixing that as the date for convening. That is true. Then I ask, Will the majority floor leader use his power in this House to have the bill just introduced enacted into law?

Will there be a need for an early session of the Seventy-first Congress? In my humble judgment there will be an urgent need for it. The House Agriculture Committee is meeting these