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SPEECH DELIVERED BY EDWARD N. HURLEY, CHAIRMAN  
OF THE UNITED STATES SHIPPING BOARD, AT DEL-  
MONICO'S, NEW YORK, ON THE EVENING OF  
MARCH 26, 1918, BEFORE THE NATIONAL  
MARINE LEAGUE OF THE U. S. A.

If by the exercise of magic a bridge could be thrown across the Atlantic over which our armies, their artillery and supply trains could move rapidly and unhampered to the battle lines in France, would any military man in Berlin, Vienna, Rome, Paris, London or Washington have any doubt but that the world would be made safe for democracy before the year goes out? We have the men, we have the guns, we have the supplies. But without means of getting them to the front we might as well be without them. And unless we get our men to the battle line we will not win this war.

So it all comes back to ocean transportation—to the vital need of ships. Fail there and we fail utterly. Upon the Shipping Board has devolved the responsibility of supplying this need, and supplying it under the most extraordinary conditions that ever existed,—supplying it at the most crucial period of the war's history, at a time when every other industry is being taxed to its utmost capacity in the matter of materials and labor to provide war necessities. The problem of providing tonnage, such as is required by the exigencies of the existing situation, would in itself be an enormous task, even in normal peace times. The difficulties are quadrupled when all branches of the military service are struggling for enlargement, struggling for the same materials and labor, and when we must, at the same time, give unprecedented aid to the Allies, both in furnishing labor to them for the manufacture of what they need in this country, and in furnishing them materials.

The handicaps have been many. We were not a maritime nation. Our flag had almost vanished from the seas, and with the exception of a few widely scattered shipyards, merchant marine construction had

almost become a lost art with us. Then came this sudden call to outdo the rest of the world in the upbuilding of a merchant marine; a call coming at a moment when the Navy was undergoing the greatest expansion in its history—when most, if not all, of the established yards were feverishly engaged in rush construction on dreadnaughts, destroyers, submarines, fuel ships, tenders and other auxiliary craft, and when munition makers were absorbing that part of skilled labor which had not been called to Government navy yards or private ship-building plants. So it was a case of not only working from the ground up, but of first securing the ground upon which to make a start, some of it marsh land which had to be filled in before launching ways could be laid. Therefore we who are engaged in the work appreciate the magnitude of the task. I doubt if its magnitude is generally realized. I am not here to emphasize that magnitude—I am not here as an optimist glorifying an outcome, I am not here as a pessimist saying the task cannot be accomplished. I am here to tell you of the situation as it is—to deal with facts as they exist—to lay all of our cards upon the table—and face up.

It is only recently that America awoke to the vital need of ships. At a belated hour came the realization that constant supplies must go to our boys already on the firing line, that we have a numerous army in training camps and millions yet to be called to the colors—that without ships we can neither keep up the line of supply nor get our new armies to the front. So there is a nervous tension and a spirit of impatience is extant among us. You sense it everywhere. I hold no brief for our long years of neglect; have no apologies to make for the causes that led to this condition—for I had no part in their making. But I wish to remind you, gentlemen, that ships are not built overnight. You cannot order a ship as you would order a suit of clothes and expect it to be ready for you in a couple of weeks. And please keep in mind this basic fact:

When we took hold of this job of shipbuilding, we found there was no shipyard in existence with which we could place an order. The old yards, with their trained force of shipbuilders, were filled to capacity. Seventy per cent. of their space was taken by the enlarged naval program. The remainder of the space was taken by the orders which had been placed by American owners, and by foreign owners, who, pressed for more ships, had filled the yards of America to overflowing.

We were faced with the necessity of creating an entirely new industry. We had to undertake a job that would have daunted anyone but America. We had to locate on waste ground many new shipyards

if we were to meet the need for constructing new ships. This was the first, and the biggest part of the job that faced us. It is easy to build ships if you can go to a trained shipbuilder, who has a well-established yard, with an experienced force of riveters, carpenters and caulkers, and place an order with him. There was no yard to which we could go. We had to establish the yards first, get the shipbuilders to take charge of them, and train the men to build the ships.

There were 37 steel shipyards in America at the time of our entrance into war. We have located 81 additional steel and wood yards, while 18 other yards have been expanded. Does America realize what this job means? Does it realize what a tribute is paid to its own initiative in this achievement?

We are building in the new and expanded steel yards 235 new steel ship ways, or 26 more than at present exist in all of the steel ship yards of England. If we had been content with doing the job in a small way, we might have built a few new yards, and added a little to our capacity. A few ships might have been finished more quickly; but it was the spirit and will of America to do the job in a big way, and the judgment of the country will be vindicated by the results when all these new ways are completed and are turning out ships. Many of these ways have actually been finished. The new industry we have created will make America the greatest maritime nation in the history of the world.

It took Germany forty years to build up her military machine. In less than eight months we have built up a shipbuilding machine, which, when it gets into full swing, will defeat the military machine of Germany.

It took Henry Ford, with all his genius for organization and standardization, sixteen years in which to develop his enormous production. It has required twenty years for the United States Steel Corporation to develop its activities to the point where they represent an organization, one-half as large as has been undertaken by the Emergency Fleet Corporation.

The American Government, backed by the American people, has undertaken a far mightier job and will put it through.

Struggling against something that cannot be avoided is more baffling than struggling against something that can be. You can appeal to striking men to go back to work, but you can make no appeal against zero weather. We did what we could. We told the new shipyards to go ahead and use dynamite in locating their pilings. The men in those new yards fought the bitter winter. They had the same spirit, and demonstrated the same pluck and unselfishness as the men in the

trenches. And they have virtually completed the job of building America's new shipyards—the new yards that will make us the greatest shipbuilding nation.

It has been an uphill struggle. I am willing to confess there have been times when we have been discouraged, not at the magnitude of the task, but through a doubt of human ability to accomplish the stupendous work in the short time allowed.

But we have had our moments of elation when we have felt that we are making progress. The record made by the Skinner & Eddy Company of Seattle is a case in point. That company laid the keel for an 8,800-ton vessel, which was launched in 64 days. She was delivered to the Fleet Corporation on January 5 and started on the first voyage on January 14. This record accomplishment shows what can be done in live, wide-awake efficient American shipyards.

Then a few days ago we received a telegram from the Moore Shipbuilding Company of Oakland, Cal., announcing the successful launching of one of their large vessels. Twenty minutes later we received another telegram from the same company announcing the launching of a second ship of the same type, and forty minutes afterward a third telegram saying that a third vessel of similar character had gone overboard. This was the record of one American shipyard. The launching of three 9,400-ton vessels in a single afternoon—an accomplishment which I believe is unrivaled in the world's annals of shipbuilding.

There are two methods for computing the construction of tonnage to show what is accomplished. One is by showing the tonnage in the water. The other is by showing the tonnage under construction. But when a great many ships are put under construction at the same time, the question to be asked is, how are they all progressing; how near to completion is the vast program. Here is the answer.

The total amount of our steel construction on March 1 was 8,205,708 deadweight tons. This is made up of 5,160,300 deadweight tons under contract with the Emergency Fleet Corporation, and 3,045,408 deadweight tons of requisition vessels.

Of this total steel construction, 2,121,568 deadweight tons, or approximately 28 per cent, has been completed. That means that in addition to the building of our big new yards we have also been building ships. That is, the program for steel ships has advanced 28 per cent, toward completion. Of the amount of steel ships under contract and under requisition, 655,456 deadweight tons, or approximately 8 per cent., were actually completed and in service on March 1 of this year, nearly a month ago. This amount of floating tonnage exceeds our total output in 1916, including steel, wooden and sailing vessels, by approximately 50 per cent.

In the yards which we have already completed and those which are nearing completion the progress will be cumulative from this time on.

Thus while we have been building the yards and training the new forces necessary to construction, we have also been building the ships.

Notwithstanding the difficulties of organization, the handicaps of bad weather conditions, transportation embargoes and railroad congestion, nearly as much tonnage has been constructed in American waters in the past three months as by all the other maritime nations of the world combined.

We have had to build up a tremendous administrative organization, with expert ship architects, expert traffic and operating heads, and at a time when the demand for such talent greatly exceeded the supply. We have had to negotiate for neutral tonnage. We have had to requisition and provide for the operation of the entire existing American merchant marine; we have had also to provide skilled supervision for the repairs of interned German ships which were seized.

The Germans thought that by crippling their own vessels in American waters they would be able to prevent us from using them. American ingenuity and resourcefulness gave the answer by restoring these vessels to efficiency. With the expenditure of a little less than \$8,000,000 we have succeeded in placing in our war service and in the service of the Allies 112 first-class German and Austrian vessels representing a carrying capacity of nearly 800,000 deadweight tons.

I have referred to the necessity of providing additional facilities for the building of ships. That is, for the creation of new shipyards, for enlarging old ones, for the education of new shipbuilders, and I may now add, the necessity of providing increased means for obtaining engines, boilers, turbines and other equipment. At the outset the 37 old steel yards began increasing their capacity until they now have 195 ways as against 162 eight months ago. Other parts of their plants have increased proportionately. We then made provision for additional new steel yards, some of which have been given financial assistance by the Emergency Fleet Corporation. Thirty additional new steel shipyards are thus being erected, with a total of 203 ship-building ways. Thus we now have in the aggregate 67 steel shipyards either wholly or partly engaged in Fleet Corporation work.

These yards will have a total of 398 steel building ways. Of these, 35 yards with 258 ways, are on the Atlantic and Gulf Coast; 19 yards with 66 ways are on the Pacific, while 13 yards with 74 ways are on the Great Lakes.

Our program for building wooden ships has been beset with many difficulties and handicaps which could not well be foreseen. A year

ago, wooden shipbuilding in the United States was almost a lost art. We found 24 old wooden shipyards, with 73 ship ways. The capacity for wooden shipbuilding has been increased until we now have 81 wooden shipbuilding yards, with 332 ways completed or nearing completion.

Assuming that these ways will each produce two standard ships per year we should turn out about 2,300,000 deadweight tons of wooden ships annually. These 332 wooden shipbuilding ways, now nearing completion, added to our 398 steel building ways, will give us a total of 730 berths upon which to build steel and wooden vessels. When you consider that we had only 162 steel building ways a few months ago and 73 wooden shipbuilding ways—a total of 235—an increase is shown of 495 wooden and steel berths on which we can build ships.

With our total of 730 wood and steel ways, we will have 521 more berths than Sir Eric Geddes in his recent speech stated England has at the present time.

Our program on wooden ships was delayed by the fact that we were unable to provide the necessary big timber in sufficient quantities from the forests east of the Mississippi River. We found ourselves obliged to go to the West Coast and arrange for the transportation of hundreds of carloads of Douglas fir which it was necessary to substitute for long leaf yellow pine for keels and other heavy timber. Here, again, we encountered a serious phase of the transportation problem. Our shipments were held up for weeks by the railroads' embargo. The scarcity of ocean tonnage prevented the use of water transportation in moving our ship timbers to any great extent, and we were obliged to depend on the railroads to move fully 95 per cent. of these materials. The extraordinary burden placed upon the railroad carriers by the war situation thus had a very serious effect upon the movement of ship timbers to the wooden shipyards.

Since the spring of 1917 the carriers have found it necessary to place embargoes on the movements of various kinds of freight, owing to accumulation. These have had the natural effect of slowing up the movement of materials for the Shipping Board.

The Railroad Administration has just passed through the most severe winter in railroad history and we are all hopeful that the coming of warmer weather will result in speeding up of the deliveries of material so urgently required at our yards.

Substantial assistance has been rendered the carriers by the Shipping Board by reason of our ability to concentrate the ship timbers from the Pacific Northwest in trainloads at central points near the sawmills. Sixteen solid trains of Douglas fir are now en route to

North Atlantic wooden shipyards. Similar arrangements have been made for the movement of steel wherever it is practical to do so. During the railroad embargo, however, there was a period of many weeks when there were actually nearly 9,000 cars of steel and wood shipbuilding material, loaded and waiting on sidings, to be transported to our shipyards. This situation which has been a serious handicap, I am happy to say, is steadily improving.

Our figures indicate that the shipbuilding program at its height will require approximately 3,000 separate shipments of material daily. Many of these, however, will be small lots to concentrating points, which are being established throughout the country for the purpose of combining the fittings for a complete ship into carloads; in this way saving the expense and effort in transportation, as well as reducing the labor of assembling in the yards.

From the transportation standpoint, we must expect absolute freedom in the movement of our materials; otherwise the speeding up of manufacture is wasted, and consequent delays in finished ships will result. We look to the Railroad Administration with full confidence that they will supply our needs in this respect.

The situation giving us the most concern is the completion of turbines and engines. The very rapid expansion of the shipbuilding program caught the turbine and engine manufacturers totally unprepared. In the past the engines for ships built in this country had been manufactured at the shipbuilding plants. As contracts for new shipyards were given it became necessary to increase the turbine and engine building capacity at the same time. Special tools of all kinds were required for the engine builders' shops, and these tools had to be secured from manufacturing shops already overcrowded with war orders. In addition to this, the severe weather and the transportation tie-up seriously delayed the construction of some of our largest turbine building plants. We anticipated delay during the earlier months for lack of the turbines and engines, but expect to make up for the early shortage.

The proposal to build ships of concrete was first regarded as a fascinating absurdity. On March 14 there was launched from the yards of the San Francisco Company the first concrete steamship, a vessel which the builders christened *Faith*. We hope she will exemplify her name. The builders believe she will, for in the telegram announcing the successful launching of the vessel were added these words: "Appearance after launching warrants us in saying to you that we believe this form of construction may be safely depended upon."

Now as to labor—Our strong right arm! There has been much talk of conscripting labor, of forcing it into shipyards as our soldiers have been brought into the camps. I am fully aware that I am flying in the face of a growing popular sentiment that men should be drafted into the industry which support the battle lines, but I wish to put myself on record as being opposed to the conscription of labor. I do not believe conscription necessary, for I believe labor itself will produce conditions which will render idle all thought of conscripting workmen. The vast majority of our workmen are men of intelligence, and when they come to a full realization of the fact that any defection on their part now will not only imperil the nation, but will injure their fellow workers in almost every field of industrial activity, I feel sure they will respond to all demands made upon them. Unless they fully do their part, their brothers will suffer.

It would be useless to manufacture material and supplies and pile up the products on the wharves if there are no ships to transport them. So, unless our ship workers do their best, other industries must slow down or halt completely, with the result that thousands of workers throughout the country will suffer for lack of employment.

I believe that labor has begun to realize that fact, but I want to drive it home to them; for there are some, I regret to say, who do not yet sense their responsibility. There are many who are not working to their full capacity. There are many who, because of the high wages they are earning, are prone to take too many holidays. Labor generally throughout our shipyards is today receiving the highest rate of wages ever paid for similar work in the history of the world. The additional cost of our ships, due to increased wages in shipyards covering the program we have mapped out, will be in excess of \$300,000,000. We expect, and we have a right to expect; the country has a right to expect, that labor will render for this increase of wages a corresponding increase in production—that is the output of ships.

All has not gone smoothly in the labor situation, and there have been times when this phase of the problem was enough to cause discouragement. The vast majority of laboring men are patriotic; the leaders whom I have known through close contact in Washington, especially Mr. Gompers and his immediate associates, have my confidence, and the country recognizes their patriotism. With only one exception, the leaders of the shipyard crafts generally have shown a spirit of co-operation, ready to sink their personal differences in the common pool of patriotism.

We have established a labor adjustment board whose complete fairness cannot be questioned. The scale of wages awarded by this board

has been most liberal. We have not blamed labor for the reduced average output in various yards. There are some labor restrictions which we would like to see removed—restrictions against output. We would like to see the whole body of labor put forth its maximum effort, encouraging each individual workman to do his best, without any fear of establishing new average standards when they increase the output. When all the leaders and all the men take this view of the national emergency, the efficiency of all the yards will be measurably increased.

There have been inefficient shipyard owners, as well as inefficient workmen. Where there is an inefficient owner, who does not understand the viewpoint of labor and who thinks only of his profits, labor has a right to complain. In the speed which was necessary in the early days, when the plans were being made and the first contracts were being let, some of the work was given to men who have not proved their ability to get results. As we have strengthened our contracts, and distributed the work with greater deliberation and care, we have likewise had in mind the weeding out of the employers who are not getting the results which experience has shown us we should get from efficient men. We intend to know what the costs and the profits are in every yard. We feel that the public is entitled to this information.

We have felt that it was our duty to see to it that the problem of housing the workmen in these vast new plants we have been creating was solved with care. We have not rushed into this work with closed eyes. Our duty is to guard the public expenditures; to see to it that there is no abuse of the liberality of Congress in the matter of appropriations. Every dollar expended must bring a dollar's worth of return to the Government. The cost-plus system has been banned by Congress in the housing operations, because Congress itself, as well as the rest of us, have felt that there should be a greater check, not merely upon profits, but upon the actual cost of all work done for the Government.

The new yards have been established, wherever possible, away from the congested districts, and while this was necessary, it brought with it the problem of transportation, as well as of housing. We are arranging now for proper transportation, as well as for proper housing.

Training of new workmen for the yards has, in itself, proved a difficult task, but we are accomplishing it. We have established a large training school at Newport News to which 247 skilled mechanics, selected from 22 yards, have been detailed for a six weeks' course of intensive training to fit them as instructors for recruits brought into the various shipyards. Our latest report shows that 115 of these have completed the course and have been sent out as instructors.

These men represent 16 trades. The men who are taking this instruction course will be capable of training an industrial army of 37,000 men. A department for training electric welders has also been established.

We have recruited a volunteer force of 250,000 highly skilled mechanics who have, with a patriotism that has made us all proud, agreed to hold themselves in readiness for our call.

These men are being held in reserve, remaining in their present employment until such time as in the development of our yards the demand arises for their services.

As a further evidence of the organization which has already been effected, let me say that in 1916 there were less than 45,000 men employed in all the shipyards of the country and on March 2, 1918, we had increased this number to 236,000, of which 170,589 were working on actual ship construction, and the remainder in yard construction and other branches of the industry. Thousands of others are employed in taking out the timbers for our wooden construction and at the scores of inland steel plants which are fabricating the parts for steel vessels.

This brings me to the point where I desire to make a brief reference to what have been popularly termed our three fabricating shipyards. The term is more or less a misnomer, for these yards, located at Hog Island, Newark Bay and Bristol, Pennsylvania, are in reality assembling yards. The shipbuilding materials which will go into the making of vessels launched at these yards are being fabricated in scores of steel plants, scattered throughout the country as far West as Omaha, Neb. In some instances, 95% of the work on these materials is being done at points far remote from the shipyards. The so-called fabricated ship is almost a new method of ship construction—almost as new to England as it is to us. But from the progress of the work as it has thus far developed, we are confident that it will be the means of adding millions of tons to our merchant marine.

These three assembling yards, with their 50 ways at Hog Island, 28 at Newark Bay, and 12 at Bristol, will, when they are in full operation, produce in a single year more ships than England, the greatest maritime nation of the world, has ever been able to turn out in the same length of time. Already at the yards of the Submarine Boat Company at Newark Bay, 15 keels have been laid, and 13 more will be put down as soon as the remaining ways, now in course of construction, are completed. By the time the last way is finished the vessel on the first way will be well on towards completion; and as soon as it is slipped into the water another keel will be laid in its place, and we will thus have a continuous ~~period~~ of vessels dropping

into the water from this yard at the rate of two a week. Even greater tonnage will be produced at Hog Island, with its larger number of ways and the bigger type of vessels which are being constructed there.

When the high point in the ~~curve~~<sup>curve</sup> of production finally is reached, and the magnitude of America's shipbuilding program is realized it will be a continuous performance of production and launching.

If you will take a glance at the map of the world you will see that three-fourths of it is covered with water. Great Britain long ago made it her policy to maintain control of this greater part of the world's surface. But we also have taken first rank among the powers, and our first need now is for a great merchant marine. Our gigantic program for ship construction will place us in a position where we can rely on native resources, rather than be dependent on the fleets of our competitors, as it has been very largely in the past. No nation can be great commercially unless it has its own manufacturing and its own shipping, and this is the goal which will be passed in peace if we can reach it in war.

There is no doubt but that we are destined to be one of the leading shipbuilding nations in the world.

We will have the largest number of shipyards, the materials and the labor and when our shipbuilding plants are completed and are well organized on sound business lines so as to produce ships cheaply and rapidly, we will not only produce sufficient ships to become the leader in the commerce of the world by furnishing transportation at reasonable rates, thereby performing a service to the rest of the world, but we will build ships in such large numbers and at such fair prices that we will become the mecca of the shipbuilding trade of the world.

I have outlined the entire situation—in utmost frankness—concealing nothing, for we have nothing to conceal. Shipping is the essence of the struggle in which the world is now engaged—the central beam in the whole war structure. If that fails, all else fails. We are engaged in a race with the submarine. We, of the Shipping Board, are alive to the needs of the situation. The whole Government in Washington is alive to it, and there is complete co-operation to bring success in this greatest task to which America has set herself.

I know that the public is intensely interested in the great program which we have undertaken, but I fear that its magnitude is not at all times fully appreciated. We may make mistakes, but we will make progress. Rest assured we cannot go far wrong, for we are receiving the direct and constant guidance of that great American, the Commander-in-Chief of the Army and Navy, the President of the United States, Woodrow Wilson.