PHILADELPHIA NAVY YARD'S TRIUMPH MADE COMPLETE BY RECORD IN WAR

After Conflict Most Important and Largest of Nation's Ship Building Depots

Building Greatest Drydock and Permanent Ways to Cradle Sea-Fighting Leviathans

ued from Page One

give one some idea of the terrific or and efficiency of American ar

The story of the great aircraft fac-tions of the facts to be made known few Philadelphians even guessed that giant seaplanes were being built at the yard, and built faster than the smaller airplanes could be constructed for our land forces in private factories.

nd forces in private factories.

The "flying boats" were finished at tague Island at the rate of two a day. ere, Commander Coburn and his as ites, would have increased producdon to four a day within a short time. They even planned six a day a little Any one who saw the great boat" exhibited on the north plaza of City Hall during the last Lib-erty Loan drive can easily realize the involved in manufacturing even of these giant aircraft in a single

Equipment Wasn't Modern

When the war began the yard's equipment for the construction or repair of vessels was fairly extensive, but not very modern. The yard was just beginning to reach out after the "new construction" work"—shipbuilding in nontechnical language—which every Philadelphian considered its due. This had to be set aside, very largely, during the period of the war. The yard's facilities could be put to better use for the repair and refitting of craft already in the service. And with the taking over of merchant ships for naval and When the war began the yard's equiper of merchant ships for naval and ks at League Island became vitaliy nt to the American naval pro-

The most important activities of the port. ard came under one or other of two nain departments, the "Hull Division" nd the "Machinery Division." Between hem they employed 11,000 men.

Construction work at the yard was regalised and modernized by Captain ohn G. Tawresey, until recently con-truction officer there, an expert trained the best shipbuilding schools of Amer-es and England .He had the good fortune to be in charge of construction at the Philadelphia Navy Yard during the entire period of this country's participation in the war. His staff was alsmall—it takes seven or eight to train the likeliest candidate for exacting job of naval constructor. experts were in universal demand: ut the work they did was tremendous.

4000 in "Hull Division"

Construction, repair, refitting of ships is done by what is known as the "Hull Division" at the navy yard. When the By began their working personnel consisted of about 1000 men. At the signing of the armistice this number had been multiplied by four. And the 6000 men were almost all engaged in work. New construction was abandoned as cost down to the minimum that would

bad to be rushed to our armies in costing double or more, it is estimated that when completed each of these new super-dreadnaughts will represent an outlay of about \$40,000,000.

The men at League Island found a part with these big ships is the bothelines.

The men at League Island found a part with these big ships is the secrets of our tremendous movement.

During the war two German auxiliary cruisers which had fallen into our hands were put to extremely good use against their one-time owners. These were the Prinz Eitel Friederich and the Kronprinz Wilhelm. They were fitted out at the Philadelphia navy yard.

Terpedeed Ships Repaired

The men at League Island found a way to send them across safely. They simply shored up the decks of the ships which carried them, building a supporting frame for the big guns that went down clear to the keel plates.

Another big job—that must only be hinted at here, even though the war is over—was the outfitting of American fighting craft with a device that auto-

During the war two American ships ere torpedoed or mined in American aters. These were the steamship Herrt L. Pratt and the United States oth were repaired at the Philadel-Navy Yard. The Minnesota is

here in drydock now,
Early in the war the local yard fitted
ut forty destroyers for overseas servea. Seven of these were of the earliest
ype built for the American navy—coal
urners. They were every one of them
rought up to the last possible degree
f efficiency, equipped with the latest
attering of heavy seas on the way
cross, equipped to drep depth bombs—
the "ash cans" which the German subnarine commanders came to hate and arine commanders came to hate and ar-at the League Island yard. The

PHILADELPHIA NAVY YARD'S FEATS OF PAST, PRESENT AND FUTURE

AT THE PHILADELPHIA NAVY YARD-

NOW

long and will hold 3,500,000,000 gallons of water. Making ready to lay keels for two largest battle cruisers afloat, at a

concrete, steel and glass.

employe this winter and work for many more next spring.

DURING THE WAR The embarkation point for marines. The two regiments which

The aircraft factory built two flying boats a day-would have made it

at Baldwins, which proved the most powerful weapons of the war. It was the repair base for all American submarines; dock and repair station for American transports and merchant ships.

device, one of the most carefully guarded secrets of the war. It repaired the only two American ships torpedoed or mined in home

The war made the Philadelphia Navy Yard the greatest naval depot the United States.

had its beginnings at the great repair George Washington, President Wilson's No end of "chasers" were made ready ship, is fitted with this device, which

No end of "chasers" were made ready for overseas duty at League Island. Two perfected by American naval experts, use of 7,000,000 or 8,000,000 pounds of were fitted with towing gear, big gas It has been attached to twenty American tanks and depth-bombing tackle at the yard; another batch of about a dozen were similarly made ready for the French navy. Every one of the less modern takings that have been completed suc-american submarines that went across cossfully, but without a word of pub-was prepared there for deep-water service. Many battleships for the fleet now the last eighteen months. Every one of the less modern takings that have been completed suc-ship into it the dock will hold 3,500,n British waters were outfitted and made ready at League Island.

And in between other jobs the navy experts and their 4000 workmen gave some of the energies to the repair of merchantmen. All the merchant ships that came up the Delaware River had work done at the League merchant ships for naval and purposes, and the general composes, and the general composes are to serve in the patrol, the shops and dry-chant ships were fitted to carry troops and additional cargo, or put in shape to take across some of the war mate-rials that were more difficult of trans-

For instance, it was a problem to get the huge "flying boats" built at the building and repair of ships, and polishing—all very essential operations in the building and repair of ships.

A new smithery is being built; a new boat shop, for the construction of small navy yard over to France, because when crated these craft were too big and bulky to lie flat on the deck of any ordinary ship. So the navy experts built skids ten feet high on the decks, to which the big crates were lashed fast. It had to be a thorough job—the flying craft were too precious to risk having them slide overboard in a heavy sea.

Perhaps the most interesting thing of this sort done during the entire period of the war was the shipping of the now famous naval guns built at the Baldwin

Read Peter B. Kyne's Big Outdoor Romance The Valley

Giants



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probable cost of \$40,000,000 each. At work on immense new shops, one of them 500 feet long, built of

No curtailment of activity or working force. A job for every present

the Chateau-Thierry fight boarded their transports at the yard.

six a day had the war continued. From the yard were shipped the great sixteen-inch naval guns, made

It equipped American fighting craft with wonderful mine-sweeping

war craft at the local yard.

could be replaced with new.

These are just a few of the big under-

Now for the future. The yard is starting off with a thoroughly modern-

ized equipment. Electric and acety-

lene welding is used in practically every operation where old fashioned methods

New buildings are going up on every hand. A new structural shop for the

shippard is nearing completion. It is

a huge building of concrete, steel and glass 500 feet long. Then there is a

new galvanizing plant, known as the "gas and flame" plant, about 100 feet long by 100 feet wide, of the same

modern type of construction. It will be used for electric and acetylene welding, for galvanizing, "pickling" and polish-

Next spring they will launch the hospital ship now on the ways, and

the four mine-sweepers that are already

well advanced toward completion.

And then the Philadelphia Navy Yard

efficiency which won fame for the Amer-, matically sweeps for mines as the ships ican destroyer fiotilia in the Irish Sea steam through a danger zone. The

Attention to Merchantmen

plant.

This has been a "mystery gun" from the time the first rumors of its construction leaked out. Even since the war comparatively little has been made cruiser keels it will spring into first place will enter on a new phase of its history—with the laying of the two battle-war comparatively little has been made cruiser keels it will spring into first place executed. They ranged from overhaul-

as a shipbuilding yard. There are four new shipways practic ally ready. Two are for smaller craft; two for the immense new battle-cruisers that will be the pride of the American navy, and the most powerful fighting ships affoat.

These will be sea mammoths \$50 feet long, armed with guns of the heaviest caliber, yet capable of extreme speed. Shipment a Problem

Shipment a Problem

The Philadelphia yard became the central repair station for all submarines.

Many German ships—a score at least—which had been seized by this country for war transport purposes were fitted out at the navy yard to carry troops as well as supplies. The policy was to

Shipment a Problem

Shipment a Problem

The problem was to carry these guns of the heaviest callber, yet capable of extreme speed. One of them will be named the "Constitution." As yet no name has been provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns the bottom. A dozen of these big guns the bottom, and the provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns the bottom. A dozen of these big guns the bottom as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns the bottom, and the bottom are the provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns the bottom are the provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom are the provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns of the name of the mammont the cannon weighed so much that their way out at the provided for the second, which is known as "No. 6," its listed name in the department. They were to have cost about \$20,000,000 apiece. Under warting the bottom. A dozen of these big guns of the name of the "Constant and the prov



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of construction for about a year,

forty feet below water level.

two more years to complete.

The yard is ful that they could pump out at the

thrust of the water outside.

another small craft.

No Drydock to Match It

The drydock is so big that the greatest

To make way for it required the ex-

cavation of 600,000 cubic yards of earth. This part of the job is finished. To build

the dock itself will require the laying of

steel for re-enforcements. This part of the work is beginning now. It will take

When filled preparatory to floating a

pumped out after a ship is in place by three huge centrifugal pumps, so power-

same time another drydock of the same

with concrete twenty feet thick, partly to serve as ballast. Otherwise the dock itself would float because of the upward

is an arrangement by which the immense basin can be divided by a "calsson" door

placed two-thirds of the way from th

water end. This permits its use by two ships at the same time. Either com-

partment can be flooded or emptied

The Machinery Division

The big constructive tobs done by the

trivances that drive and direct and

ing a big condenser down to small re-

Ambassador

Morgenthau's

Story

Read

operate the ship.

Judge of the big work done by this di-

The bottom of the dock will be faced

Another interesting feature of the dock

ship in the American navy could be placed in it and there would be room for

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Sterling Player Pianos Edison Diamond Disc S teinways -six grands, three upright styles-are identical in generalities, but delightfully different in particulars; so that every music lover's individual taste may be satisfied in that shade of tone that makes the piano a personal belonging. Then there is a Steinway to suit the

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Only Philadelphia representatives of Steinway & Sor Stetson & Co-IIII Chestnut 51 The machinery division made repairs

boilers, installed propelling machinery, fitted ships with the standard oil-burning equipment. They overhauled machinery, rewound motors, put in bearings and batteries on about fifteen submarines. They tuned up and generally made shipshape mechanically twenty-six submarine charges and performed similar. Amazing Feats of Construction Challenge World by Magnitude and Effisubmarine chasers and performed similar

services for various scout patrolboats
All the work was rush-order work, especially that on the transports. The big ships that ferried troops scrops the sea Prompt Response to Call shifts a day, and in a pinch these shifts overlapped, men working from twelve to for Service Insures street hours.

The great shops of the division took

Greater Record in the The great shops of the division took care of every need that arose. Patterns were made in the yard's own pattern shops; castings came from a foundry that was part of the plant; new parts were machined and finished at still other shops and sent direct to the mechanics waiting to install them. Coppersmith's shops, electrical shops, factories, big and new drydock which has been in course little, served the experts who set up the machinery. The new foundry makes practically all the propellers used in the Norfolk will have a drydock of like

size and capacity. But there will be no Not the least important work of the other drydock in the whole world to division had to do with radio installa-tion. Most of the navy's radio work was match it. It would hold a boat 1030 feet long and 116 feet wide-if there done at League Island, In addition, gangs were sent to other ports to install radio sets on merchant vessels. were a ship that size to float in through its huge water-gate. It goes down full Men for the Oil Burners

Under the machinery division come also the fuel oil testing plant, directed by Commander A. M. Penn. Testing fuel for our oil burners is only part of their job. Of equal importance is the school conducted there to train experts o serve on oil-burning craft. ands of men were sent out during the war, after six weeks of intensive train-ing, to serve on our oil-burning destroyers and battleships. So important was this phase of the work that Rear Ad-miral Palmer, chief of the Bureau of Navigation, wrote to Commander "the bureau considers that your efficient efforts have materially con-tributed to the results which have brought such high praise to the Navy Department." The praise was from Sir

Eric Geddes, First Lord of the British Admiralty. word about the spirit of the thousands of workmen who made pos-sible the yard's fine performance in the war. When the I. W. W. agitation was at its height they signed a pledge of allegiance and sent it with a committee of thirty of their fellows to Secretary Daniels He took the committee to meet President Wilson, and the President was so impressed with the loyalty of the men at the yard that he referred to their patriotic pledge in his next communication to Congress. A fine type of work-men, these at the yard, many of them the sons and grandsons of old Philadel-

phia shipbuilders.

hull division are matched by the more delicate but no less important work done The Philadelphia Navy Yard looks for no interruption of its activities because of the cessation of the war. The air craft factory, of course, has put the brakes on production. But the great building program outlined by the Navy Department promises to keep every man now employed at the yard busy initely. It is even possible that next spring the working force will have to be vision with their inner workings—elec-trical appliances, boilers, engines, con-densers, the thousand and one conaugmented.

Rear Admiral Hughes, commandant of the Philadelphia Navy Yard, looks for prosperous times ahead, and new

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HERIING G. PATTON, Predi

achievements in peace time to add to here, and not one citizen out of 10,000 the fine list of things accomplished have an inkling of it.

The appearance of the place canno The machinery division made repairs, big and little, to thirty-eight transports and auxiliaries. They manufactured boilers, installed propelling machinery, fitted ships with the standard oil-burn-fitted shi We expect this to be the biggest navy yard in the country. We don't brag much, but we think we can do as good work here, as quickly, and at as Shops and factories are everywhere—

low a cost, as can be done in any pri-vate yard. vate yard.
"We are educating our own men. We have schools for apprentices and schools fabricated for them in the yard itself.

in the shops. Some of our apprentice boys are getting a theoretical schooling in such branches as mathematics and drawing, in addition to their practical work. Much of the work done here has been directed by men we have educated ourselves. This has been a very successful phase of our general activity.

Wonderful Development

Since the war the yard has developed into a tremendous plant. A few years ago people thought the Philadelphia Navy Yard was so big that we could never make use of the ground we had Now we are forced to go outside the yard limits for needed extra space. "During the war period we had about 25,090 persons in the yard—not all at 25,000 persons in the yard—not all at one time, but all employed here or on duty here constantly. Seven thousand sallors are in camp at the yard. When the alreraft factory was running at capacity we had in all about 1400 women employes, counting in the girls who hold yeomen's ratings,
"Our biggest task will be the build-

ing of the battle cruisers. Our orders are to go right ahead with them. All the activity at the farther end of the yard is in preparation for the beginning of work on these ships next spring." Admiral Hughes has at his command the most wonderful equipment for doing big work that one could imagine. When

the wartime prohibition is raised and Philadelphians are free to enter the yard and see the changes that have taken place, they will marvel that so huge a plant could have been created

done there toward winning this war for the United States and her allies. It will be only a surface indication of course great buildings, towering smoke-stacks, huge shipways.

Huge Warehouses

The huge warehouses of the yard handled every conceivable commodity which the navy needed for export abroad during the war from motortrucks down to pins and needles. The factories turned out buoys, slice bars, tool chests, canvas covers, towing gear of all kinds, oars, fenders, collision mats, mess tables ships' galleys, furniture of all kinds for ships, tackle blocks, life lines, spars, seaplane pontoons—the list might be continued almost indefinitely. They even manufactured paint—they made more paint at League Island than at

any navy yard in the country.

And with all its manufacturing activity the yard has never for a second ceased to be first of all a naval reserva-tion under the strictest discipline. Two thousand marines; housed in the big brick barracks that face the continuation of Broad street through the yard supply the policing force, aided by talls of jackles. Day and night eapproach to the yard and every impor-tant point and workshop within the yard are under the strictest guard, Civilian employes must be in a position to identify themselves at all times. No one gets a job at the navy yard who cannot satisfy the authorities that he is a loyal American. And even now, with the war as good as over, the same strict supervision guards the great plant against spies or traitors.

One of these days, however, the public may once more get a chance to visit League Island and see what has been

But they stand for achievement. The officers who worked at the Philadelphia Navy Yard during the war, desp'te their protests and repeated requests for set duty, largely made it possible for our destroyers to sweep the sea of German submarines; for our millions of troops to get safely across to France for the a speedy and splendid end. That's what the Philadelphia Navy

But they stand for achievement. The

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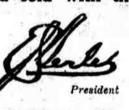
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