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A NOTABLE EVENT IN AMERICAN SHIPBUILDING. build the large ocean steamer as cheaply as the English ago, or the recent successful trials of our three firstclass battleships during the past twelve months.

The action of the Japanese government in intrusting the building of two of the crack ships of its present programme to American builders proves that the uniform excellence of the ships and material which have been turned out of American yards has had its effect. It means that, in the estimation of the youngest and most progressive of the naval powers of the world, our work is fully up to the standard of the oldest and most experienced yards of Europe. Not, howlike the battleship Indiana, the armored cruiser Brooklyn, and the protected cruisers Minneapolis and Columbia, are as fine vessels of their class as are to be found afloat to-day; but, still there is one circumstance which gives special importance to the action of the Japanese in placing this order with us, and this is that they have but lately emerged from a warin which their victories were won by the type of vessel which they are now having built in American yards. They are, therefore, specially qualified to judge of its value, and would naturally wish to place the order with those firms which are best qualified to carry it out.

The contracts were awarded after mature deliberation, and a thorough consideration of plans submitted by European builders, the Japanese commissioners having first visited the various shipbuilding yards in this and other countries.

The new ships will be 405 feet long, with 45 feet beam, and about 171/2 feet draught, the normal displacement being 4,760 tons. They will have high speed-about 22½ knots-and will be heavily armed, carrying two 8 inchguns of the semi-rapid fire type, ten 4.7 inch rapid fire guns, twelve 12 pounders, two 6 pounders, and two 2½ pounders. It will be seen that they are enlarged Yoshinos, a type of swift, powerfully armed cruiser, of moderate size, which rendered good service in the operations of the late Chinese war.

There is every reason to expect this successful competition of our home yards with those of the world will countries whose navies are built abroad. Japan itself is evidently aiming at naval supremacy in the Pacific, and will undoubtedly call for ships faster than her can republics are entirely dependent upon foreign shipbuilders for new vessels. Our great shipbuilding concerns on the Atlantic and Pacific coasts are advantagewith these peoples, especially on the southern conti- the rails. nent, undoubtedly gives us.

The securing of these contracts is another evidence PAGE lish type, six wheeled, with a rigid wheelbase. It of the wisdom shown by the government in decreeing 17450 that the ships of the new United States navy should weighs 77,000 pounds when loaded with 3,000 gallons be built in American yards and entirely of American of water and 15,000 pounds of coal. Referring again to the table of weights, it will be material. It required some courage to do this at a j time when the cost of building warships was much noticed that 568 tons were hauled for a distance of 90 greater in this country than in Europe, the art miles at the rate of over 40 miles per hour, and we are being yet in its infancy. And yet in no other way informed that the locomotive was working well within could the naval shipbuilding industry have been re- its maximum power. This is as fine a performance in suscitated in this country. The enormous first cost of hauling a heavy train at express speed as has come the necessary plant for the manufacture of armor and within our notice, and it proves that there are cer-17450 17457 machinery would have prevented any private corpora- tain classes of work for which the compound is specially tion from undertaking its erection, unless they were adapted. Recent experience both in this country and sure that a certain amount of orders would be abroad seems to establish the superiority of the simple forthcoming each year. And, although the earlier engine for exceptionally high speeds, and it is signifiships were costly, it was not long before the many im- cant that in the recent racing from London to Scotproved and labor-saving methods which American es- land the latter type did most of the work. At lower tablishments introduced into the manufacture of ships, speeds, and with heavier loads, the guns and armor enabled them to make a rapid reduc- to show an economy. tion in the price of their bids for government work. A New Harbor Mail Transport. This was shown at the bidding for the last three battle-The plan begun last August of having the foreign ships authorized by Congress, when the prices showed a reduction of from twenty to thirty per cent over the mails transferred to special tugs while the steamers were cost of the earlier battleships contracted for a few detained at quarantine, and transported to the various railway terminals direct without going to the New York years before. Incidentally it should be mentioned in this connecoffice and then to the respective transportation lines. tion that there is no greater stimulus to the creation of has operated so well during the past few months that s a merchant marine than is offered by a liberal policy the post office department at Washington will recomof naval shipbuilding. The costly plant, the expert mend to Congress the building of a special mail transworkmen and the skilled designers which are essential port boat of rapid speed fitted up with sorting bins to the success of naval yards, whether public or pri- and tables similar to the present railway mail cars, <sup>59</sup> vate, exercise a powerful stimulus upon the general which will meet incoming vessels and take the mails off shipbuilding interests of the country. The firm that at quarantine. Then on the way up New York Harbor can build an Indiana or a Massachusetts is well equip- the clerks will quickly distribute and sort the mail matped for the construction of a St. Paul or a St. Louis. ter intended for the different roads. It is calculated There ought to be no reason why we should not com- much time will be saved in this way and a more prompt <sup>29</sup> pete for Atlantic liners as successfully as we have done delivery of the mails insured. The proposed vessel is for these Japanese warships. If we cannot at present to cost \$40,000.

It is not putting the case too strongly to say that no and German firms, there is every reason to hope that event in the history of American shipbuilding has had we soon shall do so. At the last visit of the British greater significance than the recent placing of an order ironmasters to this country they freely admitted that by the Japanese government with the Cramps Ship- manufactured product was turned out more cheaply in building Company, of Philadelphia, and the Union this country than was possible at home, and this in spite Iron Works, of San Francisco, for the construction of of the higher wages. They attributed the difference to two war vessels. It marks a forward step in the devel-improved machinery, skillful administration and opment, or rather rehabilitation of our maritime inter- greater efficiency of labor. There is no reason to supests, as notable in its way as the floating of the first pose that we have reached the limits of progression steel cruisers of our new navy some dozen or more years | along these lines in our shipbuilding industry, and it is reasonable to look for a time, not far distant, when orders for European passenger and sailing ships will be freely placed in American vards.

### ----GOOD LOCOMOTIVE PERFORMANCE WITH HEAVY LOADS,

On the occasion of a recent trip by our representative from Philadelphia to Jersey City over the Pennsylvania Railroad, some exceptionally good running was done by the company's well known compound locomotive No. 1515. The train consisted of thirteen ever, that we needed any such indorsement. Ships | cars of more than average weight, as will be seen from the accompanying figures, and it was hauled over the division in two hours and twelve minutes, or one minute less than schedule time.

> In reply to our inquiry, Mr. Thomas U. Ely, chief of motive power, writes us :

> "This locomotive is a compound, and was built in 1892 as an experiment to enable us to get some information in regard to the compounding principle. It was the first locomotive with seven foot driving wheels built in modern practice up to that time. It has done excellent work and seems well adapted to hauling heavy trains at a high speed.

> "The train on which your representative rode from Philadelphia to Jersey City on October 4 consisted of thirteen cars, as follows :

	Weight of Equipment. Pounds.	Weight with Lading. Pounds.
Two sleeping cars	190,000	197.500
Three coaches		216,300
One dining ear	95,000	95,000
Two mail cars		201,600
One baggage car	55,000	95,000
Four express cars		330,400
Totals		1,135,800
Locomotive	• • • • • • •	145,500
Tender		77,000
Total weight of train		1,358,300

"The steam pressure was 205 pounds."

No. 1515 is a two cylinder compound, with two outside cylinders, 191/2 and 31 inches in diameter, with 28 open the way for an extended connection with those inch stroke. It has piston valves 12½ inches in diameter, which are placed in the saddle within the frames. and, therefore, between instead of on top of the cylinders. The hurricane deck is carried at the level of yards can supply them, and the various South Ameri- the cab floor and just clears the top of the cylinders, being curved down in front of them to the regulation height of an ordinary pilot. The boiler is of the Bel. pane pattern, with a firebox 3 feet 4 inches wide and 9  $\,$ ously placed for competition. They are nearer in some feet long. The drivers are, as stated, 7 feet in diamecases by many thousands of miles, and we have, more-ter, and as the boiler is 65 inches in diameter, it is necover, all the advantage which our excellent relations essarily carried very high, the center being 9 feet above

> The truck wheels and those under the tender are unusually large, 42 inch, the tender being of the Eng-

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