

RUSSIAN CRUISER LENA, OF THE VOLUNTEER FLEET, AT ANCHOR IN SAN FRANCISCO BAY.

[Photographs by Dana & Petersen.]

Cruiser Lena of the Russian Volunteer Fleet.

BY W. S. ATKINSON.

The cut herewith presented shows the Russian auxiliary cruiser *Lena*, Captain Berlinsky, which escaped the watchful eye of the Japanese at Vladivostok, and, it is reported, at the high speed of 19 knots steamed across the Pacific, entering San Francisco harbor September 11, 1904, saluting the forts and warships on her way to an anchorage off the Union Iron Works. The captain made the statement that he was obliged to come here owing to the bad condition of the ship's boilers. At first this was considered by many a strategic move to gain time in port, but a thorough inspection of the boilers by the local United States inspectors soon set aside all rumors as to the *Lena's* unexpected visit to the Golden Gate.

Orders were soon received to disarm the *Lena*; for this purpose the ship, escorted by the U. S. S. *Marblehead*, was taken to Mare Island navy yard, where all that went to make her offensive to Japan was safely stored in the government magazines. At present she is moored alongside one of the yard docks, which is patrolled by U. S. marines, while a small launch protects her from all harm on the outboard side. No one is permitted to board her without her commander's consent.

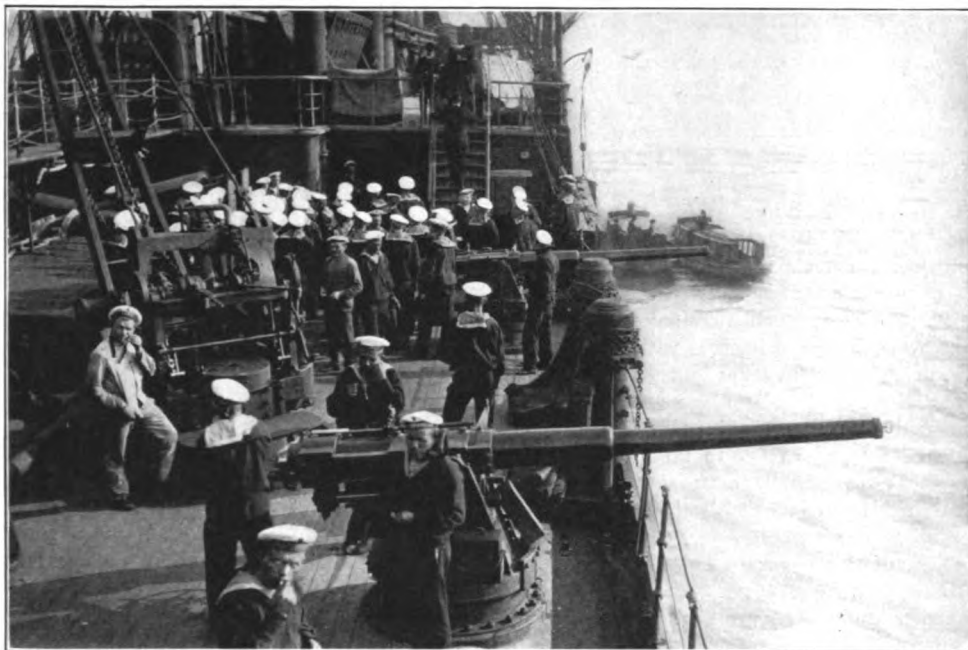
The *Lena*, formerly the steamship *Kherson*, was built for the Russian Volunteer Fleet Association of St. Petersburg, in August, 1896, by R. & W. Hawthorn, Leslie & Company, Ltd., Newcastle-on-Tyne. She is classified for Lloyd's highest rating and is known as a first-class twin screw passenger steamer, having three masts, schooner rig, with a maximum speed of 23 knots per hour. Some of her principal dimensions are as follows: Length over all, 493 feet; extreme beam, 54 feet; depth, 37 feet, and load draft, 24 feet.

When in the merchant marine service, accommodations are provided for 148 first-class passengers, 60 third-class passengers and 1,444 immigrants, a total of 1,652 passengers.

Power is furnished by two sets of triple expansion engines of the vertical inverted type, having three cylinders of the following diameters, 36, 57 and 92 inches. The common stroke is 54 inches. The Marshall type of valve gear operates all steam valves. There are two cast steel propellers 17 feet 6 inches diameter, 24 feet 6 inches mean pitch, and of 98 square feet projected area per wheel. Steam is supplied by 24 Belleville water tube boilers at a pressure of 250 pounds, reduced to 160 pounds at the throttle. The total heating surface is 35,300 square feet and the total grate area 1,130 square feet. The boilers are arranged in three watertight compartments of eight boilers each, and those of each compartment lead to a stack 96 feet high above the keel by 9 feet 6 inches diameter.

The vessel is illuminated throughout by electricity and provided with two powerful search lights. All quarters have artificial means of heating and ventilating. Extensive refrigerating and evaporating plants form some of the valuable auxiliaries to be found on modern ships. Her present armament consists of 15 rapid fire breech loading rifles of 120 millimeters caliber. The crew, consisting of 650 officers and men, still remain on board their ship, 24 being allowed shore leave each day.

There is much keen interest among San Francisco ship builders over the fact that the captain has been authorized to convert the ship into a modern transport, and make all repairs, alterations, etc., necessary to put her in first-class condition. Bids have been called for and all local yards are working night and day preparing plans, specifications, etc.



VIEW ON THE STARBOARD GUN DECK OF THE RUSSIAN VOLUNTEER CRUISER LENA.

The plans, as projected, require a complete rearrangement of officers' quarters, the fitting up of main and lower decks for the accommodation of 2,000 troops and 250 crew, the installation of new electric, heating and

tem throughout. No definite reason can be ascertained from the officers of the *Lena* why so much machinery is to be renewed or to the future movement of the ship after being converted into a transport.



THE ENGINEER'S FORCE ON THE LENA—THE CHIEF ENGINEER IS MARKED WITH AN X.

ventilating systems, new anchors, windlass, deck winches, search lights (in military tops), submarine lights, etc., 24 Belleville water tube boilers with uptakes, breeching, stacks, feed pumps and piping.

Going into the engine room the plans are even more extensive, calling for four new circulating engines and pumps, auxiliary condensers, feed water heaters, filters, auxiliary, steam and exhaust piping throughout, machine shop and the complete overhauling of main engines.

The new evaporating plant with distillers, pumps, etc., is to have a capacity of 50 tons boiler water and 30 tons drinking water per 24 hours. The present armament is to be replaced by 11 rapid fire breech loading rifles of 120 millimeters caliber, 12 of 75 millimeters, eight of 47 millimeters and 4 1-pound guns for military tops.

Magazines are to be fitted with complete flooding sys-

Quarterly Shipbuilding Returns.—The Bureau of Navigation reports 328 sail and steam vessels of 40,374 gross tons built in the United States and officially numbered during the quarter ended September 30 as follows: Wooden sail vessels, 130, of 24,363 gross tons; wooden steam vessels, 179, of 7,130 gross tons. Steel vessels constructed in this period are all fitted with steam power to the number of 19, of 8,881 gross tons. All but four vessels of 409 gross tons, which were built on the Great Lakes, were constructed on the Atlantic and Gulf. During the corresponding quarter of last year, 310 sail and steam vessels of 66,023 gross tons were built in the United States and officially numbered. There is a decrease of over 6,000 tons of wooden steam vessels, an increase of about 12,000 tons of wooden sail vessels, and a decrease of about 31,000 tons of steel vessels.