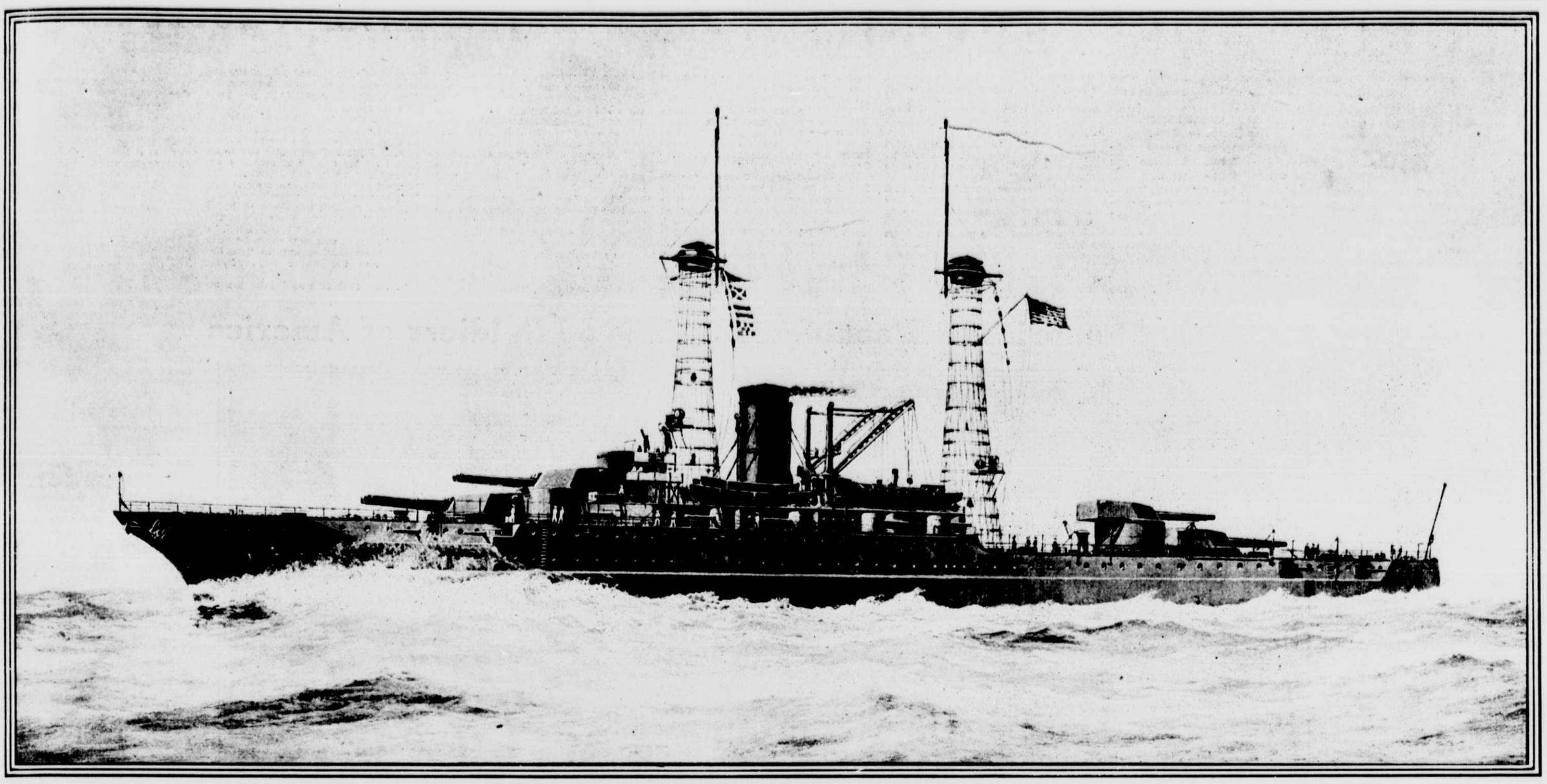

The United States new superdreadnought California, whose keel will be laid at the New York Navy Yard in the near future, will be the first electrically driven dreadnought in the world. Copyrighted, 1915, by Enrique Muller.

Electricity to Drive Our Greatest Dreadnought

New California Will Be Only Battleship in World to Use This Power—Serious Problem of Launching the Monster Seafighter Pennsylvania

THE launching of the great superdreadnought Pennsylvania will bring a vast deal of relief to her builders. The naval architect is always disturbed in mind until a big ship is safely transferred from her building slip and securely afloat upon the water. In the case of the Pennsylvania the seriousness of the task is greater than in any kindred undertaking heretofore carried out in a shipbuilding yard, for this giant craft, although only partly completed, will represent at the time a dead weight of quite 13,000 tons, and there must be no hitch in the waterward glide of the vessel, otherwise lives would be endangered and many hundreds of thousands of dollars imperilled.

The Pennsylvania when ready for action, that is, fully equipped with normal stores, ammunition and coal aboard, will have a displacement of 31,400 tons, over 4,000 tons more than the New York, which has so recently joined the active fleet of the United States. The Pennsylvania is 608 feet long over all, has a maximum beam of nearly 98 feet, and when her engines are developing something more than 31,000 horse-power it is estimated that she will be able to drive along through a heavy sea at the rate of 21 knots an hour.

The great ship will have a complement of 1,037 officers and enlisted men. In order that she may measure might with the most formidable rival extant, the Pennsylvania will carry a ponderous main armament consisting of a dozen 14 inch rifles, in four triple gun turrets, and no fewer than twenty-two 5 inch rapid fire guns. In addition to this, for subaqueous attack the superdreadnought will be provided with four submerged tubes for the launching of the big 21 inch torpedoes.

But big as the Pennsylvania is, she is not our last word in seagoing fortresses, and almost simultaneously with the launching of the Pennsylvania her more ponderous rival, the California, will have her keel laid at the navy yard in New York. The motive power for the Pennsylvania consists of Parsons turbines operating four propeller shafts, but in the California a momentous departure is to be made agreeably to the experience obtained by the unique electrical drive with which the fleet collier Jupiter is equipped.

For the sake of the layman interested in such matters, it has been said that this electrical motive installation "possesses an advantage over the all turbine drive in that it is not necessary to install a separate backing turbine, the reversing being accomplished directly through the motors, and with the same ease and certainty as prevail in any other electric motor installation." This is a tremendous stride forward and is of especial value in the case of a fighting ship, which must manoeuvre and run at widely different speeds in performing the tactical evolutions required of a man-o'-war when jockeying for position in time of battle.

Indeed, this electric motor drive makes it possible for the man on the bridge to control the speed and the direction of motion without calling for the intermediate service of the people in the engine room. In brief, from the navigational station the 32,000 ton craft can be controlled with a facility well nigh akin to that exercised by the motorman of a trolley car.

The California will be the first electrically driven dreadnought in the world, and while but 21 knots is demanded of the builders of her motors, the General Electric Company, which also equipped the Jupiter, believes that it will be possible to obtain considerably higher speed.

The California will have an overhanging clipper bow which will give her an overall length 16 feet greater than that of the Pennsylvania. This modelling of bow, it is considered, will make it possible to drive the craft at full speed right into the heaviest of head seas.

In armament the California will be a virtual duplicate of the Pennsylvania. Naval officials estimate that the California, although 600 tons bigger than the Pennsylvania, will cost less to build.

Day of Dreadnought Is Past, Predicts H. G. Wells

Famous English Author Says England's Confidence in Big Battleships Is Unreasonable and Naval War of Future Will Be Battle of Submarines, Destroyers and Hydroplanes

IN an essay on common sense in warfare by H. G. Wells in his book "Social Forces in England and America," recently published by Harpers, he says:

In the popular imagination the dreadnought is still the one instrument of naval war. We count our strength in dreadnoughts and superdreadnoughts, and so long as we are spending our national resources upon them faster than any other country, if we sink at least £160 for every £100 sunk in these obsolescent monsters by Germany, we have a reassuring sense of keeping ahead and being thoroughly safe. This confidence in big, very expensive battleships is, I believe and hope, shared by the German Government and by Europe generally, but it is nevertheless a very unreasonable confidence and it may easily lead us into the most tragic of national disillusionments.

We of the general public are led to suppose that the next naval war—if ever we engage in another naval war—will begin with a decisive fleet action. The plan of action is presented with an alluring simplicity. Our adversary will come out to us in a ratio of 10 to 16, or in some ratio still more advantageous to us, according as our adversary happens to be this Power or that Power, there will be some tremendous business with guns and torpedoes and our Admirals will return victorious to discuss the discipline and details of the battle and each other's little weaknesses in the monthly magazines. This is a desirable but improbable anticipation. No hostile Power is in the least likely to send out any battleships at all against our invincible dreadnoughts. They will promenade the seas, always in the ratio of sixteen or more to ten, looking for fleets securely tucked away out of reach. They will not, of course, go too near the enemy's coast on account of mines and meanwhile our cruisers will hunt the enemy's commerce into port.

Then other things will happen.

The enemy we shall discover using unsportsmanlike devices against our capital ships. Unless he is a lunatic he will prove to be much stronger in reality than he is on paper in the matter of submarines, torpedo boats, waterplanes and aeroplanes. These are things cheap to make and easy to conceal. He will be richly stocked with ingenious devices for getting explosives up to these two million pound triumphs of our naval engineering. On the cloudy and foggy nights so frequent about these islands he will have extraordinary chances and sooner or later, unless we beat him thoroughly in the air above and in the waters beneath, for neither of which proceedings we are prepared, some of these chances will come off and we shall lose a dreadnought.

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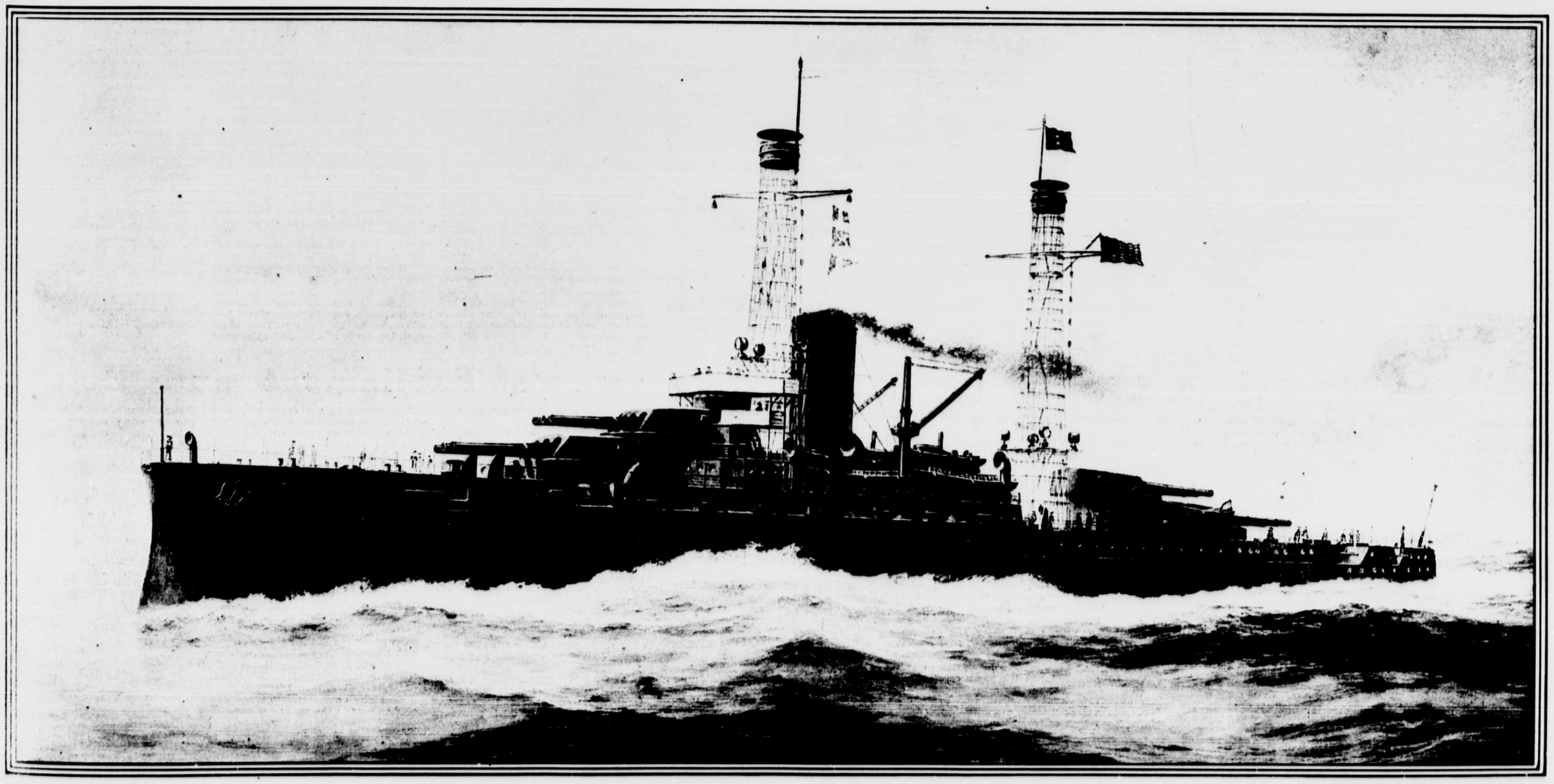

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