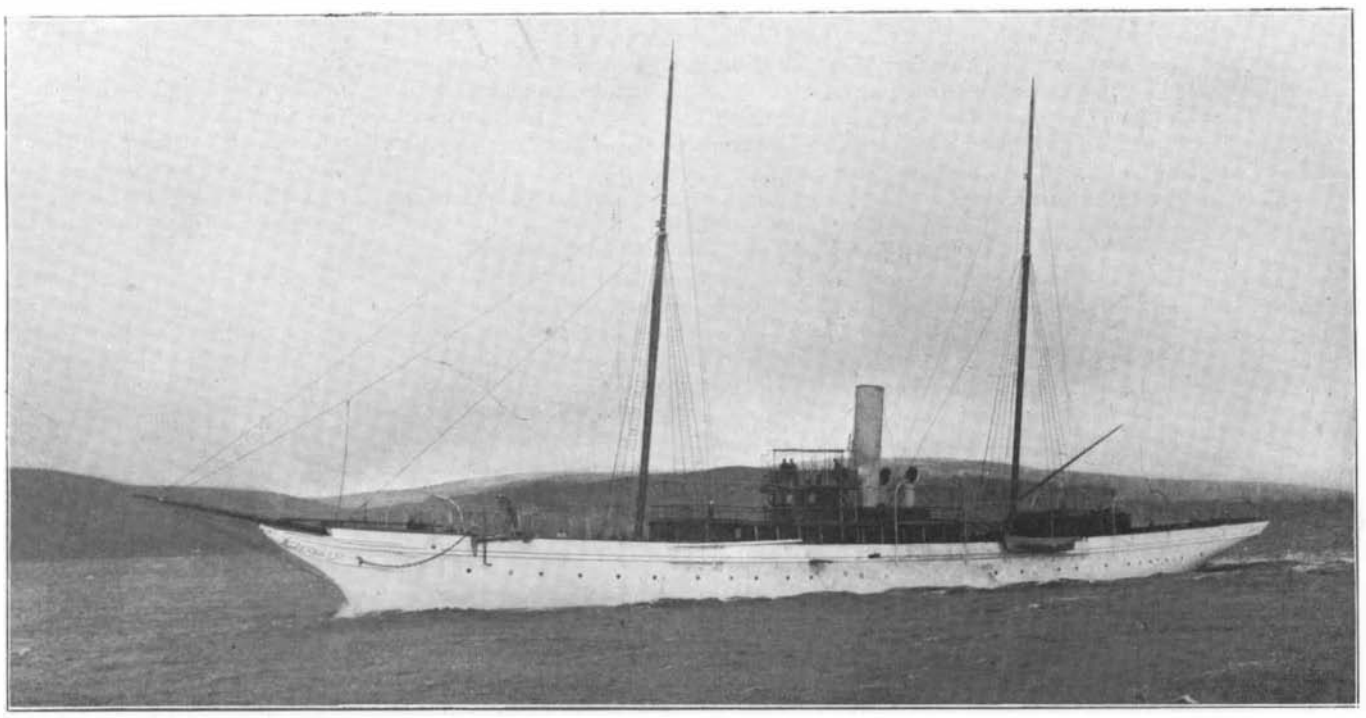
the "Volunteer," model 14, by 19 minutes 21¾ seconds, and in the second race by 11 minutes 48¾ seconds. After a lapse of six years, "Valkyrie II.," model 15, came over in 1893. With a water-line length of 85 feet, she had a beam of 22 feet 6 inches and a draft of 17 feet 6 inches. She met "Vigilant," model 16, 86 feet 2 inches on the water-line, 26 feet beam, and 13 feet 6 inches draft, and lost a series of three races, being beaten in the first race by 5 minutes 48 seconds, in the second race by 10 minutes and 35 seconds, and in the third race by 40 seconds. For the defense of the cup in that year no less than four 90-foot sloops were built, "Vigilant." "Jubilee," model 22, "Pilgrim," model 23, and the keel schooner, the "[illegible]onia," whose model does not appear in this group. The "Jubilee" was a fin-keel boat with a centerboard which dropped through the fin. Her rudder was carried on a skag, as shown in the model, and in this respect she anticipated some of the fastest of the yachts of the present day. "Pilgrim" was also a bulb-fin yacht, of small displacement, which depended for her stability on a light bulb carried at the extraordinary depth of 22 feet. The "Jubilee" was a moderate success, but the "Pilgrim" proved to be a complete failure. Two years later "Valkyrie III.," model 17, which measured 88 feet 10 3-16 inches on the water-line, 26 feet 2 inches in beam, with a draft of 20 feet, lost to the "Defender," model 18, 88 feet 5⅝ inches water-line, 23 feet 3 inches beam, and 19 feet 4 inches draft, losing the first race by 8 minutes 49 seconds, the second race on a foul, and the third by default. Then came an interval of four years, and in 1899 commenced the "Shamrock"-"Columbia" era.

"Shamrock I.," model 19, was 87 feet 8¼ inches on the water-line, 25 feet 5 inches beam, and nearly 21 feet in draft. She met "Columbia," model 20, 89 feet 7⅛ inches water-line, 24 feet 2 inches beam, and slightly less than 20 feet draft, losing the first race by 10 minutes and 8 seconds, the second by being disabled, and the third by 6 minutes and 34 seconds. In 1901 "Shamrock II.," model 21, 89 feet 3 inches on the water-line, 24 feet 5 inches beam, and draft of between 20 and 21 feet, met the "Columbia," which had proved a faster boat than "Constitution," model 24, which had been built especially for the defense of the cup that year. "Constitution" was practically the same in all dimensions and in outboard profile as "Columbia," the chief point of difference being that she carries 1 foot more beam. The "Shamrock II."-"Columbia" series were particularly close. The "Columbia" won the series by 1 minute 20 seconds, 3 minutes 35 seconds, and 41 seconds.



STEAM YACHT "NORTH STAR," FORMERLY "CHEROKEE," NOW OWNED BY CORNELIUS VANDERBILT, ESQ

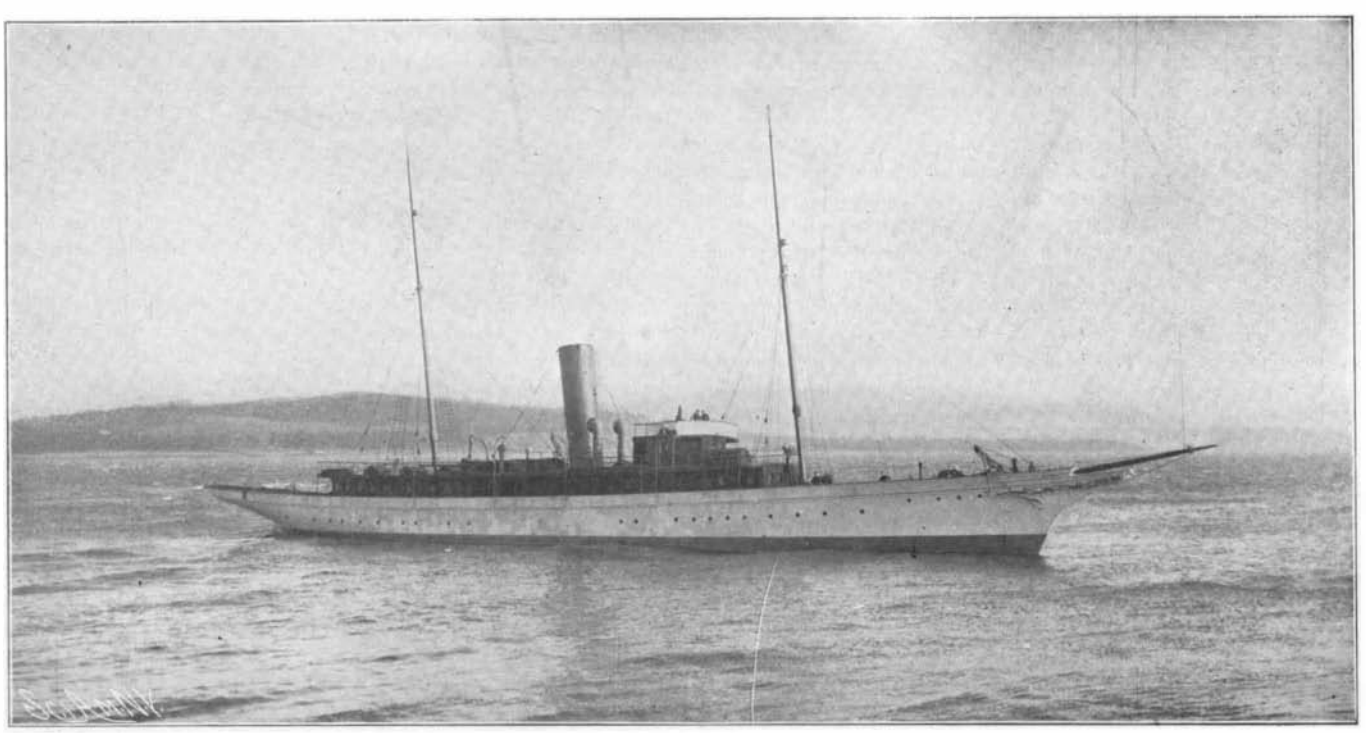
Length over all, 243 feet. Length on waterline, 219.5 feet. Beam, 29.15 feet. Draught, 16.3 feet.

THE "EMERALD" TURBINE YACHT.

Special interest is taken in the steam yacht "Emerald," which was purchased early this year by Mr. George Gould, from the fact that she represents the most important attempt yet made to adapt the principle of turbine driving to the wants of yacht owners. The hull of the "Emerald" was built on the Clyde by Messrs. Stephen & Sons, and the engines were supplied by the Parsons Marine Steam Turbine Company, of Wallsend-on-Tyne. Apart altogether from her novel system of driving, the "Emerald" would be worthy of attention as one of the smartest and most handsome yachts ever built on the Clyde. Her length over all is 236 feet, and she has 28 feet 8 inches beam and 18 feet 6 inches of molded depth, giving a yacht measurement of over 750 tons. She was built under special survey to rank 100 A1 at Lloyds. The hull is beautifully modeled, with fairly long and very shapely overhangs both fore and aft. The bow is of the clipper type and is finished with a figurehead of elaborate carving. She is schooner rigged, with two masts and one funnel, and presents altogether an exceptionally well-balanced model. A fine promenade deck is carried from side to side of the boat, and on this is a large deck house divided into navigating room and deck lounge.

The saving of space effected below deck by the adoption of the turbine system of driving has enabled the designer to lay down state and other rooms of exceptional size. There is a suite of four staterooms with bathrooms, and attendants' rooms, six extra staterooms for guests, and several rooms for valets and personal servants. The dining-room, drawing-room, and smoking-room are planned in a free treatment of the English and French Renaissance, and are luxuriously fitted. A photographic room situated aft, and fitted with all the appliances necessary for a free indulgence of this hobby, is one of the special features.

It is, however, in the turbine system of driving that the main interest of the boat is centered. There are three sets of steam turbines, one high-pressure and two low. Each turbine drives one length of shafting. The center shaft carries one propeller, and each of the two outside shafts has two. As the turbines have been found to do their most satisfactory work when running at a very high speed, the propellers are of small diameter, the center one being 36 inches, and the four side propellers being only 20 inches. All these fittings are of manganese bronze. There are therefore only five propellers on the "Emerald" as compared with nine on the smaller yacht "Tarantula," which was the first yacht to be fitted with turbine engines. The hull has been specially designed to obviate any danger of vibration from the great speed at which the propeller shafts are run. The contract speed of the yacht is only 16 knots, but her speed in service is expected to be considerably greater than this.



THE NEW TURBINE YACHT "EMERALD," OWNED BY GEORGE J. GOULD, ESQ.

Length over all, 236 feet. Beam, 28.6 feet. Molded depth, 18.5 feet. Driven by turbine engines and five propellers on three shafts.

THE STEAM YACHT "NORTH STAR."

The handsome steam yacht "North Star" is one of several notable steam yachts recently added to the pleasure fleet of America. She was designed by Mr. W. N. Storey, an English designer of repute, and built for an English nobleman, Lord Ashburton by name. After her purchase in America by Mr. Cornelius Vanderbilt, she was sent back to the Clyde to be remodeled internally. On the return passage to the Clyde in the middle of October, she gave a sample of her powers of fast and steady steaming, making the run from Sandy Hook in 10 days 23 hours. This run and a previous trip to America in 10 days 14 hours mark the record for the double transatlantic passage for a boat of her size. On her arrival in the Clyde she was handed over to Mr. George L. Watson for remodeling, and on this work a sum of $60,000 was spent. The heavier part of the work was done on the Clyde, and the yacht was then sent to Havre, where a French firm is still engaged with the upholstery and decorations.

We are indebted to Messrs. Tams, Lemoine & Crane, through whom the recent purchase was effected, for the following particulars of the dimensions, and the interior modifications, which were carried out under their supervision:

Length over all, about 243 feet; length on the water line, 219.5 feet; length between perpendiculars, 233.5 feet; beam, 29.15 feet; depth of hold, 18.9 feet; draught, extreme, 16.3 feet; horse power, nominal, 223. Triple expansion engines, 21½, 34, 56 inches diameter by 34 inches stroke. Two boilers, Scotch type, built for a working pressure of 160 pounds. Bunker capacity, 215 tons.

She has a shade deck which, as shown in the photograph, extends aft to the engine room skylight. On this deck is a commodious room, the forward part of which is used as a chart room; the rest is what might be called an observation room for the owner and his friends. On the top of this house a navigating bridge has been added, with wings extending out to the rail line. On the main deck in the forward end of the house is the forward sitting room; just aft of it is a vestibule leading down into the quarters below, which consist of, just forward of the machinery bulkhead, a large pantry with lift and stairway to the galley above. Forward of the pantry is a large dining-room extending the full width of the ship. On the starboard side forward is Mrs. Vanderbilt's suite, consisting of a roomy stateroom, forward of which and communicating, is a large bath and dressing room. On the port side is the owner's suite, consisting of two rooms and bathroom; forward of which are four guests' rooms, dress closet, maid's room,