SKATE-SAILING.

The home of skate sailing is Norway, the land of fjords, mountains, and lakes.

In order to sail in the Norwegian fashion, two skates one meter (3·28 feet) long and a sail rigged to a long bamboo pole are required. Long skates are necessary, because the enormous lateral pressure of the wind on the sail would otherwise overturn the skater. The sails are made in all conceivable shapes; almost every sportsman has his own particular form, of the efficiency of which he is firmly convinced. Perhaps the most useful type is the one illustrated in the engraving.

The sail-frame is firmly held by the right hand and is directed by a steering cord held in the left hand. A downward pressure of the right hand forces a steel spur at the end of the bamboo pole into the ice, whereby the skater is enabled either to reduce his speed or to stop himself entirely. The sail is simple in construction, but requires no little dexterity in handling.

Skate-sailing is particularly enjoyable on the great fjords of Norway. On the Sognefjord, for example, 100 kilometers (62 miles) can be covered in a comparatively short time, if the wind be favorable. For our illustration we are indebted to Moderne Kunst.

A NORWEGIAN SKATE-SAILOR.

JAPANESE TORPEDO BOAT DESTROYER.

The accompanying engraving of the new torpedo boat "Ikadsuchi" reminds us of the fact that the Japanese government is very actively at work on the enlargement of its already formidable navy. The photograph was taken by the builders of the vessel, Messrs. Yarrow & Company, of London, at a time when the boat was actually traveling at a speed of over 31 knots, or say about 36 miles per hour, the camera having been used when the "Ikadsuchi" was covering her fastest mile. It will be noticed that she exhibits that tendency to settle at the stern and rise at the bow which characterizes the vessels of this class when they are running at top speed. She is the first of six identical boats which are being built by Yarrow & Company for the Japanese navy.

Her dimensions are: length, 220 feet; beam, 20 feet 6 inches; and draught, 8 feet 6 inches. She is propelled by twin-screw, four-crank, triple-expansion engines, which are balanced on the Yarrow, Schlick, and Tweedy system, which is designed to reduce vibration, and does so very successfully. The high-pressure cylinders are 20½ inches in diameter, the intermediates 31½ inches, and the two low-pressure cylinders 34 inches in diameter, the common stroke being 18 inches. Steam is supplied by four boilers of the Yarrow straight-tube type.

While in general appearance the "Ikadsuchi" is similar to the common type of destroyer, the internal arrangement is modified to the extent that the officers' quarters are placed nearer amidship than is customary in the British destroyers—a modification which will no doubt be highly appreciated by the Japanese officers.

During the trial the contract load of 35 tons was carried, and the high speed of 31 knots was reached without urging the machinery. While the engines were designed for 6,000 horse power, the trial gave evidence that they were capable of a maximum of 7,000 horse power, if it were called for. The steam pressure throughout the trial averaged 185 pounds to the square inch, while the revolutions were 410 per minute. The armament consists of one 3-inch twelve-pounder gun mounted aft and five 6-pounder guns, while two tubes are carried on deck for launching the 18-inch torpedoes carried by this vessel. She stows 90 tons of coal in her bunkers, which is more than sufficient to enable her to cross the Atlantic at cruising speed. It is expected that the official trial trips of these half-dozen vessels will take place during the present year, before the close of which they will probably be on the active list of the Japanese navy.

IT is said that the firm of Kynochs, of Birmingham, England, has begun making 10,000,000 cartridges under an American contract. The cartridges are to be supplied at the rate of 1,000,000 a week.

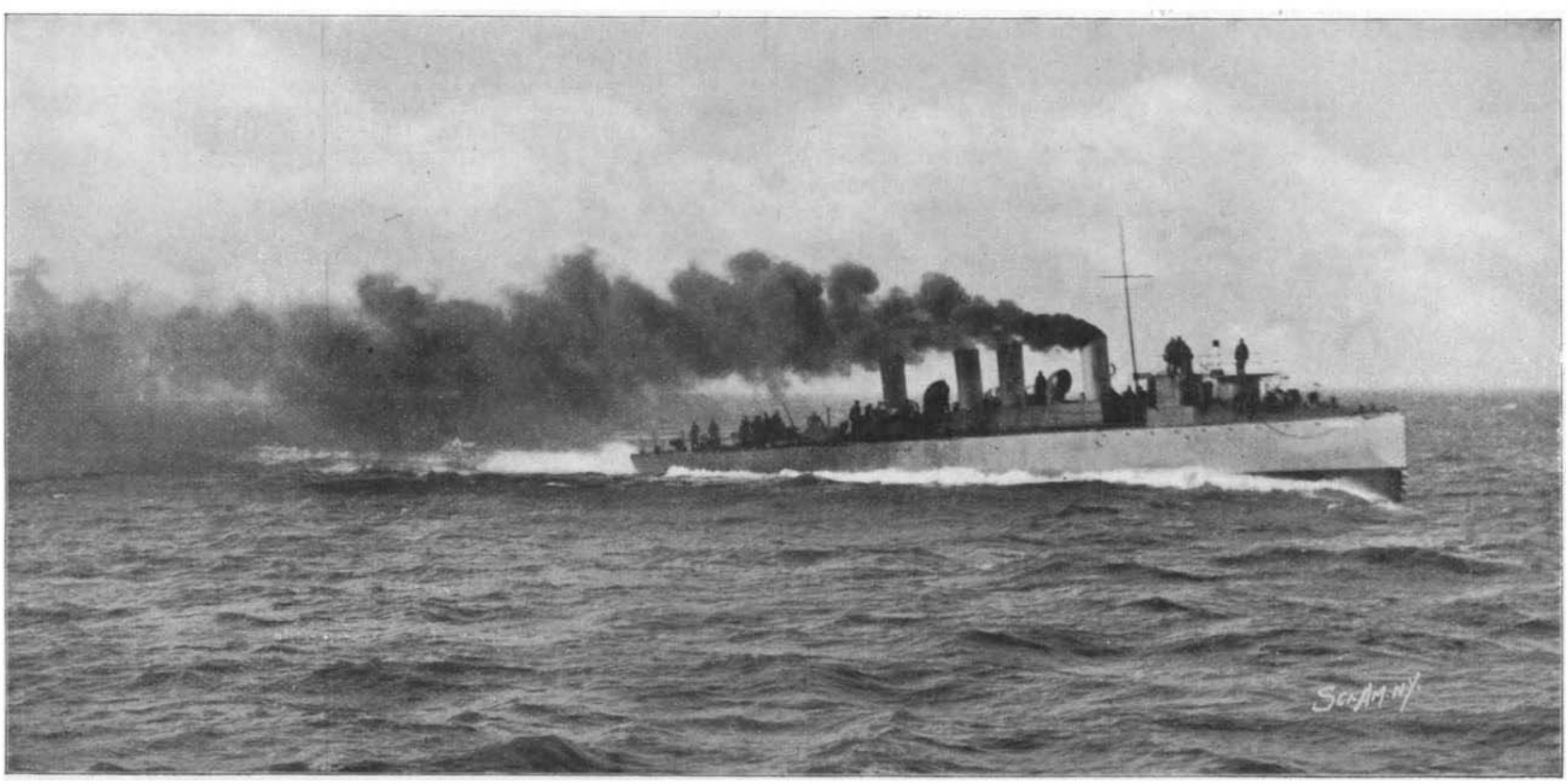
The Shoreditch Refuse Destructor.

The burning of refuse by the Shoreditch Parish, of London, to supply electricity for lighting streets, dwellings, and public buildings has been the food for considerable discussion in the English electrical press. Before the new plant was in operation the parish had to pay about $30,000 a year for carting the refuse to barges on the Thames and towing it to a dumping place in the sea, and about $20,000 annually was spent for gas for lighting the streets and parish buildings. Sixty thousand dollars was expended for an electrical plant. The funds were obtained by taxing the people. The plant ran all the time during week days and twelve hours on Sunday, furnishing electric power for small manufacturers during the day and for illuminating purposes at night. The street sweepings have furnished all the fuel necessary, only $432 being expended for coal. The total expenditures for the first year were $19,070 for wages, supplies, insurance, repairs, etc. The interest, sinking fund, rents, depreciation, etc., was $10,205, making a total of $29,275. The gross receipts for the sale of light and power, including a credit equal to the average charge for street lighting by gas, was $45,205, thus leaving a net profit of $15,930. This will be used in enlarging the plant. Of course, by street sweepings must be understood cinders, manufacturing wastes, etc.

Automobiles in Paris.

Consul-General Gowdy in his annual report states that during the past year there has been a marked increase in the adoption of automobiles, not only as pleasure vehicles owned by private individuals, but in the way of cabs serving the public for hire and for business purposes in the way of delivery wagons, specially those for long distances. It is announced that at the beginning of the next year there are to be one hundred motor cabs driven by electrical power running in the streets of Paris, and if the experiment is successful, the cabs will be increased to one thousand. With this project in view a large plot of ground has been acquired, where the building of works necessary for the housing of cabs and machinery for electrical supply is being rapidly completed. We have already referred to the training ground for cabmen. The automobiles which use petroleum products are objected to by the public by reason of their odor, noise, and vibration.

THE lead keel of the new cup defender was finished January 28, and has been set up on the marine railway where the boat will be built. It is finely polished. The keel is fitted with bronze bolts and as soon as the framework arrives the new boat will begin to take definite form. Two of the bronze plates have arrived, and more are expected the next week. Work has already been started on the sails of the new boat. Later in the season the mainsail will be cut, and the town hall of Bristol, R. I., will be used for the purpose.



THE NEW JAPANESE DESTROYER "IKADSUCHI," MAKING 31 KNOTS ON HER TRIAL TRIP.