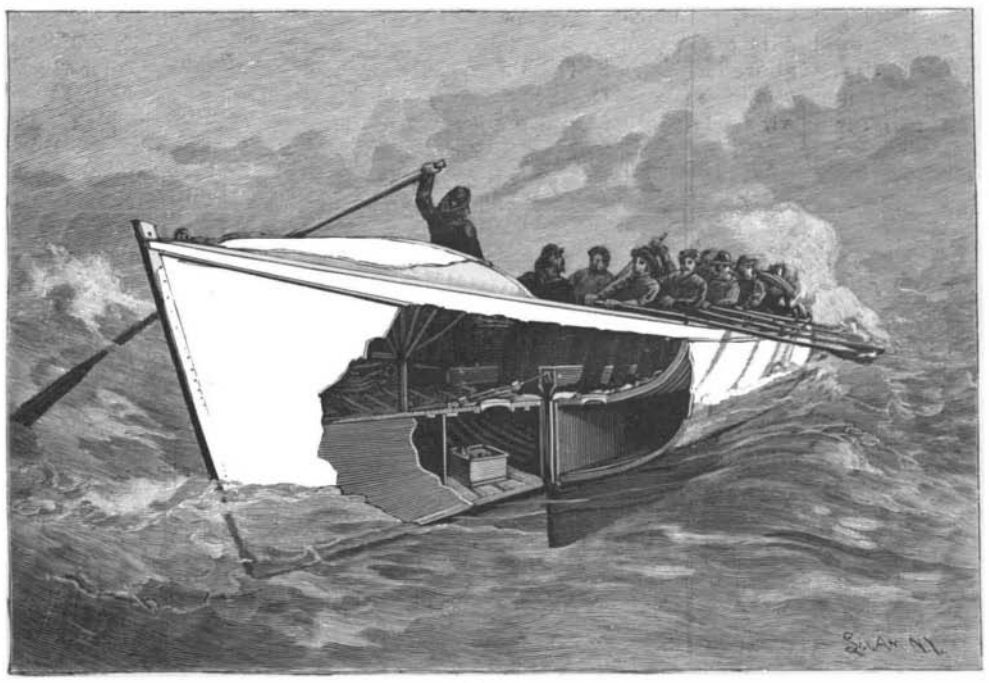
TAYLOR'S LIFEBOAT.

The lifeboat shown in the illustration is intended more especially in its construction and arrangements for storing provisions, water and clothing, to be carried for use in case a vessel has to be abandoned at sea. It has been patented by W. H. Taylor, of Narragansett Pier, R. I. The boat is divided for its entire length into two parts by the keel and centerboard box, the former of which extends from the bottom of the boat up to the second bottom or floor, the centerboard box extending still higher. By this division the boat, under the floor, is converted into two watertight compartments, which are filled with airtight metallic tanks, all of which, except the tanks at the ends, are provided with caps screwing into collars in the floor of the boat. These tanks are adapted to be used for provisions, water, clothing, etc., and if need be, on naval vessels, with ammunition. This boat may be launched in any shape, as she quickly frees herself of water through valves in the sides of the centerboard box, and is therefore self righting and baling. The tanks answer also for the purpose of keeping the boat from sinking, if it should get stove. The centerboard box is strengthened by castings held by bolts passed through the keel and by stay rods, while the metal centerboard, which is adapted to be readily raised and lowered, has vertical slots to correspond with the castings, making the entire construction very strong. The boat has been approved by the board of supervisors of steam vessels.



TAYLOR'S LIFEBOAT.

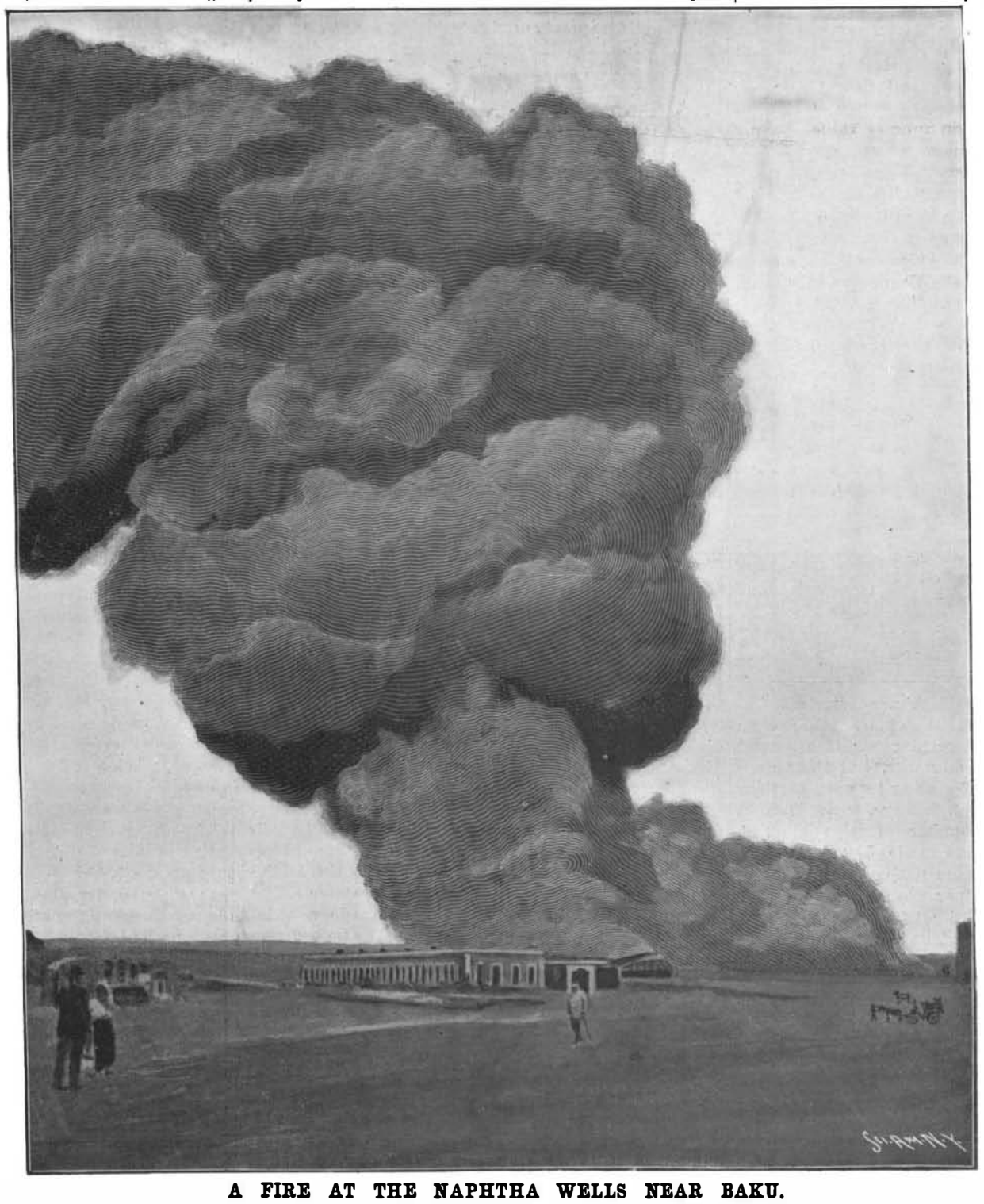
BAKU AND ITS OIL WELLS.

The accompanying engraving, for which we are indebted to Globus, gives us a very good idea of such a fire as sometimes occurs in the naphtha spring region near Baku. The danger of fire in this region is so great that every precaution is taken; smoking is prohibited, and the lamps used during night work are carefully closed, but in spite of all this there is an occasional conflagration. Some time ago a fountain of naphtha shot up suddenly, carrying with it many stones, which destroyed the electric lamps, and in a minute the whole column of naphtha, extending to the heavens, had taken fire. No earthly power can do anything to stop such a fire; water would only give fresh power to the flames. All day the clouds of thick, black smoke rose, covering everything in the neighborhood and making it seem like night, until the fire had devoured all that it could find to feed upon. The wooden planking over the excavations is covered with earth and sand to prevent such casualties.

The crude naphtha is carried from the reservoirs, the largest of which can hold 6,000,000 poods (216,000,000 pounds), in pipes to the "Black City," where we find a whole forest of smoking chimneys. The buildings, streets, trees, men and animals are covered with soot and smoke. The workshops and refineries extend far along the shore of the Caspian Sea.

The oil fields of which Baku has thus far been the principal center extend for a distance of 700 miles between the Black Sea and the Caspian, most of which has been but imperfectly explored, while only a small fraction of the known highly productive territory has been commercially worked. During 1894 the wells near Baku produced 38,000,000 barrels of oil, the production in the same year in the United States being 50,000,000 barrels. Besides this the production from other districts in Russia was considerable, the area of oil territory being officially estimated at 14,000 square miles. There are also many evidences of oil and natural gas strata beneath the Caspian Sea, to the east of which the territory is rich in ozokerite, or natural paraffin wax, which has within recent years found an important use as an insulator for electric wires.

In the oil districts of Russia the wells yielding the most oil are all less than 800 feet deep, yielding oil generally in the form of a fountain or so that it may be baled out, and the wells are much larger, being sometimes of a surface diameter of 24 inches. The yield of some of these wells has been so enormous as to seem almost incredible. From one well sunk in 1886 the flow reached 2,750,000 gallons a day before it was controlled by the engineers, on the fifteenth day, and from the largest well yet known, sunk in 1893, the flow for the first few days exceeded 4,000,000 gallons per day.



A FIRE AT THE NAPHTHA WELLS NEAR BAKU.

The Russian oil differs largely from the American oil, the latter producing about twice as much kerosene or lamp oil as the Russian, while the Russian oil in ordinary lamps gives a smoky flame. This, however, may be corrected by lamps designed especially for its consumption, and affording a more perfect supply of air to the flame. The residuum of the stills is also well adapted as fuel. All the oil produced in the Baku region for foreign use has now to be transported by rail to Batoum on the Black Sea, a distance of about 400 miles, and with railway facilities none of the best.

The relative capacity of the Russian and American supply was touched upon in a recent number of the London Engineering as follows:

"Now that the adequacy of the Russian supply, in face of an evident falling off of the American production, has been shown, and the probability that ere long we must still further have to depend on Russia has been indicated, it is of importance to consider what steps should be taken by the Russian producers to render their oil more readily available to users in this country. For use as fuel, the Russian astatki—the residuum from their stills after distilling off the light naphtha, lamp oil, and lubricating oils—is sufficiently well known to insure its employment when sufficiently cheap to replace coal, or in cases where liquid fuel can be more readily used, but the principal field lies in the lamp oil, and the only means of insuring its use is the introduction of suitable lamps sufficiently easy to manage, and, above all, sufficiently low in price to bring them within the reach of the masses. Such an innovation is by no means impossible of realization. It was found possible in the sixties, when American petroleum commenced to displace the colza and other oils which were previously in use, and would probably be still more simple at the present time, when less prejudice has to be overcome.

"The perfect organization of the American producers has hitherto had the effect of securing to them the principal markets of the world, and it would be difficult to organize another trust having anything like the wealth and power enjoyed by the Standard Oil Company of America. Even they, however, cannot control the market in the face of a constantly falling supply of the raw material, and a well arranged attempt on the part of the Russians could scarcely fail to give them a largely increased outlet for their enormous supply. Even the agreement which has so often been reported as about to be signed between these great rivals would be by no means a false step on the part of either."