

NANSEN'S POLAR EXPEDITION.

Advices from Vardoe, on the coast of Norway, in the Arctic Ocean, report the arrival there, on August 13, of Dr. Nansen, the Arctic explorer, who had left Vardoe on his last polar expedition on July 21, 1893. Dr. Nansen is accompanied by Lieut. Hansen, and the expedition is said to have reached two degrees and fifty minutes farther north than ever before attained, namely, 86 degrees 14 minutes.

Dr. Nansen says: "The Fram left Jugor Strait, August 4, 1893. We had to force our way through much ice along the Siberian coast. We discovered an island in the Kara Sea and a great number of islands along the coast to Cape Cheljuskin. In several places we found evidences of a glacial epoch, during which northern Siberia must have been covered by inland ice to a great extent. On September 15 we were off the mouth of the Clenek River, but we thought it was too late to go in there to fetch our dogs, as we would not risk losing a year. We passed the new Siberian Islands September 22. We made fast to a floe in latitude 78 degrees 50 minutes north and in longitude 133 degrees 37 minutes east. We then allowed the ship to be closed in by the ice.

"As anticipated, we gradually drifted north and northwest during the autumn and winter, from the constantly exposed and violent ice pressures, but the Fram surpassed our expectations, being superior to any strain. The temperature fell rapidly and was constantly low, with little variation for the whole winter. During weeks the mercury was frozen. The lowest temperature was 62 degrees below zero. Every man on board was in perfect health during the whole voyage. The electric light, generated by a windmill, fulfilled our expectations. The sea was up to ninety fathoms deep south of 79 degrees north, where the depth suddenly increased and was from 1,600 to 1,900 fathoms north of that latitude. The sea bottom was remarkably devoid of organic matter. During the whole drift I had good opportunities to take a series of scientific observations—meteorological, magnetic, astronomical and biological; soundings, deep sea temperatures, examinations for the salinity of the sea water, etc. Under the stratum of cold ice water covering the surface of the polar basin I soon discovered warmer and more saline water due to the Gulf stream, with temperature from 31 degrees to 33 degrees.

"We saw no land and no open water except narrow cracks in any direction. As anticipated, our drift northwestward was most rapid during the winter and spring, while the northerly winds stopped or drifted us backward during the summer.

"On June 18, 1894, we were on 81 degrees 52 minutes north, but we drifted then southward only. On October 21 we passed 82 degrees north. On Christmas Eve, 1894, latitude 83 degrees north was reached, and a few days later 83 degrees 24 minutes, the farthest north latitude previously reached by man. On January 4 and 5, 1895, the Fram was exposed to the most violent ice pressures we experienced. She was then firmly frozen in ice of more than thirty feet of measured thickness. This floe was overridden by great ice masses, which were pressed against the port side with irresistible force and threatened to bury, if not crush her. The necessary provisions with the canvas kayaks and other equipments had been placed in safety upon the ice. Every man was ready to leave the ship if necessary, and was prepared to continue with the drift, living on the floe. But the Fram proved even stronger than our trust in her."

Of his late experiences Dr. Nansen says, in another account:

"When the bear flesh was exhausted we were obliged to kill the weakest of the dogs to feed the others, and to continue so doing until the whole pack was slaughtered. If we had had dogs and canoes enough the pole would have been reached, but for lack of dogs we were compelled to turn back at latitude 86° 14'. I and my companions started in the direction of Spitzbergen May 19. After that we occupied six weeks on snow shoes, dragging

after us sledges and kayaks (the Arctic canoe) loaded on sledges. We went partly over land and partly over sea ice. The land voyage was most arduous, but extremely valuable scientific results were obtained.

"Wherever we penetrated we found the ice broken. Large patches of water were also found 3,800 meters deep. Below the depth of 190 meters the water was



DR. NANSEN.

appreciably warmer, probably owing to the Gulf Stream. Rocky scars (precipitous cliffs) prevented entrance into the Olenek River for days. I left the Fram at latitude 84 in good condition and drifting westward, locked in the ice. I expect she will eventually reach Spitzbergen. In the autumn of 1895 I reached the north coast of Franz Josef Land and built a stone house, in which I lived the whole winter. The Jackson-Harmsworth expedition arrived at Franz Josef Land the following spring. I met Jackson in June on an ice floe off Cape Flora. I was surprised at the presence of explorers on Franz Josef Land, though I had been living for a long time in a hut quite close; it proved to be one of Jackson's stations. We went to Jackson's winter quarters, where we found all in good health. We remained there about six weeks till the steamer Windward arrived.

"The Windward will take to England four English-

based was that ocean currents exist whose direction is from the islands of New Siberia across the North Polar region to Greenland, as indicated by the accompanying map, reproduced from the Geographical Journal, vol. ii. The Jeannette sank off these islands, and it was claimed that relics of the Jeannette were picked up on the shores of Greenland. Other drift relics were cited as additional proofs of these currents. In the face of this theory there were most emphatic denials, not only of the existence of such currents, but even of the authenticity of the finding of the relics.

Basing his expedition on this theory, Dr. Nansen had a special ship built for his trip, the Fram. She was a three masted schooner in rig, with engine and screw, rather of the auxiliary type. With a consumption of 2¾ tons of coal a day the Fram would develop a speed of six miles an hour, the idea being to use sail whenever possible and economize coal for use in emergencies. She was built with a very round bottom and her keel came even with the outer planking, so that nothing was presented for the ice to take hold of. The hopes were that if caught between opposing floes she would be lifted up bodily, the ice sliding in under her sloping sides and bottom. She was very strongly built, being planked with double layers of oak 3¼ inches and 4½ inches thick, sheathed again with ice planking varying from 3¼ inches to 6½ thick. The ceiling was in alternate strakes 4½ inches and 8½ inches thick. The enormous mass of timber for so small a vessel, in conjunction with her shape, seemed enough to make her stand anything. The screw and rudder were arranged so that they could be raised into a well for protection if desired. The ship was 101 feet 6 inches long, displacing 800 tons at 15 feet 6 inches draught with 3 feet 3 inches freeboard. Her carrying capacity was put at 380 tons and she carried five years' supply of provisions.

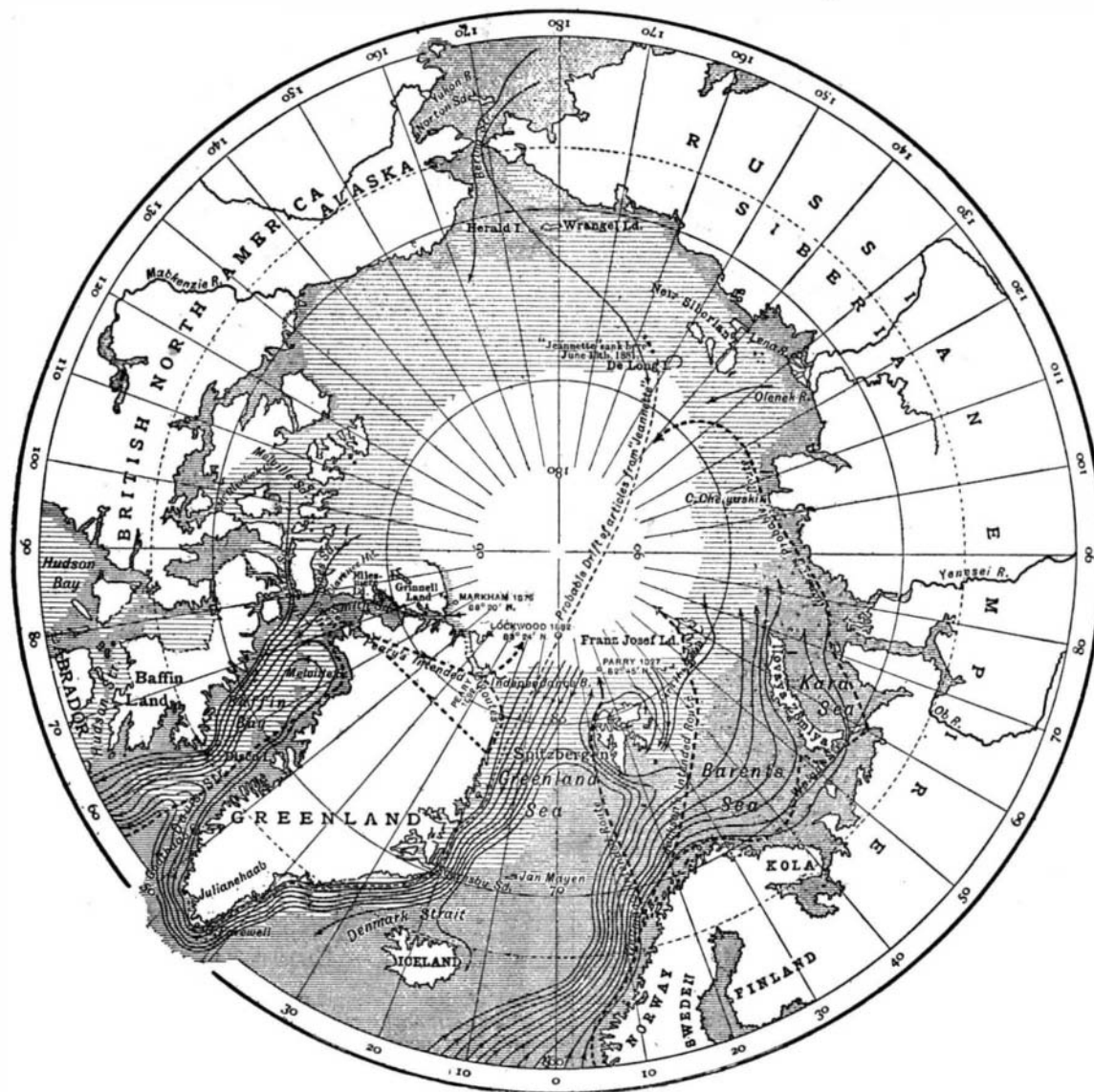
Her crew consisted of eleven men in addition to Dr. Nansen, and they departed prepared for an absence of three to five years. The ship was to coast along the northern shores of Europe until she reached the vicinity of the New Siberian Islands; here she was to strike north, depending largely on ocean currents to carry her along. The course would carry her past the North Cape and then approximately along the 70th and 80th circles of latitude until at or about the 150th parallel of longitude east from Greenwich, and just north of Bennett Island, the course would be changed to the north. Hence the explorer hoped to pass by the pole, to work down along the east coast of Greenland and thence to the east back to Christiansand.

Remedy for Flies on Cattle.

Take coal tar two parts and coal oil and grease one part each and mix with a small amount of carbolic acid. Apply with a cloth by moistening the hair and horns of the animal with the liquid. In the applications include feet and legs, and it will drive every fly away, and one application will last ten days or more in dry weather. Apply as often as necessary and your cows will be entirely secure from flies of all kinds. Any kind of old lard or grease can be used. Coal tar is the base of this remedy, and when too thick to spread well, use more coal oil; when too thin to adhere well, use more coal tar. Carbolic acid will cost about 50 or 60 cents in crystals by the pound, and every farmer should always keep it on hand, as it, in its many uses, is indispensable. This remedy is equally effective as a lice exterminator on poultry, and is used simply by painting the sides of the hennery and roosts and dropping boards with the liquid. For young chickens saturate a cloth and place in the bottom of a box, and place the mother and young chickens in the box for an hour or so. This

recipe, says H. F. Work, in the Drainage Journal, is equal to any preparation in the market.

M. MOISSAN has been experimenting with vanadium in the electric furnace. He finds that it alloys readily with iron, copper, and aluminum, and that its carbide VC is not affected by water at ordinary temperatures.



NORTH POLAR MAP TO ILLUSTRATE POLAR EXPEDITIONS.

men of the Jackson-Harmsworth expedition—Child, Burgess, Fisher and Blomquist. Jackson proposes to remain in the Arctic regions until next summer, with the intention of pushing further north. Jackson and his companions are in excellent health and spirits, and full of hope as to the results of their expedition." The theory on which Dr. Nansen's expedition was