THE FARTHEST NORTH.

Lockwood and Brainard, of the Greely expedition, on May 13, 1882, reached a higher latitude than had and moss, making the roof of walrus hide tied down ever before been attained in that quest to reach the with rope and covered with snow. We used the blubpole which has tempted ambitious explorers for over three hundred years. Since that time their record, 83 the blubber were our only food for ten months. The yet made his ascension. degrees 24 minutes, has stood as the nearest approach bear skins formed our beds and sleeping bag. The to the pole yet made by man. Now Dr. Fridjof Nansen, winter, however, passed well, and we were both in pera Norwegian, has attained the higher latitude of 86 fect health. Spring came with sunshine and with

degrees 14 minutes. Most of the details of this last expedition were given in last week's SCIENTIFIC AMERICAN, but we are now able to add some further particulars, together with a map showing the explorer's route. In a signed statement published in the London Chronicle Dr. Nansen says :

"On March 3 we reached 84 degrees 4 minutes north. Johansen and I left the Fram on March 14, 1895, at 83 degrees 59 minutes north and 102 degrees 27 minutes east. Our purpose was to explore the sea to the north and reach the highest latitude possible, and then to go to Spitzbergen via Franz Josef Land, where we felt certain to find the ship. We had twentyeight dogs, two sledges and two kayaks for possible open water. The dog food was calculated for thirty days and our provisions for one hundred days. We found the ice in the beginning tolerably good traveling, and so made good distances, and the ice did not appear drifting much. On March 22 we were at 85 degrees 10 minutes north. Although the dogs were less enduring than we hoped, still they were tolerably good. The ice now became rougher and the drift contrary. On March 25 we had only reached 85 degrees 19 minutes north, and on March April 7, 1895-Nansen's farthest north, 86 degrees, 14 minutes. 29, 85 degrees 30 minutes. We were now

pressure was heard in all directions.

we reached 86 degrees 3 minutes north, but the ice became rougher, until on April 7 it got so bad that I considered it unwise to continue our march in a northerly direction. We were then at 86 degrees 14 minutes north. We then made an excursion on skis further northward in order to examine as to the possibility of

We had had low temperature and during nearly three weeks it was in the neighborhood of 40 degrees below zero. On April 1 it rose to 8 degrees below zero, but soon sank again to -38. When a wind was blowing in this temperature we did not feel comfortable in our too thin woolen clothing. To save weight we had left our fur suits on board ship. The minimum temperature in March was -49 and the maximum was -24. In April the minimum was -38 and the maximum -20 degrees. We saw no sign of land in any direction. In fact, the floe of ice seemed to move so freely before the wind that there could not have been anything in the way of land to stop it for a long distance off. We were now drifting rapidly northward. On April 8 we began our march toward Franz Josef Land. On April 12 our watches ran down, owing to the unusual length of the day's march. After that date we were uncertain as to our longitude, but hoped that our dead reckoning was fairly correct. As we came south we met many

sidered it wisest to stop and prepare for winter. We shot bears and walruses and built a hut of stones, earth ber for cooking, light and heat. The bear meat and

Fram was 2,185 fathoms, and the lowest temperature recorded was 52° below zero. It is stated that on August 14 the Fram called at Danes Island, where a visit was made to M. Andrée, who is attempting to reach the pole by means of a balloon, but who had not

CYCLE TELEGRAPHS IN WAR.

As is well known, electrical communication plays an

important part in the warfare of to-day, a part that emphasizes the necessity of developing it to the highest degree of efficiency for armies operating upon a base apart from a commercial telegraph system. Special attention has been given by the Signal Corps of the United States Army to provisions for temporary telegraphic or telephonic intercommunication. Flying telegraph trains equipped with the most modern appliances are located at several government stations in the West. Among pending experiments are those pertaining to insulators, wire, batteries and the most important one of the naked wire telephone.

The question of the reeling out and recovering of wire and outpost cable by bicycle, automatically, has come in for a considerable share of attention, and the results have been very satisfactory. The Signal Corps has now a bicycle equipped with an automatic reel that works perfectly. The attachment was made in San Antonio, Texas, under the supervision of its inventor, Captain R. E. Thompson, of the Signal Corps. The line was laid out and recovered at a moderate rate on the day of the first test. The speed way gradually increased, and it was found that the wire was paid out quickly. After dismounting for a moment to reverse

evidently drifting fast toward the south. Our progress much open water to the southwest. We hoped to have the action, the officer began a return trip, keeping in the middle of the road and riding hard. The recovery was perfectly made, the wire being spooled evenly and the tension was at no time troublesome, although the course of the line was occasionally departed from by many feet, showing that the problem of compensating for increased speed of the recovery due to increasing bulk of the spool has been solved. The time occupied in running out and then picking up the reel of wire was two minutes, the reel holding about one-third of a mile of cable. Practical use has been made of the equipment in sending messages at other times than on the trial trip.

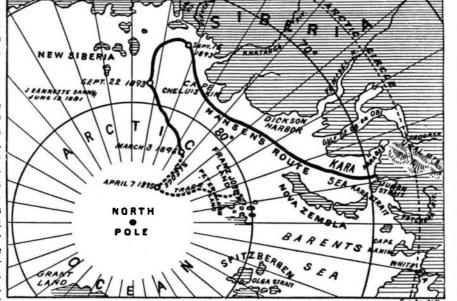
We present an engraving of a device for the same purpose which has been invented by a German who is of the same description, hummock beyond hummock the most westward cape, but Payer's map was mis- at present living in London, Mr. Leo Kamm. This is a to the horizon, looking like a sea of frozen breakers. leading." Dr. Nansen's account concludes as follows: cycle for laying wires for military purposes. It consists

> of an ordinary pneumatic tired safety provided with two or three drums of wire of about four inches in diameter. On each of the spools is wound a twisted wire composed of fine steel threads. Each reel carries a mile of wire. The wire passes over a wheel connected with a telegraph receiver. As the rider travels, the rotation of the bicycle unwinds the wire from the drum, leaving it on the ground. The bell rings before the wire is entirely paid out from the drum. When it is desired to send a message to the starting point, the rider dismounts and fixes in the ground an earth rod which is carried for that purpose. The apparatus for laying the wire weighs 7 lb., and each mile of wire weighs 10 lb. This machine was actually employed at the recent Aldershot maneuvers. It was also shown at the military tournament at Agricultural Hall.

.... The Storing of Dry Plates.

Ever since the dry plate has been commercially used, defects or deterioration due to the packing of plates have become known. It was found chemicals in the paper separator strips, combined with the moisture of the atmosphere, acted on the film, producing a developable fog. Mr. A. L. Henderson, in a paper lately read before the London and Provincial Photographic Association, described a series of experiments he had made, and came to the conclusion that paper was unsafe as a receptacle for holding plates. His recommendation is that plates be separated by strips of tinfoil and stored in metal "We left Franz Josef Land in the steamer Windward boxes, a suggestion which seems feasible in view of the facility which the X rays have of passing through paper. There appears to be a phosphorescent action from paper on the film, as well as chemical, according to the results of his experiments.





MAP SHOWING ROUTE OF NANSEN'S POLAR EXPEDITION.

September 15, 1893-Where Nansen was to have received a supply of dogs, but decided not to lose time by stopping.

eptember 22, 1893-The Fram was closed in by the ice at this point; and began her drift northward. March 3, 1895-Where Nansen and Johansen left the Fram for their sledge journey.

was very slow. It was fatiguing to work our way and an easy voyage to Spitzbergen over the floe of ice and carry our sledges over the high hummocks constantly the open water. We were obliged to manufacture new being built up by the floes grinding against each clothes from blankets and a new sleeping bag of bear other. The ice was in strong movement and the ice skin. Our provisions were raw meat and blubber. On May 19 we were at last ready to start. We came to "On April 3 we were at 85 degrees 50 minutes north, open water on May 23, in 81:05 north, but were retarded constantly hoping to meet smoother ice. On April 4_{i} by storms until June 3. A little south of 81 degrees we found land extending westward and open water which reached west-northwest along its north coast. But we preferred to travel southward over the ice through a broad sound. We came on June 12 to the south side of the island and found much open water trending westward. We sailed and paddled in this a further advance. But we could see nothing but ice direction in order to proceed across to Spitzbergen from

cracks, which greatly retarded our progress. The provisions were rapidly decreasing. The dogs were killed one after the other to feed the rest.

"On May 31 we were in 82 degrees 21 minutes north and on June 4 in 82 degrees 18 minutes north, but on June 15 we had been drifted to the northwest to 82 degrees 26 minutes north. On July 22 we continued our journey over tolerably good snow. On July 24, when about 82 degrees north, we sighted unknown land at last, but the ice was every-

where broken into small floes, the water between being filled with crushed ice in which the use of the kayaks was impossible. We therefore had to make our way by balancing from one ice piece to another, and we did not reach land until August 6, at 81:38 north and 63 degrees east longitude.

TELEGRAPH LAYING CYCLE,

on August 7 and had a short and very pleasant passage, thanks to the masterly way in which Captain Brown brought his ship through the ice, and thence in the open sea to Vardoe."

On August 20 word was received of the safe arrival of "On August 26 we reached a spot in 81:13 north and the Fram at Skjervoe, near the North Cape. After Dr. 65 east, evidently well suited to wintering, and as it Nansen left her she drifted nearly two degrees north- 270,000, which is considerably more than the whole was now too late for the voyage to Spitzbergen, I con- ward, to 85° 57'. The deepest sounding taken by the British army.

THIS year's recruits for the Russian army numbered