THE PRACTICAL RESULTS OF THE ENGLISH ARCTIC EXPLORING EXPEDITION.

We have before us the connected and detailed narrative of the English expedition, which has lately returned from the arctic regions. A general outline of the voyage we have already presented, noting the fact that the sledge parties from the Alert had reached the highest northern point ever attained, and only turned back when further progress toward the pole became impossible owing to the roughness of the ice and the terrible cold. The official report of the attempt says that, instead of land extending far towards the north, as reported by the Polaris, Robeson Channel opens directly into the Polar Sea. The Alert rounded the northeast point of Grant Land, but, instead of finding a continuous coast line leading one hundred miles further towards the north, as everyone had expected, found herself on the border of what was evidently a very extensive sea, with impenetrable ice on every side. No harbor being obtainable, the ship was secured as far north as possible, inside a sheltering barrier of grounded ice, close to the land, and there she passed the winter. During her stay of eleven months no navigable channel of water permitting further advance to the northward ever presented itself. Instead of finding an "open Polar Sea," the ice was of most unusual age and thickness, resembling, in a marked degree, both in appearance and formation, low floating icebergs rather than ordinary salt water ice. It has now been termed the "Sea of Ancient Ice"—the Palæocrystal or Palæcruic Sea; and a stranded mass of ice broken away from an icefioe is named a floeberg.

Whereas ordinary ice is usually two feet to ten feet in thickness, that in the Polar Sea, in consequence of having so few outlets by which to escape to the southward in any appreciable quantity, graduallly increases in age and thickness until it measures from 80 feet to 100 feet, floating with its surface at the lowest part 15 feet above the water line.

Strange as it may appear, this extraordinary thickness of the ice saved the ship from being driven on shore; for, owing to its great depth of flotation, on nearing the shallow beach it grounded and formed a barrier, inside which the ship was comparatively safe. When two pieces of ordinary ice are driven one against the other and the edges broken up, the crushed pieces are raised by the pressure into a high, long, wall-like hedge of ice.

When two of the ancient floes of the Polar Sea meet, the intermediate lighter, broken-up ice, which may happen to be floating about between, alone suffers; it is pressed up between the two closing masses to a great hight, producing a chaotic wilderness of angular blocks of all shapes and sizes, varying in hight up to 50 feet above water, and frequently covering an area upwards of a mile in diameter.

Such an icy road, which was sure to be continuous, destroyed all hope of the pole itself being reached by sledges. Commander Markham and Lieutenant Parr were, however, absent seventy-two days from the ship; and on May 12 succeeded in reaching latitude 83° 20′ 26″ N., as marked on the annexed map. From this position there was no appearance of land to the northward, but, curiously enough, the depth of water was found to be only seventy-two fathoms.

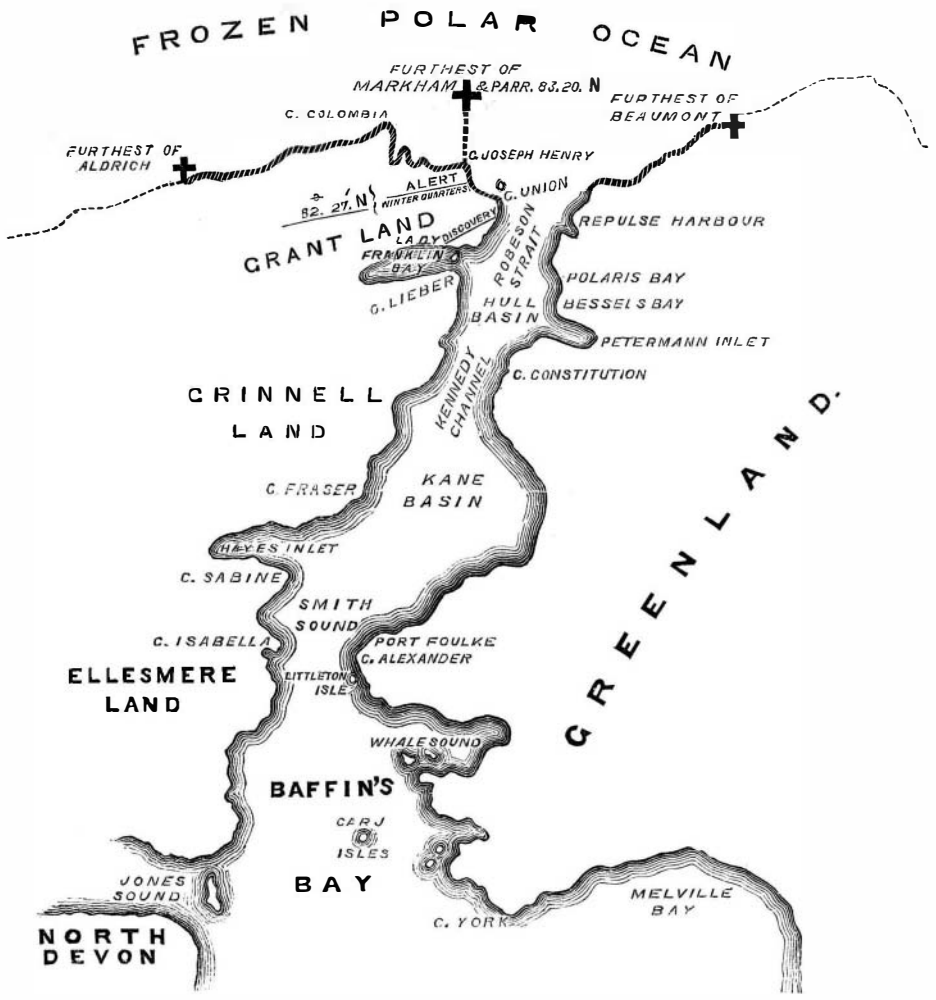
In addition to the dispatch of the northern travelers, the coast line to the westward of the Alert's position was traced for a distance of 220 miles by a party under the command of Lieutenant Aldrich; the extreme position reached was in latitude 82° 40′ N., longitude 86° 30′ W., the coast line being continuous from the Alert's winter quarters. The most northern land, Cape Columbia, is in latitude 83° 7′, longitude 70° 30′ W.

The coast of Greenland was explored by traveling parties from the Discovery, under the command of Lieutenants Beaumont and Rawson. They succeeded in reaching a position in latitude 83° 18′ N., longitude 50° 40′ W., 70 miles northeast of Repulse Harbor. The land extended as far as latitude 82° 54′ N., longitude 48° 33′ W., but very misty weather prevented its character being determined with exactness. Lieutenant Archer, with a party from the Discovery, explored Lady Franklin Sound, proving that it terminates at a distance of 65 miles from the mouth, with lofty mountains and glacier-filled valleys to the westward. Lieutenant Fulford and Dr. Coppinger explored Petermann Fiord, finding it blocked up with a low glacier, which extends across from shore to shore. With the exception of Hayes Sound, the coastline of Smith Sound has now been explored from north to south.

When all had come back to the ships, Captain Nares found that the sufferings had been terrible, that the work achieved was unsurpassed in the annals of discovery; but he also found that the heroic devotion of officers and men had secured for the expedition complete success. The work was done, and he was able to decide upon returning to England. While the pole had, it is true, not been reached, the impracticability of any one ever attaining it had been placed beyond doubt.

We have noticed that because Captain Nares did not accomplish the discovery of the pole, which by common consent rather than through any scientific reason is considered the goal of all arctic expeditions, his work has been hastily pronounced a failure. This is not only unjust but unfounded; for the expedition really accomplished all it started to perform, namely, the exploration of the region adjacent to the pole, and only ceased when insuperable difficulties and the practical completion of its task rendered further labors both impossible and unnecessary. Mr. Clements R. Markham sums up its splendid achievements as follows:

First, a great Polar Ocean has been discovered and fully described, which will revolutionize most preconceived ideas, and a knowledge of which will be most valuable to the science of hydrography. Next, a coast line, stretching from 50° of longitude along the Polar Ocean, has been discovered and carefully delineated; and an exhaustive knowledge of its geology, fauna, and flora has been obtained. The long channel, from Smith Sound to the Polar Ocean, has also been carefully delineated, and the shores on both sides have been explored and described. Most important discoveries have been made with reference to the geology of the unknown area, the value of one of which—namely, the former existence of an evergreen forest in 82° 44′ N.—is alone worth all that has been expended on the expedition. In zoology and botany the results are equally valuable, especially as regards the distribution of plants and animals. Add to this that complete series of observations, at two separate stations, have been recorded in meteorology, magnetism, tides, electricity, and spectrum analysis: besides other results not yet reported.



MAP OF THE COURSE OF THE BRITISH POLAR EXPEDITION.

Business Precepts.

We find it stated that the founder of the great banking house of Rothschilds made the following rules the guide of a business career culminating in magnificent success:

1. Combination of three profits. "I made the manufacturer my customer, and the one I bought of, my customer; that is, I supplied the manufacturer with raw materials and dyes, on each of which I made a profit, and took his manufactured goods, which I sold at a profit, and thus combined three profits."

2. Make a bargain at once. Be an off-handed man.

3. Never have anything to do with an unlucky man or place. "I have seen many clever men who have not shoes to their feet. I never act with them. Their advice seems very well, but fate is against them; they cannot get on themselves, how can they do good to me?"

4. Be cautious and bold. "It requires a great deal of boldness and a great deal of caution to make a great fortune, and when you have got it it requires ten times as much to keep it."

A Fish of Seven Colors and Three Tails.

Mr. Gill, of Martin, Gillet & Co., of Baltimore, Md., has just returned from Japan, bringing with him a beautiful and rare fish, never before seen in this country, and which he has kindly loaned to the New York Aquarium. The peculiar features are several brilliant colors and three separate and distinct tails, all of which the Japanese claim are the result of many and successful years of the most careful breeding. A number of attempts have been made to introduce this fish into American waters, but this is the only instance of success. A tank, suspended like a compass, to avoid the ship's motion, was especially constructed, and then, notwithstanding the greatest care, attention, and constant watching, out of eighty-eight only seven survived the journey. The remaining six that Mr. Gill has have spawned, resulting in fifty young fry, which exhibit all the peculiarities of the originals. It is Mr. Gill's intention, as soon as he has a sufficient stock, to give some of them to persons who will endeavor to raise them. The fish loaned to the aquarium is a magnificent specimen, and exhibits all the several beautiful colors in perfection.

What British Hardware Manufacturers Have to Do.

The last number of the *Ironmonger* takes the British manufacturers to task for not furnishing what the people demand, and admonishes them, if they expect to retain their trade, to adopt the plan of supplying the article the consumer requires. "Many old patterns will have to give way in this country," it says, "in favor of more handy goods in frequent use throughout the New World. The essence of the American's success consists in the fact that he always supplies just what the consumer wants, or thinks he wants, and that he supplies the want promptly. While an Englishman cannot for the life of him sacrifice stock, the American, who, as a salesman, is frequently 'two or three hours ahead' of our own countrymen, does so without compunction. Only let him see his opportunity, and he will not hesitate a moment. Of this an instance was recently recorded in the method of dealing by two traders of different nationalities, who were selling goods required by the miners at the gold diggings. The articles were dippers, and they were supplied by the hundred by an English and an American firm respectively. When the goods were delivered upon the ground, the tide of popular opinion had turned, and something different was wanted. The American tossed all his dippers into a shed and thought no more of them; in less than a week he had a supply of new dippers on the ground. Not so the Englishman; he persisted in trying to sell what he had got, and refused to sell anything else. 'Is it a matter of surprise,' it is asked, 'that the American did a roaring trade, while the Britisher retired in disgust?' Why have we lost the ax trade? Because the English ax makers were too proud or too indolent to take a lesson from the Americans, who, utilizing their great experience in the use of such a tool, have produced the best possible instrument for the purpose. Doggedly the English ax maker has gone on making an imperfect tool, and has forced the consumer at home as well as abroad to buy oftentimes reluctantly, the American product. Less than ever can we afford to repeat that and other mistakes which are now occurring in a not dissimilar line of business; for it will most certainly come about that additional agencies will be opened in this country for supplying such goods. Even at this moment the electroplate goods of a leading electroplate company of America are being sold in Birmingham; and through a central agency there, what are known as 'Canadian' gold Albert chains, which are really excellent goods of United States make, are being sold throughout the whole of England. Established English ironmongers have a right to look to English hardware firms to supply them with goods that the English people may demand, without driving them to resort to present or future American agencies, either in Birmingham, Liverpool, or London."

To Distinguish between Cotton and Wool in Fabrics.

Ravel out the suspected cotton fiber from the wool and apply flame. The cotton will burn with a flash, the wool will curl up, carbonize, and emit a burnt, disagreeable smell. Even to the naked eye the cotton is noticeably different from the filaments of wool, and under the magnifier this difference comes out strongly. The cotton is a flattened, more or less twisted band, having a very striking resemblance to hair, which, in reality, it is; since, in the condition of elongated cells, it lines the inner surface of the pod. The wool may be recognized at once by the zigzag transverse markings on its fibers. The surface of wool is covered with these furrowed and twisted fine cross lines, of which there are 2,000 to 4,000 in an inch. On this structure depends its felting property. Finally, a simple and very striking chemical test may be applied. The mixed goods are unraveled, a little of the cotton fiber put into one dish and the woolen in another, and a drop of strong nitric acid added. The cotton will be little or not at all affected; the wool, on the contrary, will be changed to a bright yellow. The color is due to the development of a picrate.

ONE per cent of lime with silica makes the most infusible brick known.