

by impenetrable ice, the brave De Haven was balked, and turning his vessels homeward they came out into an open sea, somewhat crippled, but not a plank seriously started. During a storm off the banks of Newfoundland, a thousand miles from New York, the vessels parted company. The Advance arrived safely at the navy yard at Brooklyn on the 30th of September, and the Rescue joined her there a few days afterward. Toward the close of October the government resigned the vessels into the hands of Mr. Grinnell to be used in other service, but with the stipulation that they were to be subject to the order of the Secretary of the Navy in the spring if required for another expedition in search of Sir John Franklin.

In 1852 Commander Inglefield set out on an expedition in the English steamer Isabel from Fair Island. On the 30th day of July the expedition first saw the snowy mountains of Greenland. Several Danish settlements were visited, and then it proceeded to Smith's Sound, the upper or northern continuation of Baffin Bay. The western shore of this body of water, which forms a part of the polar ocean, was composed of a high range of ice-covered mountains, which were called after the Prince of Wales. The extreme northern point of these mountains was named Victoria Head in honor of the British Queen. The most northern point discovered by Captain Inglefield on the eastern shore of this sea was named by him after the Danish monarch Frederick VII. This steamer reached latitude  $78^{\circ} 28' 21''$ , about 140 miles farther north than had been attained by any previous navigator. Not having discovered any traces of Sir John Franklin Captain Inglefield returned after an absence of precisely four months from the day of starting. Another expedition in search of Sir John Franklin started in 1850 under instructions of the British Admiralty. It was commanded by Lieutenant Sherard Osborn, and consisted of the steam-vessels Pioneer and Intrepid, and returned to England in October, 1851. Other British expeditions were commanded by Sir John Richardson and Captain William Kennedy.

## CHAPTER XVI.

### THE SECOND GRINNELL EXPEDITION, COMMANDED BY DR. E. K. KANE.

Two Winters in the Arctic Region, the first in Latitude  $78^{\circ} 37'$ , Longitude  $70^{\circ} 40'$ —A Sledge Expedition from here pushes as far as Cape Constitution in Washington Land, Latitude  $81^{\circ} 27'$ , and finds Kennedy Channel free from Ice, abounding with Animal Life, and opening in a great Polar Sea—Safe Return to the United States in 1855.

OF the several expeditions sent out in 1853 the most important was that fitted out by Mr. Grinnell, of New York, Mr. Peabody, of London, and others, and commanded by Dr. E. K. Kane.

Dr. Kane received his orders from the Navy Department at Washington to conduct an expedition into the Arctic regions in search of the great English navigator. The ship Advance, in which he had formerly sailed, was placed under his command. His party numbered seventeen picked men. The brig sailed from the port of New York on the 30th of May, 1853, and in eighteen days arrived at St. John's, Newfoundland. After providing themselves at this place with an additional stock of fresh meat, and a valuable team of Esquimau dogs, they steered for the coast of Greenland.

On the 1st of July Dr. Kane entered the harbor of Fisker-noes, one of the Danish settlements of Greenland. Some fresh provisions were here obtained, and an Esquimau hunter of superior skill was enlisted in the service of the party.

Proceeding on from this point the other Danish settlements of Greenland were successively visited—Lichtenfels, Sukkertoppen, Proven, Upernavik, at the last of which places the first Grinnell expedition of 1851 had rested after its winter drift. At length they reached Yotlik, the most northern point in Greenland inhabited by human beings. Beyond this the coast may be regarded as having been until that period unexplored. From Yotlik Dr. Kane steered northward toward Baffin Islands, which he found then clear of ice, and

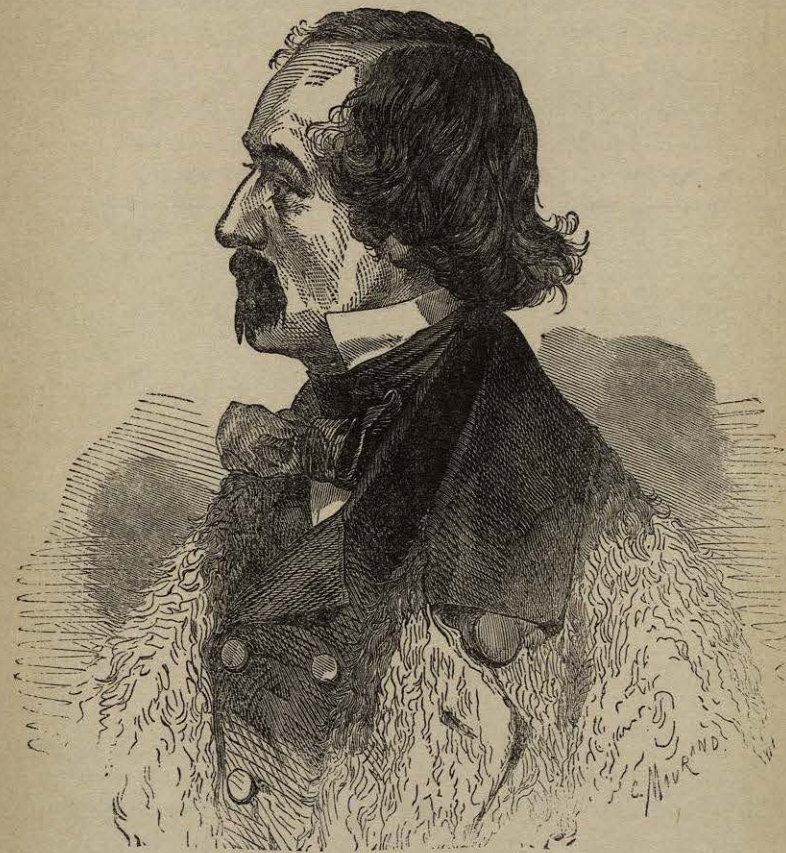
passing by Duck Island bore away for Wilcox Point. As he approached Melville Bay he was enveloped in a thick fog, during the prevalence of which he drifted among the icebergs. After a hard day's work with the boats, they towed the brig away from these unpleasant and dangerous neighbors. He then determined to stand westward and double Melville Bay by an outside passage, unless prevented and intercepted by the pack.

On the 5th of August they passed the Crimson Cliffs, so called from the appearance usually presented by their snow-clad summits. Next day they reached Hakluyt Island, which is surmounted by a tall spire springing six hundred feet into the heavens above the level of the water. They soon passed Capes Alexander and Isabella, and thus entered Smith's Sound. Having reached Littleton Island, Dr. Kane determined to deposit here a supply of provisions and some permanent traces of his route, to be used in case it should be necessary afterward to send an exploring party to discover the fate of his own. The life-boat was accordingly buried here, containing a supply of pemmican, blankets, and India-rubber cloth. They endeavored to fortify the precious deposit from the claws of the polar bear.

The 20th of August still found the brig and her crew navigating the dangerous and ice-laden waters of Smith's Sound. At this date they encountered a storm of extraordinary fury, and made one of those narrow escapes from destruction which sometimes give an air more of romance than of reality to the adventures of Arctic explorers. In a terrific gale their three hawsers were broken, and the brig drifted with fearful rapidity under the furious pressure of the storm. The navigators continued their northern route by tracking along the ice-belt which hugs the frozen shore. On the 23d of August they had reached  $78^{\circ} 41'$  north latitude. This placed them farther north than any of their predecessors had been, except Captain Parry.

From his researches in this region, Dr. Kane came to the conclusion that this coast of Greenland faced to the north. His longitude here was  $78^{\circ} 41'$  west. After sixteen miles of foot journey, the company reached a great headland, to which they gave the name of Thackeray. Eight miles farther on a similar eminence attracted their attention, to which they applied the epithet of Hawkes. The table-lands here

were twelve hundred feet high. The party continued their difficult and dangerous journey until they reached some lofty headlands, where they determined to end their trip. These reached an altitude of eleven hundred feet, and overlooked an expanse extending beyond the eightieth parallel of latitude. The view from this elevation was marked by gloomy and cheerless magnificence. On the left, the western



DR. E. K. KANE

shore of the sound stretched away toward the north. To the right, a rugged and rolling country appeared, which ended in the Great Humboldt Glacier. Toward the northeast, the projecting headland called Cape Andrew Jackson appeared, and the vast area between was a sea of solid ice. Farther still, a sea of icebergs presented their rugged and unseemly bulks to the eye of the observer.

Having carefully examined the whole country as far as his

glasses would reach, Dr. Kane determined to return to the Advance. Winter was now rapidly approaching, and it was necessary to select some appropriate spot in which the crew and the vessel might pass its long, gloomy and dangerous interval. For various reasons, Dr. Kane resolved to remain where he then was. He had arrived at the conclusion that Rensselaer Harbor would be the most desirable winter-quarters, and on the 10th of September they commenced the labors necessary to render their position tenable and safe. They removed the contents of the hold of the vessel to a storehouse which they prepared on Butter Island. A deck-house was built on the vessel, in which the different qualities of ventilation, warmth, dryness, room and comfort were sought to the utmost possible extent. A site for the observatory was selected. Stones were hauled over the ice on sledges for its erection. Its location was on a rocky inlet about a hundred yards from the vessel, which they named Fern Rock. Preparations were also made preparatory to the work of establishing provision depots on the coast of Greenland. The advantage of these provision depots will appear from the fact that by their assistance expeditions of search could afterward be conducted with the use of sledges and dogs. The provisions for the latter, if taken on the journeys themselves, form so heavy a load as seriously to embarrass the movements of the travellers. But when they were released from this labor these dogs conveyed the sledges and their occupants on long journeys successfully, and with great rapidity, on their tours of examination.

On the 20th of September the first party organized to establish provision depots was sent out. It consisted of seven men. A sledge thirteen feet in length, called the Faith, was filled with pemmican, and was drawn by those attached to it by means of track-ropes, termed rue-raddies, which were passed around the shoulder and under the arms. The intended location of this depot was sixty miles from the brig, on the Greenland coast.

The life of the party which remained in the vessel was not devoid of incident and interest. By the 10th of October the party which had been sent to establish the first depot of provisions had been absent twenty days, and their return was anxiously expected. Dr. Kane at length determined to start out in search of them. He travelled with one companion on

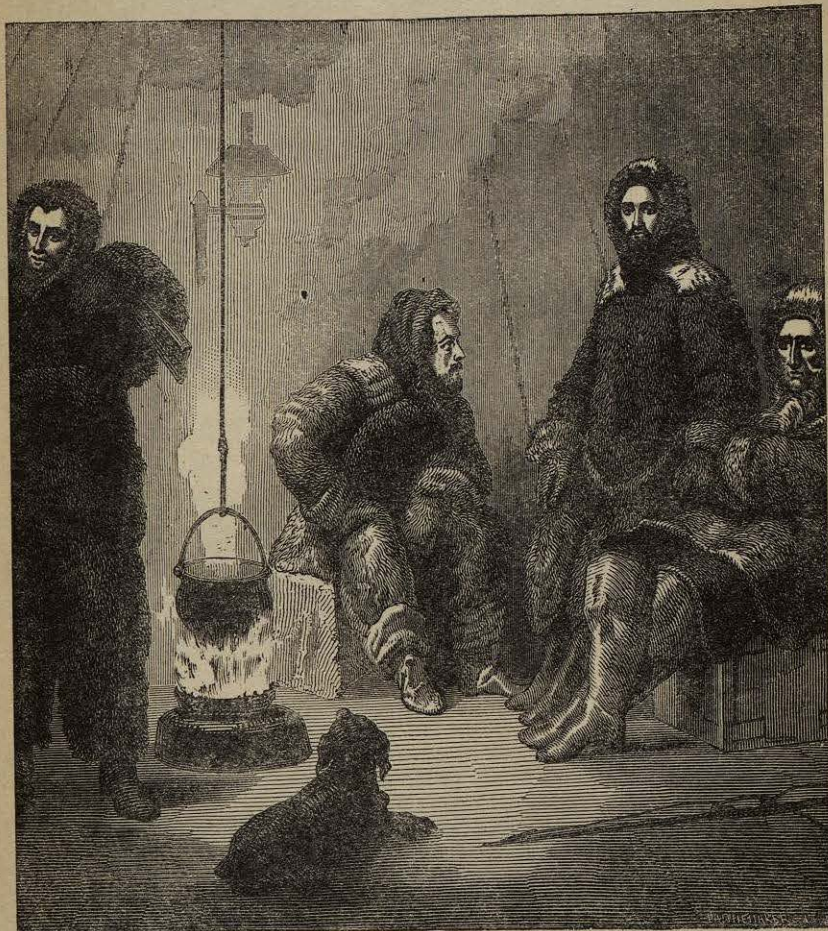
a sledge drawn by four Esquimau dogs. He averaged twenty miles per day with this singular team. On the 15th, several hours before sunrise, he perceived on the distant and snowy waste a dark object which seemed to move. It proved to be the returning depot party. They had travelled at the rate of eighteen miles per day, and had been twenty-eight days engaged in their laborious expedition. Some of their limbs had been frozen, and they had met with other mishaps, though none were of a very serious nature, and they had accomplished the purpose for which they had been sent out. The greeting which ensued on their return to the ship was hearty on both sides. They had made the first deposit of provision at Cape Russell. Thirty miles farther on they left about a hundred and ten pounds of pemmican and beef, about thirty pounds of a mixture of pemmican and meal, and a bag of bread. On the 10th of October they made their third and last deposit on an island called James McGary, after the second officer of the expedition. Here they erected a cairn and buried six hundred and seventy pounds of pemmican and forty of meat, biscuit, with other items, making in all eight hundred pounds.

By the 7th of November, 1853, the darkness of an Arctic winter began to settle down upon them. It was necessary to keep the lamps lit constantly. In spite of the intense cold, Dr. Kane continued to make his magnetic observations in the observatory. When the thermometer stood at forty-nine degrees below zero, and even at sixty-four degrees below zero, he still effected his astronomical investigations and calculations.

On the 21st of January the first traces of the returning light became visible. Its approach was indicated by a beautiful orange tint, which flushed the distant southern horizon. But still the darkness seemed to be eternal and unvarying. The continued absence of light appeared to affect the health of the party as much as the excessive rigor of the cold. By the 21st of February the sun's rays became clearly visible, and, when March arrived, it brought with it the almost perpetual day which alternately takes the place in the Arctic realms of almost perpetual night.

By the 18th of March the spring tides began to break and move the massive ice which still bound the Arctic Sea. The ice commenced to grind and crush, the water to dash to and fro, and the vessel to rise and descend in a range of seven-

teen feet per day. On the 20th a depot party was sent out preparatory to the commencement of the operations of the summer. The necessary preparations for inland trips and researches were made, sledges and accoutrements were contrived, and moccasins were fabricated. While these labors occupied their attention, a portion of the depot party suddenly



KANE AND HIS COMPANIONS.

reappeared at the vessel. They brought back a terrible report. They had left four of their number lying on the ice frozen and disabled, and they had returned a great distance to obtain instant relief.

Not a moment was to be lost. Ohlsen, the only one of the returned party who seemed able to give any information, was wrapped up in buffalo robes and placed upon a sledge. Nine

men started out to the rescue. The cold was intense, ranging seventy-eight degrees below the freezing-point. The instant the party ceased to move they would have been frozen to death. Violent exercise alone kept them alive. When they ventured to apply snow to their lips to slake their thirst, it burnt like caustic, and blood immediately followed. Some of the men were seized with trembling fits and some with attacks of short breath. Dr. Kane himself fainted twice upon the snow under the intense cold.

After a laborious and dangerous journey of twenty-one hours, the lost party were discovered. They were nearly forty miles distant from the brig. Their condition was perilous in the extreme, and the succor did not come a moment too soon. But the rescuers were scarcely better off than the rescued. They were compelled to drag a load of nine hundred pounds upon the sledge, and during their return trip the whole party were in imminent danger of being frozen to death. They could with the utmost difficulty resist the disposition to sleep, which would have immediately sealed their fate. After a fearful journey of several days, the party regained the brig; but the sufferings of that terrible occasion were almost beyond the power of imagination. They had travelled about ninety miles, and most of the men had become temporarily delirious, nearly all were frozen in some portions of their bodies, and two of them ultimately died in consequence of their exposure.

On the 27th of April, the time having arrived to continue his researches both after Sir John Franklin and in Arctic discovery, Dr. Kane determined to resume his expedition. He resolved now to follow the ice-belt to the Great Glacier of Humboldt, and thence to stretch along the face of the glacier toward the west of north and make an attempt to cross the ice to the American side of the channel. The object of this bold venture was to attain the utmost limit of the shore of Greenland, to measure the waste which extended between it and the unknown west, and thus to reveal, if possible, some of the mysteries which surrounded the North Pole. The journey was immediately commenced. After many adventures and sufferings, the Great Glacier of Humboldt was reached.

Dr. Kane now determined to organize a double party, in order to ascertain whether a channel or any form of outlet existed to the northern extremity of the coast of Greenland.

He was convinced of the existence of such a channel from the movements of the icebergs, from the physical character of the tides, as well as from certain and uniform analogies of physical geography.

On the 3d of June one of the parties of exploration set out from the brig. They had a large sledge thirteen feet long. They aimed directly for the glacier-barrier on the Greenland side. Their orders were to attempt to scale the ice and examine the interior of the great *mer-de-glace*.

On the 27th of June one of the parties, directed by McGary and Bonsall, returned to the brig. Several of them had become nearly blind. After twelve days' travel, they had reached the Great Glacier. They found the depot of provisions, which had been deposited the previous season, destroyed by the bears. An alcohol cask strongly bound in iron was dashed into fragments, and a tin liquor can was mashed and twisted into a ball. This party of explorers had found it impossible to scale the Great Glacier, and returned to the brig without having effected any results of importance.

The other party, which had been placed under the guidance of Mr. Morton, left the vessel on the 4th of June. On the 15th they reached the foot of the Great Glacier. They steered northward, keeping parallel with the glacier, and from five to seven miles distant from it. The thickness of the ice over which they journeyed was found to be seven feet five inches. They travelled frequently with the snow up to their knees. When they had reached Peabody Bay they encountered the bergs, whose surface was fresh and glassy. Some of these were rectangular in shape and some were square, and their length varied from a quarter of a mile to a mile. The task of travelling over these bergs was full of difficulty and danger. At length they made their way to the ice beyond.

On the 19th of June, having encamped, Morton ascended a high berg in order to examine their future route and survey the surrounding desolation. From this point he beheld an extensive plain which stretched away toward the north, which proved to be the Great Glacier of Humboldt. From this point the advance of the party was perilous. They were frequently arrested by wide and deep fissures in the ice. Some of these chasms were four feet wide, and contained water at the bottom. From this point they beheld the distant northern shore, termed the "West Land."

At length, by the 21st of June, the party reached a point opposite the termination of the Great Glacier. It appeared to be mixed with earth and rocks. Travelling on they reached at length the head of Kennedy Channel, and saw beyond that the open water. Passing in their route a cape, they called it Cape Andrew Jackson. Here they found good smooth ice; for during the last few days they had passed over rotten ice, which not unfrequently threatened to break beneath them. Having entered the curve of a bay, they named it after Robert Morris, the great financier of the revolution.

Kennedy Channel here grew narrower, but afterward it widened again. Broken ice in large masses was floating in it; but there were passages fifteen miles in width which remained perfectly clear. Six miles inward from the channel mountains rose to the view. On the 22d of June they encamped, after having travelled forty-eight miles in a direct line. They could plainly see the opposite shore, which appeared precipitous and surmounted with sugar-loaf-shaped mountains. At this part of their journey they encountered a polar bear with her cub. A desperate fight ensued, in which the singular instincts of nature were strikingly illustrated by the desperate efforts made by the poor brute to protect her helpless offspring, which were slain. A shallow bay covered with ice was then crossed. They passed several islands which lay in the channel, which they named after Sir John Franklin and Captain Crozier. The cliffs which here constituted the shore of the channel were very high, towering at least two thousand feet above its surface. The party attempted to ascend these cliffs, but found it impossible to mount more than a few hundred feet. They here encountered a cape, and the party desired to pass around it in order to ascertain whether there lay any unknown land beyond it. But they found it impossible to advance. This then was the utmost limit and termination of their journey toward the Pole. Mr. Morton ascended an eminence here, and carefully scrutinized the aspects of nature all around him. Six degrees toward the west of north he observed a lofty peak, truncated in its form, and about three thousand feet in height. This elevation is named Mount Edward Parry, after the great pioneer of Arctic adventure, and is the most extreme northern point of land known to exist upon the globe. From the position which Mr. Morton had attained he beheld toward the north,

from an elevation of four hundred feet, a boundless waste of waters stretching away toward the Pole. Not a particle of ice encumbered its surface. Here was a fluid sea, in the midst of whole continents of ice, and that sea seemed to wash the Pole itself. The eye of the explorer surveyed at least forty miles of uninterrupted water in a northern direction. The point thus reached in this exploring expedition was about five hundred miles distant from the Pole. Had the party been able to convey thither a boat, they might have embarked upon the bright and placid waters of that lonely ocean. But having been able to make this journey only with the sledge, further explorations were of course impossible. The most remarkable development connected with these discoveries was, that the temperature was here found to be much more moderate than it was farther south. Marine birds sailed through the heavens. Rippling waves followed each other on the surface of the deep. A few stunted flowers grew over the barren and rocky shore. The inference which may be drawn from these and other facts is, that this open sea, termed the Polar Basin, stretches to the Pole itself, or at least continues a great distance until its course is interrupted by other projections of the earth.

The several parties which had been sent forth by Dr. Kane to explore the regions just described having returned, the season of Arctic travel had nearly terminated, and the members of the expedition were about to relapse into winter-quarters with their usual darkness, monotony, and gloom. But before resigning themselves entirely to this unwelcome seclusion, Dr. Kane resolved to make an effort to reach Beechey Island. Accordingly Dr. Kane manned his boat, called the *Forlorn Hope*, which was twenty-three feet long, and six feet and a half beam. The necessary amount of provisions were placed on board and the bold venture was undertaken. Sometimes the boat was navigated through the unfrozen channels of water which intervened between the floes of ice; at others she was placed on a large sledge called the *Faith*, and thus transported over the frozen wastes.

This party approached Littleton Island, which had been visited by Captain Inglefield. They here obtained a vast quantity of eider ducks. They then passed Flagstaff Point and Combermere Cape. Then came Cape Isabella and Cape Frederick VII. On the 23d of July they reached Hakluyt Island,

and thence they steered for Cary Islands. But on the 31st of July, when they had reached a point but ten miles distant from Cape Parry, their further progress was absolutely stopped. A solid mass of ice lay before them on the sea, extending as far as the eye could reach. This barrier was composed of the vast seas of ice which had drifted through Jones' Sound on the west and those of Murchison's on the east. The adventurers were now compelled to retrace their way. About the 1st of August they regained the brig without having met with any accident, but also without having succeeded in attaining the object of their excursion. They found the *Advance* just as tightly wedged into the ice as it had been during the preceding eleven months, with no hope of getting her released. Two important questions now demanded their attention. The first was how they were to pass this, their second winter, in the Arctic regions, and how they were to make their escape in the ensuing spring.

The prospect of a second winter amid the eternal snows and ice of the Polar Circle was not inviting to the adventurers. A portion of them felt convinced of the practicability of an immediate escape to the south. On the 24th of August Dr. Kane summoned all hands together and clearly stated to them the aspects of the case. He advised that all should remain by the brig till the next spring, although he declared that those who wished to return could make the attempt. Eight men concluded to remain, and nine of them resolved that, rather than endure the miseries of a second winter near the Pole, they would run the risks of an instant attempt to escape. This resolution they made immediate preparations to execute. A full share of the remaining provisions was measured out to them, they were assured of a welcome reception if they chose to return, and they started forth on August 28th from the brig. One of this party returned to the vessel in a few days; the rest wandered for many months and endured much misery and exposure before they rejoined their wiser comrades in the brig.

Dr. Kane and the eight men who remained with him immediately began to prepare for the horrors of the ensuing winter. They gathered a large amount of moss, with which they lined and padded the quarter-deck. This expedient rendered their cabin impervious to the changes and the extreme severity of the atmosphere. They stripped off the outer-deck plank-