Pages 9 to 16. **PROGRESS.** Pages 9 to 16.

ST. JOHN, N. B., SATURDAY, AUGUST 5, 1899.

HAWAII WITHOUT A LID.

MAUNA IOA THE VOLCANO, SAID TO BE IN ERUPTION.

Difficulties of the Ascent to its Crater—the Lake of Melted Lava Beneath the Snow-banks—Peculiarities of its Eruptions—Successive Perils of the City of Hilo.

An exaggeration characteristic of South Sea news seems to color the report from the Hawaiian Islands which says that there is good ground for fearing that the crest of Mauna Loa has been blown off by volcanic forces, that the sea has flooded the blazing crater, and that the Island of Hawaii has been shattered in the wild convulsion of nature. It is probable that things are by no means so bad as reported. Merely as a matter of world physics, there is nothing improbable in the news of the blowing to pieces of such an Island as Hawaii. There is any quantity of evidence to show that such smashes were of frequent occurrence in comparitively recent geological periods, and that the shattering of an Island only as large as the State of Connecticut is a trifle to volcanic forces. But to connect the blowing off of the crest of Mauna Loa and the flooding of its crater from the sea shows a mistaken idea of the volcano. The crest of the volcano covers an area as large as Staten Island, and even if that were blown off the cavity would still be at the altitude of at least 10,000 feet above the sea.

The difficulty lies in the stock volcano of the picture books. Any one attempting to draw his idea of a volcano would make a sharp cone with very steep sides, too steep sides, too steep to exist in nature and to be found only on a carefully sharpened lead pencil. Top this cone off with a thin spiral of smoke and a dense cloud hanging overhead, and that is the stock volcano. But it is not the Hawaiian volcano. In all the islands there is nothing like this. The Hawaiian volcano is only a big hole in the ground and cannot be seen under ordinary conditions until the traveller is right at the brink. The smoke cloud is seldon seen; never unless there is some great activity in the crater. The eruptions are never at the craters, but for the most part miles away from the blazing pools of lava, and the craters have never been known to cast anything into the air above their rim walls, and the fountains of lava which they display are of scanty height. These points are to be kept in mind when there is activity in the Hawaiian volcanoes, for no ideas based on Vesuvius and Ætna will help to an understanding of them.

All the islands of the group are jagged with extinct craters, the cinder heaps of dead volcanos. Hawaii is the only one where the activity of the under world yet finds its fiery way to a visible vent. Earthquakes are common in every island, and hot springs may be found even in Nihau, which seems to have been the first of the islands to cool off but lava lakes and rivers and fire pits open to the sight are to be found only on Hawii. There are three volcannoes on the island, Mauna Kea at the north, noes on the island, Manua Loa at the south, and Hualalai, rising to its mirror eminence of about a mile from the northwestern flank of Mauna Loa, Mauna Kea, 'the white mountain,' has long since ceased its activity. Not even the most dimly remember tradition shows it other than it is to-day, a gaunt peak rising from the unalterable summer at its foot to the eternal winter which keeps its crest shrouded in snowflakes and glaciers, whence the name. Hualalai, with no more altitude than 8 275 feet seems like a hillock under the mass of Mauna Kea with 13,675 feet, it has no crater and has been but once in eruption. This was the Kaupulehu flow of 1801, which arose from an outbreak on the lower slope of the mountain and poured the melted lava into the sea, six miles away. The priests of that period worked their best combinations and charms to stop the flow, but all was vain until Kamehameha the Great cut a lock of his own hair and threw it into the river of fire. At once the lava cooled and the eruption ceased, and Hualalai has given no future trouble.

Mauna Loa has two craters in which activity is manifested more or less continuously. On the lower slope in Kilauea, at an elevation of 3,971 feet. This crater is as well known as it is possible to make any scenic attraction which may be reached by stage or even by wheel. It has its years of inactivity, when there is little to be seen but a hot and yawning pit, but in general Kilauea keeps a warm corner of its lava lake open for inspection. This crater has only recently recently renewed its activity after several years of rest. During that period the crater was by no means cold and silent. The lava floor was scorching to walk on, even though several years had passed since its period of incandescence, the pit was filled with swirling fumes of metals boiling in the subterranean crevices, and strange rumblings and cracklings were heard. But the fluid lava was withdrawn into unseen abysses in the heart of the rocks. A few months ago the pit filled once more with lava, and the lakes and fountains of fire have shown fresh activity.

The summit crater of Mauna Loa has a different habit. It is only at rare intervals that its fires are manifest, and then only for brief and uncertain duration. It is a hard climb to the crater. There are difficulties in the way to overcome which restroin many who would like to scale the height. There is mountain sickness, there is the necessity to carry all provisions for the journey and to sustain the shock of passing from tropical heat to glacial cold. All these difficulties have combined to make the summit crater of Mauna Loa a spot rarely visited by men.

From Hilo, Mauna Loa seems insignificant. Over to the north Mauna Kea is majestic, and its snow top hangs in the heavens like some fixed cloud. The sister peak in the south seems scarcely more than a hill. There is little more than a hundred feet difference of altitude in favor of Mauna Kea, but the difference to the eye is most misleading Mauna Loa has a long, even slope in every direction from the summit to the sea, and even the summit is a part of that long, flat curve without prominent features. Mauna Kea never loses its snows. Mauna Loa rarely has enough snow, even at the same heigth, to be visible down below. Some freak of the winds discharges the air of its moisture before it reaches the freezing altitudes. This same insignificance continues at higher points of view. At the Volcano House, on the brink of the Kilauea crater, Mauna Loa rises 10,000 feet within twenty-five miles, yet the slope is so gradual and so devoid of the markings of valley depressions that the massive mountain continues to seem no more than a hill. At the very top of that hill is the crater of Mokuaweoweo, and it is a long and weary climb before the mountaineer can stand on the brink and look down into incandescent lava.

The few travellers who have improved the infrequent opportunity to see Mokuaweoweo in activity and have essayed the climb have generally started from the Volcano House, whence the trip to the summit may be made in two days. Lately a German Alpinist has ascended the mountain on its shorter western slope and proved the practicability of riding to the last stretch of the slope. This route will add greatly to the number of visitors, if the present eruption does not put a new face on that side of the mountain.

Starting from the Volcano House, the trail winds at the edge of the timber. It is high enough for the air to be chilly and unfavorable for much vegetation, and the lava is too new to afford more than the smallest pockets of thin soil in which scanty ferns may sprout and play their part in adding humus to prepare for sturdier growths. At the timber line there is nothing but fern and ohelo berries, the sweet and hardy fruit which the old myths consecrated to Pele as the goddess of the fires of the mountain. For a few miles the trail, not to be distinguished by eyes less keen than those of one of the very few Hawaiians competent to serve as a guide on this infrequent exploration, continues at the edge of the timber such as it is. After leaving this poor shelter there is nowhere enough shade to cover a mouse. Even the grass vanishes. Only here and there is it possible to find a few stunted spears pocketed away in chinks and crannies where a teaspoontul of lava dust has found a refuge from the searching wind. The thin air seems like a ragged screen, the sun comes nearer and scorches the skin with a more than July fervor, while the body is shivering in a more than December frost. It is the first hardship of this trip; it is also the last to pass away. It would be hard to devise a more severe trial for the skin than to be scorched and baked by fervid sun rays and in an instant to be wrapped in a wet blanket as a cloud descends and rests on the mountains, often to the complete obscuration of the trail.

There is only one relief to the waste of lava. No ferns grow on these higher slopes; the ohelo berry has given up the hard struggle; even the stunted grass ceases to be found; but one plant is hardy enough to bear the frost, the sweep of the wind, the dearth of soil. It seems to grow on the bare lava flow: it raises its flower spike like a guidepost in the waste, it has a cluster of leaves that glisten like water falling over rocks. This is the silver sword. It is as much the mountaineer's flower in Hawaii as the edelweiss in Switzerland. It grows only at the high levels, and to come back with a bunch of its silverly leaves means a mountain climbing and rock scrambling. The silver sword is a lily with inconspicuous flowers, all its beauty being in the long and slender leaves which are like frosted silver, and as they dry become ribbons so light that the merest puff sets them floating like gossamer.

The trail is hard and rough. There is the choice of one lava or the other, and one is passable only through comparison with the other, which is so much worse, When the clouds lift and it is possible to examine the prospect, the guide points out dark streaks on the mountain slopes and gives the history of each, so far as it is known, for these are the tracks of former eruptions. All this lava rests on the slopes of the mountain. The slopes are composed apparently, for the most part, of upheaved material thrust up by the lifting force of the volcanic powers, and there is some ejected material on the upper slopes. On these slopes the melted lava, breaking out at some weak spot in the mountainside, has flowed like a torrent has run down hill along the lines of the least resistance. These lava rivers have cooled in two forms of widely varying appearance. One is smooth as to its surface, twisted in places like rope and presenting many queer shapes at the edge of the stream. This is the pahoehoe, a Hawaiian name which seems to have been taken up by geologists to describe similiar lava wherever found. The other form, the aa lava, is an indiscriminate heap of angular blocks thrown around so that it is rarely possible to make a path across such a field The pahoehoe crackles under foot as though one were walking on sugar, but a field of aa will cut the shoes off a man or the hoofs off cattle in very short order. It is not unusual to find wild scrub cattle frightfully mutilated through being lost in this lava.

In the ascent of Manna Loa it is possible to keepto the more traversable lava almost to the summit. At intervals the stream ii interrupted by the difficult blocks, but these difficult intervals are fortunately rare.

The last thousand feet of altitude lie entirely in block lava and are very difficult to pass. It is bitter cold; each block of lava is as cold as a block of iron would be under the same exposure and the hands are numbed by touching the inhostible surroundings in the hope of finding some assistance for the painful climb. The air at 13,000 feet is so thin that it hardly supports life. Here the mountain sickness comes to weakon the frame just at the time when all the forces are needed. There is no apparent incentive to put forth the last reserve of strength, there is no goal in sight, nothing but a jagged wilderness of great blocks in disorder. The faint slope of the mountain continues, as it has been from the very sea, no more than an easy grade. It is vain that the eye fixes a limit beyond which the crater must lie. When that limit has been reached the same scene lies still ahead and the thin coil of smoke rises still just out of reach. Approached from whatever side it may be the actual crater comes a surprise. One draws back as though just caught in time from toppling over a precipice. It is altogether negative. In the heart of the waste of gigantic blocks the bottom has dropped out. The mountaineer discovers it by coming around the corner of a lava block and finding himself on the edge of a sheer decent of 500 feet.

Standing in a snow bank he looks down on a lake just below him in which rocks are melted and flow like water.

This is the crater of Mokuaweoweo. It is a hole in the ground nearly ten miles around, not quite two miles in breath and a little less in miles in length. When the crater is active the crust of the lava flour melts irregularly and lakes of fire appear, from which cracks radiate in every direction. In the fire lakes fire fountains are intermittenly at play. Some have been measured by the officers Hawaiian Survey and have been found to spout about 200 feet into the air. Even when the crarer is active it is feasible to descend to the lava level and to advance some distance in the direction of the spouting jets. This is not so dangerous a feat as it may seem, for the heat of the surface is such that the soles of one's boots would be burned off long before there was any risk of drooping through the crust. Yet there is nothing to be gained by such foolhardy exploration, since the better view of the fountains is had from the solid margin. Mokuaweoweo much resembles Kilaue. They are of approximately the same dimensions, the lower crater being about 200 acres the larger. Neither has ever filled with lava and overflowed over the rim. Long before such a thing has happened the mountain has given way at a lower level, and by the discharge of the lava th pressure at the crater itself has been reduced. This is shown very clearly in the flow of 1840, which broke out on the flank of the mountain below Kilauea and flowed into the sea for three weeks.

The great Mauna Loa flows are easily to be traced along the bare mountainside from any place which will afford an extended view. The flow of 1859 is one of the very few which have been emitted from the western side of the mountain. It is about sixty miles long and took eight days to reach the sea. It flowed for seven months. The two flows of 1868 add 1887 are close together at the southern point of the island one coming from a vent ten miles inland, the other from twenty miles inland. The former had the speed of ten miles in two hours, which seems to be the record. The largest and most meancing flows have broken out very closely together and have followed almost the same course. The flow of 1852 was the first of this group. It was headed in the direction of Hilo, the second city in the islands, but cool d off and stopped a few miles outside the town. Three years later another flow broke out on the same flank of the mountain, followed the same course, threatened Hilo once more and stopped after flowing uninterrupedly for fifteen months; its edge was only eight miles from Hilo when it congealed. Again in 1880 Hilo was attacked. For nine months this stream rolled along. Every day it made some advance, every week it was a mile or so nearer and it never swerved in its direction. It was aimed directly at Hilo and there seemed no hope for the city, from which the people began to move in terror. When that flow stopped it was only three-quarters of a mile from the populous part of the town. It is not unusual to hear people say in Hilo that the volcano has just been trying to get the range and that the next time the lava will engulf the city. The present outbreak of Mauna Loa may may be that next time. There are three outbreaks together in this eruption, each on a different flank of the mountain. But one of these outbreaks, and the largest one, is at the same where three others have broken through and aimed at the city below. There will be people superstitious enough to believe that the mountain has at last got the range. The old Hawaiians have been expecting some such thing ever since the first settlement of Hilo.

QUAIL AND DIPLOMACY.

Five Europe Nations Involved in This Controversy.

That a game bird should be the subject of diplomatic negotiation between five of the nations of Europe is one of the curiosities of international contoversy. The facts are these: The European quail, or rather the quail that is found there in the spring, summer and autumn, is not an indigenous bird but a migrant. Northern Africa and the Nile Valley are its winter home, but in the spring it crosses the Mediteranean en route to England, Ireland and Central Europe, from Hungary to South Russia, where it breeds, and whence, when that function is complete and the young fully grown, in the late autumn it returns to Africa. When in migration in the spring these quails are caught in nets, not only in Egypt, but on the Islands of the Mediterranean, the coast of the Pontine marshes and in Sicily, were they were sometimes netted in the past to the extent of 100,000 a day. The greatest catches were made on the Bosporus. In the islands of the Greek archipelago they ase cured and smoked, and a large trade is carried on in them. In Italy in former times the netting of them was more persistent, and so numerous were they that when in flight during the night they overturned small boats near the shore by alighting on their sails and rigging. Formerly, when there was only a demand for the birds for local consumption, no restrictive measures were employed to prevent their capture; but now, through means of rapid transportation, all of the markets of Furope and Great Briton are supported with them. They are transported alive in crates, and are fattened before being sold.

The result of this enormous netting of the emigrating quails is to reduce greatly the number that is available to the sportsman for the autumn shooting. Formerly from forty to sixty were considered a good day's average to the single gun in the various countries which they visited. This average is now reduced to one of ten or twelve, and the determined protest of the influential sportsmen has aroused the governments interested to put an end to their capture during the spring emigration.

While each European State can and does protect its non-migratory game birds, it can do nothing for the protection of quails without agreement of the various nations within whose territories they nest and breed. To accomplish this France, Austria, Germany and Switzerland have signed a protocol forbidding the netting of quails within their borders and the transportation of Egyptian birds across their domains. The latter clause, however, cannot be made effective without the co operation of Great Britian, inasmuch as the squails netted in Egypt are transported to Marseilles and Trieste in English steamers and their transit across the countries interested cannot be prohibited as long as the birds are destined for consumption solely in England. As by far the largest catch of spring quail is made in Egypt, and one of the most fatal to their future in Europe, the refusal of the British Government to prohibit netting in the valley of the Nile or to interfere with their transporation to the English market nullifies the efforts of Austria, France, Switzerland and Germany for their protection. The correspondent of the various nations interested in this matter is quite voluminous. Great Britian as usual on international question that involve an element of gain to the subjects of the Queen, assures a purely selfish attitude and declines to made any concessions to what it considers a sentimental prospection.

ENGLAND'S GREAT EASTERN ROAD.

The Sixtieth Anniversary of Its Opening Just Celebrated—Its Beginnings.

The Great Easter Railway of England, known to Americans who have visited the University of Cambridge and the cathedral towns of Ely. Norwich and Peterborough, which are included within its network, celebrated a month ago the sixtieth anniversary of the opening of a small part of the line to public traffic. The first line opened was from a temporary terminus where Globe Road Station now is to Romford, in Essex, about ten and a half miles. The Railroad Gazette says that railways in East Anglia were discussed as early as 1802, but the Eastern Counties Railway, which was the progenitor of the Great Eastern, was not advertized until Oct. 25 1835. It obtained an act on July 4 1836, to make a line from London to Norwich, but the promoters were so much at sea as to its cost that the amount named sufficed to take the road only half way.

The opening of this short railway nearly sixty years ago was an event of great importance to England. Large crowds assembled to see the two trains start, one on each track. Each train consisted of eleven or twelve passenger coaches with one engine puling and another behind pushing. They proceeded abrest to Romford, where a dinner was served in a field to many invited guests, among them being the Persian Ambassador. The regular train service, which began on June 20, 1839, comprised seven trains a day each way and the third class coaches used at that time would not compare favorably with our cattle cars. They were merely truck platforms with light traverse seats for passengers and no roof or shelter was provided for him. The second class coaches had roofs.

The Great Eastern to-day has developed until it works about 1 2000 miles of line, with more than 1 000 engines, 4,7000 coaches and a staff of 30 000 men.

Work Makes Wealth and Goodness.

Darius O'Mills, Financier and philanthropist, started on his road to fortune with nothing but a good physique and a large determination. He is now worth $25,000,002, and he has acquired that amount of money by observing these rules:

Work develops all the good there is in a man; idleness all the evil; therefore work if you would be good—and successful.

Sleep eight hours, work twelve, and pick your recreations with an eye to their good results.

Save one dollar out of every five you earn. It is not alone the mere saving of money that counts; it is the intellectual and moral discipline the saving habit enforces.

Be humble, not servile or undignified but respectful in the presence of superior knowledge, position or experience.

Most projects fail owing to poor business management, and that means a poor man at the helm.

Success is measured by the good one does, not by the number of his millions or the extent of his power.