Exploration in Palestine.

DEPARTURE OF AN AMERICAN EXPLORING EXPEDITION.—THE COUNTRY TO BE VISITED.—NATURE OF THE DISCOVERIES EXPECTED TO BE MADE.

[From the N. Y. Tribune.]

A valuable contribution to the literature of the Holy Land is likely to be the result of an expedition which sailed from this city about a month ago under the charge of Lieut. Edgar Z. Steever of the United States army, who has received the necessary leave of absence from the Secretary of War. The small country of Palestine can be viewed in its whole extent from many places beside from Pisgah. From the waters of the Dead Sea, at its southern extremity, the snows of Mount Hermon can be distinguished. Nevertheless the whole current of Sacred History sets into Palestine from the East, and the relations which Israel had with Edom, Moab, Ammon, Bashan, and the Wilderness, from which they emerged as a new nation, render a thorough exploration of that region almost essential to a perfect comprehension of some important facts in the history of modern civilization. It is this region east of the Jordan which the Palestine Exploration Society especially intend to make known to us.

This district, beside the historical interest which attaches to it, is of singular attraction to archæologists. Its ruins are not only great in size, but unique in character. Petra has a collection of temples, public buildings and private houses, not built but carved out of the rock itself. North of Edom are scores of deserted cities, unchanged from century to century, owing to their having been constructed throughout of massive stones. In many instances their builders seem to have been guided by the simple aim of indestructibility; so that not only the ceiling, but the doors and window-shutters were made of very heavy slabs which still rest on their pivots. This feature, of course, lends an exceptional interest to the exploration of such a country, compared with other ancient lands whose cities have long since crumbled away. This district has been possessed for many centuries by lawless Arab tribes; but this has contributed to the preservation of its architectural remains. In proportion as the districts which are situated west of the Jordan have enjoyed periods of civilization and prosperity, so that the inhabitants might build and enlarge their cities, they have invariably done so at the expense of the great structures belonging to the ages which preceded them. The great Roman walls in the ruins of Cæsarea are a conglomerate of Phœnician materials from old Dora and Athlit. There is scarcely a large ruin in Syria now, which does not prove to be the ruin of more ancient ruins. A single castle, crowning a lofty precipice in Lebanon, has towers of Canaanitish, Greek, Roman, Saracenic, and Turkish builders. Little beside scarcely applicable climatic agencies has contributed to alter for centuries past the aspect of the ruins of Dibon, Heshbon, Edrei, Baal Meon, Kirhath Ammon, Bozrah, and other cities, whose desolate heaps still stand secure habitations for jackals, bats, and owls.

Starting from the most southern limit of this field, the rocky, rain-strewed district of Edom is passed into the borders of ancient Moab, which run along the east of the Dead Sea. The northern portion of this tract, now termed the Belka, is a high, diversified table-land, well watered and fertile, its hill-tops often covered with the picturesque Syrian oak. Along the brink of the Dead Sea up to the entrance of the Jordan, the mountains sink down deeply into the deepest chasm on the face of the earth, with their sides so bare and rugged that they impart a stern and even savage aspect to the bed of that strange lake. From this upper table-land the heights about Jerusalem can be well seen. Several streams cut their way down to the lake through great gorges, at the head of which near the lower extremity of the Dead Sea stood Kir, one of the ancient capitals of Moab, and now called Kerak. About 12 miles north of it are the ruins of Ar, or Rabbath Moab. Both these places, as well as many ruined cities in the neighborhood, though visited before by travelers, are not yet as well explored as could be wished, owing to the turbulent and suspicious character of its present inhabitants. North of this is the long, deep gorge of the River Arnon, which separated Moab from Ammon, and which is often referred to in the earlier historical books of the Bible. Beyond it lie the remains of Aroer and Dibon, from the ruins of which last was brought the celebrated "Moabite Stone."

The value of this Moabitish stone has been asserted to be beyond that of any single inscription of antiquity. It was found by the Rev. F. A. Klein in 1868. In a quarrel of the Arabs over the possession of the stone it was broken into fragments; but its inscription was preserved with the exception of about one-seventh. It records the successful rebellion of Mesha, King of Moab, against the Israelitish yoke after a forty years' oppression by the house of Omri. It is the oldest alphabetic inscription extant, dating about the year B. C. 890. This discovery fills up a gap in the narrative of the Scriptures, and encourages the hope that other similar treasures may be found by this new exploring expedition.

Sleep the Best Stimulant.

The pulpit, the bench, the bar, the forum, have contributed their legions of victims to drunken habits. The beautiful woman, the sweet singer, the conversationalist, the periodical writer, have filled, but too often, the drunkard's grave. Now that the press has become such a great power in the land, when the magazine must come out on a certain day, and the daily newspaper at a fixed hour, nothing waits, everything must give way to the inexorable call for a copy, and, sick or well, disposed or indisposed, asleep or awake, the copy must come. The writer must compose his article, whether he feels like it or not, and if he is not in the vein of writing he must whip himself up to it by the stimulus of drink. Some of the greatest writers of the country have confessed to the practice, on urgent occasions, of taking a sip of brandy at the end of every page or even oftener. It may have escaped the general reader's notice that more men have died young who have been connected with the New York press within ten years, and that too, from intemperance, than in all other educational callings put together—young men whose talents have been of the first order, and gave promise of a life of usefulness, honor and eminence. The best possible thing for a man to do, when he feels too tired to perform a task or too weak to carry it through, is to go to bed and sleep a week, if he can. This is the only true recuperation of brain power, the only actual renewal of brain force. Because, during sleep the brain is in a state of rest, in a condition to receive and appropriate particles of nutriment from the blood which take the place of those which have been consumed in previous labors since the very act of thinking consumes, burns up solid particles as every turn of the wheel or screw of the splendid steamer is the result of the consumption by fire of the fuel in the furnace. That supply of consumed brain substance can only be had from the nutriment particles in the blood which were obtained from the food eaten previously, and the brain is so constituted that it can best receive and appropriate to itself those nutriment particles during the state of rest, of quiet and of stillness in sleep. Mere stimulants supply nothing in themselves—they only goad the brain, force it to a greater consumption of its substance, until that substance has been so fully exhausted that there is not power enough left to receive a supply just as men are so near death by thirst or starvation, that there is not power enough left to swallow anything, and all is over. The incapacity of the brain for receiving recuperative particles some times comes on with the rapidity of a stroke of lightning, and the man becomes mad in an instant, loses sense, and is an idiot. It was under circumstances of this very sort, in the very middle of a sentence of great oratorical power, one of the most eminent minds of the age has forgot his ideas, pressed his hand upon his forehead, and after a moment's silence said, "God, as with a sponge, has blotted out my mind." Be assured, my readers, "There is rest for the weary" only in early and abundant sleep, and wise and happy are they who have firmness enough to resolve that "By God's help I will seek it in no other way."—*Hall's Journal of Health.*

The Diamond Swindle Exposed.

A COLOSSAL FRAUD—COLLAPSE OF A COMPANY.

SAN FRANCISCO, Nov 26.—A meeting of the directors of the San Francisco and New York Commercial and Mining Company was held yesterday afternoon to receive reports from the Geological Survey sent out under Clarence King, and consisting of Mr King, D. D. Colton, Surveyor Bost, and Mr. Foy. Voluminous reports from the survey were received denouncing the whole pretended discovery as a gigantic fraud. The trustees adopted a resolution to the effect that the fraud be at once and fully exposed, in order that the public may be protected; also, that no more stock be issued or transferred, and that the corporation be dissolved as soon as practicable. The public are warned against any further transactions on the faith of the alleged discoveries. All the stock thus far sold is still held by W. C. Ralston, at the Bank of California, and the original incorporators will assume the entire loss from the operations of the company.

The report of Clarence King gives the operations of his survey in detail. In the vicinity of Table Rock, diamonds and rubies were found on the surface and in the crevices, but in every instance of a "find" there was evidence that the soil had been tampered with. In crevices where there were no traces of the work of man, no evidence of the existence of precious stones was discovered. Some diamonds were found in what was evidently artificial holes. The conclusion arrived at by Mr. King is that the gems found were in positions where they would have been deposited by the hand of man, and that none exist where, in their occurrence had been genuine, the inevitable laws of Nature would have placed them. Finally, he asserts that the reputed diamond fields have been "salted," or scattered over with stones for the purpose of receiving chance or unskilled searchers. The reports of the other explorers corroborate that of Mr. King.

The *Bulletin*, some time since, published a partial expose of the operations of Arnold, the man who sold the original "discovery" to the Hepending Company for $150,000. It is said that the directors at the time of this publication became satisfied of the fraud, but obtained the reports mentioned to satisfy any doubts upon the subject, and to detect, if possible, the originators of the swindle. With this view the stock has been held back until the genuineness of the reports from all quarters could be tested.

Hints about Dresses.

Sleeves closely fitted to the arm, like the old-time tight sleeves, are more stylish than easy fitting coat sleeves. When sleeves are slightly opened the wrist they should show an inner lining of white silk, instead of being faced with silk like the dress.

White silk serge is used by the best modistes for dress linings. An inner belt of ordinary belt ribbon is placed inside all basques, polonaises, and even round waists. It is simply tacked to the back and side seams, is hooked in front as soon as the dress is put on, and serves to hold the back in place.

The fichu-collar is a very stylish trimming for dress waists. This is a bias band of velvet (or any material with which the dress is trimmed), lined with stiff foundation, untrimmed and slightly shaped to fit over the bust. It passes around the back of the corsage just below the collar, laps like a fichu in front, and is fastened just above the belt by hooks and loops. It is a simple and stylish addition to a silk costume, and is made of English crape, and is worn with mourning dresses.

Velvet belts are worn with dresses of all styles, even accompanying short basques. In many cases they are in front of the basque only, beginning at the seam under the arms, and fastened on the left side by a small bow, or else in front by a buckle of jet or oxidized silver. If such a sash is added, it is merely long loops and two streamers of different lengths and diagonal ends. These are attached under the belt, toward the left side of the back.

Dressy waistcoats for dinner toilettes are of black velvet, with the front formed of alternate cross bands of white guipure insertion and velvet. The velvet back has the seams outlined by a band of guipure, and a ruffle of the same lace edges as the garment.

The best protection for dress skirts that drag on the floor is a box pleating three inches wide, made of wigging doubled. It is pleated into a binding, and is basted inside the facing of the dress, just at the edge, to keep the dress from touching the ground. This is sold ready-made for twenty-five cents a yard. Fine muslin pleatings are placed inside skirts of evening dresses.—

Early Progress of Christianity in the East.

Many, no doubt, will be surprised, in reading Polo's book, to observe the frequent indications it affords to the wide spread diffusion of Christianity in his day throughout Central and Eastern Asia. Without having too much stress upon the reputed preaching of the Gospel and planting of churches by the apostles in Persia, India and China, though there is good reason to believe that St. Thomas, whose body, according to Polo, lies buried near Madras, preached the Gospel in the far East, still it is quite certain that Christianity at an early day disseminated quite generally throughout Asia and the islands of the Indian Ocean. At a very early period there were Christian bishops at Susa and Persepolis, at Harat, Samatcand, and also in Seistan, while the Catalan map bears witness to the existence of an Armenian monastery near Lake Issikaul, to the north of Kashgar. Christianity was introduced into China in the early part of the seventh century, about the same time as Mohammedanism, or immediately after the era of the Hegira. In fact, during this and the succeeding centuries there were flourishing Christian churches in every considerable city of Central Asia, as far east as Yaskland Kashgor, with a "chain of bishops and metropolitans from Jerusalem to Pekin."

In Polo's time we find Christians not only all along his route of travel to the court of the Great Khan, but also on his return voyage along the Coromandel Coast in Abyssinia, and especially in Socotra, an island of the Indian Sea. Nor were those simply missionary outposts. Kashgar is the seat of a metropolitan see; so was Socotra, traces of which name as late as the seventeenth century. At Mosul we find Nestorian and Jacobite Christians, with a patriarch at their head. According to Polo, this "patriarch, whom they call the jatolic, creates archbishops and abbots and prelates of all other degrees, and sends them in every quarter, as to India, to Baudas, or to Cathay, just as the Pope of Rome does in the Latin countries."

As to the causes which led to the decadence and final disappearance of Christianity in the East, it may be observed that the purity of Christian doctrine and practice appears to have become gradually corrupted by its constant contact with idolatry; and finally, by ingrafting upon its ceremonial, from time to time, pagan rites and ceremonies, it at length became merged into paganism itself. Polo relates that in his time Christian priests practised astrology with a "kind of astrolabe," together with divination by rods, the same as the priests of Buddah; while in Abyssinia, he tells us, they observed the double baptism of fire and water—the former by branding a mark upon the forehead and either cheek with a hot iron. Abulfeda, in speaking of the inhabitants of Socrota, says they were "Eastern Christians and pirates." As late as the seventeenth century, while they entertained a blind idolatry for the cross, they practiced circumcision and sacrificed to the moon—a singular medley of Judaism, idolatry, and a pseudo-Christianity. —*From "Marco Polo and his Book," by O. M. Spencer, in Harper's Magazine for December.*

An African Railway.

The correspondent of the Roman newspaper *Le Reforma*, writing from Tunis on the 4th ult., says: "On Saturday, the 31st of August, we had a grand holiday and rejoicings on account of the opening of the railway from Tunis to the Goletta. The station was tastefully decorated with flags, evergreens and appropriate emblems. The flags of all nations symbolized that bond of brotherly communion which ought to bind us all, and he want of which is greatly felt in foreign colonies. At 9 20 the train entered the station of the capital, and was received with loud acclamations by the surrounding multitudes gathered round the station to see such a novel spectacle. On the arrival of the Bey at Tunis, he repaired to the principal mosque of Sidi Mahrjito offer a prayer of thanksgiving on the occasion of this happy event. Half an hour later the train started on its return journey to the Goletta station, when, on alighting from the train, His Highness desired to inspect the railway, and minutely examined and received explanations of everything in connexion with the works. His Highness then honored the representatives of the railway by accepting a collation, which was laid out for 250 persons.

A special room being prepared for the Bey he took his seat, surrounded by all his family, his ministers, the diplomatic and consular corps, and the heads of the different religious bodies. After the banquet the Bey made a short but appropriate speech, in which he stated that he was highly satisfied with the quick and happy termination of the line, and he hoped that it would tend to the intellectual and material progress of his people, wishing prosperity to the railway," etc. Some of the diplomatic body, the Roman Catholic Bishop of Rosalia, the Greek Archimandrite, and others then spoke. On Monday, the 2nd of September, the line was opened for public traffic, which had commenced under such favorable circumstances; crowds were waiting at the ticket office anxious to try this new style of locomotion. Upwards of 5,000 passengers were carried the first day from one termination to the other; the following day, if the total number of passengers is not quite exceed the first day, it did not fall short of the same.

At nine o'clock in the morning, his Highness the Bey, accompanied by his family, staff, and members of his household was received at the gate by the representatives of the company and contractor and conducted to the platform, where, after a few appropriate words of thanks for his Highness' presence by Mr. Tolozé, the inspecting engineer of the company, and a suitable reply by his Highness, along train left Goletta, the present residence of the Bey, for Tunis. His Highness occupied a wagon specially prepared for him, accompanied by his two brothers and staff. His Highness was accompanied in the train by all the Diplomatic and Consular Body and the head of the various religious communities, and a great number of the leading members of the Tunisian community, that had been invited to the opening. Let us hope that the benefits of civilization, gradually introduced to this country, will erase, or in circle the Arab population to progress in civilized life, and cement that good feeling which is so necessary to exist between the European and the people of the country, so that the commercial and financial condition of the country should reach that degree of prosperity, to obtain which all that is needed is activity and union.

The Cost of Royalty and Aristocracy in England.

The Blue Book, containing the "finance accounts" of the British Government for 1871–72 shows that, excluding the civil list, which amounts to £406 238 17 9d, the grant to the royal family show a total of £125 986 8s 11d. The odd figures in this total, which will at once arrest attention, are explained by the circumstance that in the past financial year only a portion of the allowance made to the Princess Louise and Prince Arthur fell due. The grant to the former is £6,000, and to the latter £15 000 a year. The Crown Princess of Prussia takes £8 000; the Princess Alice, £6,000; the Prince of Wales, £40,000; the Princess of Wales, £10,000; the Duke of Edinburg, £15,000; the Prince Christian, £6,000; the Duchess of Cambridge, £6,000; the Duchess of Mecklenburg-Strelitz (daughter of the Duchess of Cambridge), £3,000; the Duke of Cambridge, £12 000 (part of course from his military pay); and the Duchess of Teck, £5,000. There are four ex-Chancellors—Lords St. Leonards, Chelmsford, Westbury and Cairns—who each draw £5,000 a year. The political pensions are very few. Under this head only four annuities of the first class (£2 000) are permitted to run at one time. This class is full, and the two parties divide the spoils equally between them. The annuitants are Mr Disraeli, Mr. Walpole, Sir George Grey and Mr. Milne Gibson. The two second class pensions of £1 400 are vacant; but Mr. Villiers and Hardman, under the act of 1869, have each £1,200 only a portion of which, however, comes out of the Consolidated fund. Of the four third class pensions £1,200) three are vacant, the one annuitant being Lord Clarence Paget. Under class four, six pensions of £1,000 are allowed, but only one is drawn, the recipient being Admiral Hamilton, late second secretary of the Admiralty. Mr. Bethune, who recently filled a similar appointment, is on the list, but a note informs us that the pension is suspended while that gentleman is in receipt of a salary in England as Judge Advocate General.

We need not refer in detail to the civil service, the judicial and diplomatic pensions but it may be noted that the pensions for naval and military services charged on the consolidated fund amounts to £38,000 a year. The representatives of Lord Rodney receive £2,000; the representatives of Lord Nelson, £5,000 and the representatives of Lord Amherst, £3 000. These are perpetual, the others for one or more lives. The hereditary pensions of the old type are now reduced to four—the heirs and descendants William Penn, £4,000; the Duke of Marlborough, £4 000; the heirs of the Duke of Schomberg, £2,160 and Lord Bath, £1,200. Annuitants are proverbially long-lived, and here is a curious case in point: "Mary Ann Forster (now Tomes), late housemaid of the House of Lords, Ireland, for loss of emoluments by the union, £18 0s. 6d." The total amount paid out of the consolidated fund during the past year for pensions and annuities was £304 879 2s. 6d.; but, of course, in addition to these, the various annual estimates provide for a very considerable expenditure of a like nature.

—Pennsylvania deposited a ballot for Jefferson Davis in the recent Presidential election.

—The Clinton *New Era* speaks very favorably of the success and popularity of the plan adopted there of inspecting and branding butter. The desired effect has been attained—an improvement in the quality of butter.

—On Thursday John Curtin, a well-to-do and very respectable farmer, residing on the 5th concession, Huron township, while suffering under temporary insanity, cut his throat. Hopes are entertained of his recovery.

—The Yarmouth *Herald* says: Since the gale an enormous quantity of seaweed has been driven upon the shore. Within a space of 300 yards, 6,000 cartloads of this article have drifted ashore and been hauled away for manure.

THE OWEN SOUND DISASTER.

STRANDING of the MARY WARD.

DROWNING OF EIGHT MEN.

We find the following details of the late disaster near Owen Sound, previously referred to in our news-columns, appear in the Owen Sound *Times*:

It becomes our melancholy duty this week to record one of the saddest marine disasters which has ever taken place in this vicinity in the wreck of the propeller Mary Ward on this port, and the subsequent drowning of eight of the passengers and crew. She came to this port on Saturday last on her way to Collingwood from Kincardine, having on board a surveying party which had wintered by the Canadian for Thunder Bay, but left that steamer at Tobermory, believing that they would be unable to reach their destination this season, and were now returning home. Several of our citizens (amongst them Mr. J. S. Stephens, one of the owners), took passage on her for Collingwood, and she proceeded on her way, calling at Presque Isle for wood. The evening was so dark and foggy that the Collingwood light could not be seen, though they were aware they must be approaching the vicinity, and about 8 p.m., they grounded on what is known as the Nottawasaga Reef, about four miles from the light house, and three miles from shore. Finding the vessel fast, and ascertaining their position by the light, which which was afterwards seen, a boat in command of Mr. J. S. Stephens went ashore, and landed Mr. George Corbet, purser, and Mr. F. Moberly, surveyor, to go to Collingwood for assistance; the boat returning to the steamer. Towards morning a terrific storm from the southwest sprung up, the waves breaking furiously over the steamer, tearing one of the boats from the davits, and breaking the cabin windows.

Steam was kept up and the screw at work to endeavor to bring her off, and by 8 a.m., they had succeeded in moving her several feet, when the connecting pipe burst, thus rendering the engine useless, after which the force of the waves drove her on again in order to prevent further injury, the captain ordered her to be scuttled, and seeing no assistance starting from Collingwood, it was determined that a boat must be sent for relief. The mate being a stranger in the locality, prevailed on the Captain to go with the boat, while he remained in charge of the vessel; and about 11 a.m., after anthorm, those remaining on no account to attempt to leave the vessel until assistance reached them, Captain Johnston started with a boat for Collingwood. The sea running hardly high, they were driven on to the island, where they landed completely drenched and benumbed with cold from the waves which broke over them, and were detained there for about three hours, unable to get away.

In the meantime, the tug Mary Ann started from Collingwood to the relief of the Mary Ward, but, owing to the heavy sea, was unable to reach her, and compelled to return to Collingwood. Those on board waited anxiously the appearance of the tug coming to their relief, and when they saw her turn back from her ineffectual attempt to reach them, some of them, despairing of assistance, determined to make an effort to reach shore, and a coat with flight put off from the propeller; but hardly had they gone a hundred yards till the man at the helm seemed to lose control of the boat, and letting her go broadside to the waves, she was capsized in the breakers, and a lone board precipitated into the raging element, perishing in full view of their companions on the propeller, who stood on the deck looking on with horror, but powerless to assist. The struggle was a short one, for human strength could not withstand the power of the elements, or long endure the piercing cold, and although three were seen to cling to the boat for a little while, soon all that remained to tell of eight human beings having found a watery grave was the boat drifting helplessly among the breakers.

The names of the lost are: John S. Stephens and Robt. Blyth of Owen Sound, Chadwick of Simcoe, Taylor of Orillia, and Caldwell of Toronto, belonging to Murdoch's surveying party; R. Bardon, wheelsman; Wm Rorke, deck hand, late from England; and Chas Campbell, who resided on the shore opposite, and perished in sight of his home.

On a riving at Collingwood, Capt. Johnson engaged three fishing boats and sent them by train to Thornbury, from whence they reached the wreck, rescued those on board, and took them to Collingwood. The unfavorable weather has so far prevented a successful attempt to get the Mary Ward off, but she is comparatively uninjured, and no doubt is entertained, but she can be easily got off when a favorable day comes. Boats have been engaged in searching for the bodies of those drowned, A. M. Stephens, Esq., having offered $200 reward for his nephew's body, but little hopes are entertained of any of them being found.

The mournful intelligence has evoked a feeling of sorrow amongst our citizens generally, and the greatest interest has been manifested in learning the particulars of the sad affair. Mr. John S. Stephens was the eldest son of the late Mr. Thos. C. Stephens, and leaves a widowed mother and a large circle of relatives to mourn his untimely fate. Having grown up amongst us from infancy, he was universally know and liked, and his sad fate is sincerely deplored, especially by the young men of the town, among whom his many manly qualities had endeared him a general favorite.

Mr. Blythe leaves a widow and several small children, and his loss is also deplored by a large circle of relatives and friends.

Dynamite as an Ice-breaker.

Van Nostrand's Engineering Magazine translates the following interesting article from *Annales des Mines*. Possibly this material may prove of great advantage in blasting large bodies of ice which sometimes form in harbors, as well as breaking up the immense rafts in the Red River, which have so long prevented its navigation:

The intense and persistent cold of the last winter produced at certain points along the Rhone beds of ice which threatened serious danger to many floating structures, if there should happen to be a sudden thaw with rise of the stream.

In view of this, in December last, the writer tried the effect of dynamite in breaking up and clearing the ice from the channel. The results of the experiments were so extraordinary as to justify their publication, with an account of the special disposition made to obtain the maximum of effect.

The explosion of cartridges placed on the ice and covered with sand or mortar produced only a hole without long cracks, even along the line of least resistance; a result conforming with the usual effects of this substance. In order to detach large blocks from a mass of great superficial extent, the following method was employed:

At a distance of 14 meters from the free edge of the ice (which was from 18 to 20 centimeters thick) a channel was cut 1 meter long and 4 or 5 centimeters in depth, the section being in the form of a V. The face nearest the edge was vertical; the other was slightly inclined.

The dynamite was inclosed in a roll about 1 meter in length, and this was surrounded with sawdust and paper waste to prevent freezing. This was placed in the channel against the vertical face, and was covered with sand from 3 to 4 centimeters deep, the greatest depth being over the slant side, so as to direct the explosive force towards the vertical face.

The explosion produced several fissures, most of which were parallel to the edge of the ice, and were from 40 to 50 meters long in either direction. In one case a fissure was made 58 meters long in one direction and 160 in the other. The charge was only 210 grammes of dynamite No. 2.

The blocks so detached were enormous; three or four making an area of 100 to 200 square meters. In order to break them into smaller blocks, the following method was employed:

At the center of the block about 8 meters from the edge, a hole was pierced 8 or 10 centimeters in diameter. In this was put an ordinary cartridge with fuse inclosed in gutta-percha tube. To this was fastened a block of wood, which was placed across the hole so as to suspend the whole in water.

Our experiments indicated that the most effective depth of cartridge was about 70 centimeters below the lower surface of the ice; unless it was very thick, when the depth could be less. The cartridges contained from 17 to 35 grammes of dynamite. The explosion cited the ice and produced radiating fissures from 10 to 30 meters long.

This method alone serves to break continuous ice at a distance of 7 or 8 meters from the edge, but works better on detached masses.

The congelation of the dynamite must be avoided. It hardens at 70° cent., and does not fulminate in the condition; so that it is well to surround the cartridge with sawdust, and to inclose in a second envelope of packing paper.

When the ice is soft, so as to oppose less resistance, sawdust should be mixed with the dynamite to diminish its force.

By this means in a single day we removed 50 000 square meters of ice. Four men were employed, and the expense was 40 francs.

English Church Establishment.

Mr. Tom Hughes, M.P., has been making a speech at Birmingham on the question of the disestablishment of the church, which he opposed from a very curious point of view. He accepted the test of the "greatest good (not the greatest happiness) of the greatest number," and applying it strictly to the question, "Will disestablishment benefit the greatest number of living Englishmen—is it likely to make them wiser, stronger, more righteous?"—he replied in the negative. He must assume at starting that the great majority of Englishmen still regarded Christianity as, on the whole, a good thing, and then he would put the question to the first workingman he met: What possible good would disestablishment do you? In the course of his address Mr. Hughes said:

You have of late come to the conclusion, and have been urging on your representatives, that a constant water supply is one of the necessities of wholesome living. In this I cordially agree. Now, suppose we had a great system of reservoirs and aqueducts in this island, which had been provided and paid for by munificent persons or by the state, hundreds of years ago, and which brought a constant supply of water to the door of every cottage in the kingdom. Suppose that this supply was thus offered free of all cost, and that every English citizen was perfectly free to take or let it alone, as he pleased. What would my friend the workingman think of politicians who, in the name of advanced liberalism, were to say to him, "This state water supply is a gross breach of sanitary equality, the State has no business to give us water for nothing. The offer demoralizes us. Help us to pull down the aqueducts, and build hospitals and schools with the stones. Water which the State supplies for nothing must be bad. There can't be enough fixed air in it. Try our pumps!" I think the working man would be likely to answer, when he had looked round the proposal, "Well, I don't use much water myself, but the women want it, and perhaps the children may get a taste for it. So, on the whole I will let the old waterworks alone. The stuff seems to have been good enough for my grandfather, and it I don't want it I needn't take it, and at any rate I don't pay for it. If I seem to want more fixed air in my water, I will come and buy my penny worth at your pump." Now, just change the word "water" into "worship and the ministrations of religion," and you have the case of the National Church. Here in England, we have an establishment entirely under the control of the nation, by means of which, what even Messrs. Dale and Crosskey will, I think, allow to be a most objectionable form of Christian worship, all the ministrations of religion are freely offered to every British subject. Since the toleration act, no British subject has been obliged to use this worship. In our own time every disability has been removed from those who will not use it, or if there be any badge of disabilities left, these may be easily abolished. Whether we use this worship or let it alone, not a man of us need pay a penny towards its maintenance, unless we like. And all this being beyond dispute, I would ask the workingman what he is likely to gain by sweeping away the whole system?

—A correspondent of the New York *Herald* has arrived in Ottawa to study the constitution of Dominion politics. He had an interview with Sir John A. Macdonald.

—Mrs Samuel Colt made $800,000 out of revolvers last year. She has no profit daughter who will inherit $8[illegible] a lovely

—In London gas costs [illegible]00,000. thousand feet; in New [illegible] eighty cents per chester the price is [illegible] York $3. In Manfeet, and in Liverpool [illegible] sixty cents per thousand N.Y., the lowest [illegible] cents. In Buffalo, —One [illegible] dury costs $3.50.

been [illegible] hundred miles of snow fences have been put up along the line of the Union Pacific Railroad.

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W. S. FREED.

Hamilton, Nov. 30, 1872.

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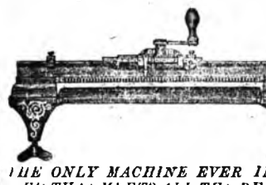
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