

Scientific American.

NEW YORK, JULY 17, 1858.

The Geology of North America.

Professor A. C. Ramsay, F.R.S., F.G.S., recently visited this country, and while here made some notes upon the geology of the Canadas, and the north-eastern provinces generally. The chief object of his investigation was to discover the effects of glacial action; and he plainly showed, in a recent lecture before the Royal Institution in London, that the valleys on each side of the Laurentine chain of mountains, have all been cut by ice. The banks of the St. Lawrence near Brockville, and all the Thousand Islands, have been rounded and *moutonnee* by glacial abrasion during the period when all this mass of ice was moving southward into what is now the Atlantic Ocean. He observed the scratches and striations which are so peculiar to rocks and stones that have been abraded by ice, all along the Catskills, and finding that they do not run down hill, as they would certainly do had these markings been produced by glaciers, but they run north and south, he concludes that they have been produced by icebergs grating along these mountains when the valley of the Hudson was a sea of 4,000 feet deep, and the Catskills formed the coast line. In fact, it seems from the Professor's paper that the whole of America south of the lakes, as far as latitude 40°, is covered with glacial drift, consisting of sand, gravel, and clay with boulders, many of which during the submergence of the country, have been transported several hundreds of miles from their parent Laurentine chain, and all the underlying rock shows the evidence of having been ice-smoothed and striated.

It has long been thought by many geologists that great changes had been effected in the physical geography of the northern part of this continent, by the action of ice, but it has never been so clearly made out before. We have to thank the cold and uncongenial epoch known as the "glacial period," for the rounded smoothness of our scenery, the gentle slopes, and sweet descents, the Thousand Isles and other beauties of our continent. As a contrast, happy and harmonious, to the lover of the picturesque, stand out the rugged rocks and the rough abraded surfaces, which lend an extra charm to the scenery, and render the Catskills a place of such delight. Nature is ever lovely; but when we trace the causes of that loveliness, then wonder mingles with admiration, and intellect as well as sensation is brought into play in the appreciation of our Mother Earth.

Smallpox and the Poor.

It has occurred to us, in view of the fact of the inefficiency of the officers of the Department of Public Health, and the almost daily development of recklessness in their treatment of evils which are open to public inspection, that there must be a vast amount of injury inflicted upon the suffering poor and others, whose miseries are unknown to the world. Little is known indeed how much injustice is committed, and how much useless and wantonly-inflicted misery is endured by thousands, in our midst from the ignorance and heartlessness of the members of the Board of Health, and others having charge of the sanitary condition of our city and public institutions. An infected ship is allowed to remain at the very entrance to our harbor for months without the least effort being made to destroy the pestilence which she contains, until finally, when all her stores and contents are thoroughly surcharged with the endemical agent, and the heat of summer so favorable to the spread of contagion has arrived, life is wantonly endangered by sending persons on board to rake out from a malarious atmosphere, the accumulations of many months of pent-up disease, and to deposit them where there is a strong

liability of their producing further contamination.

The last act of neglect on the part of our health-wardens is noticed in a late number of the New York *Daily Times*. It appears from the statement of that journal that smallpox has prevailed to a great extent for six months past, and from January 1st to the last week in June, four hundred and twenty-five persons have died with it. Assuming what physicians say is true, that under unfavorable circumstances, the ratio of mortality from smallpox is not over one to ten, we have the startling fact that four thousand two hundred and fifty persons have suffered, been marked and otherwise injured by this most virulent disease in six months, most of which could have been prevented by an early quarantine of the disease, and a proper enforcement of the system of vaccination heretofore observed. Most of these cases are among the poorer class of the community, who, while they are more liable from their manner of life to take an infectious disease, are yet less careful to avoid its contaminating influence.

Why, then, has not a proper system of vaccination been enforced among these unfortunate people? The employment of a few physicians of acknowledged merit to visit every household in the city would have greatly abated the evil, and have been a praiseworthy expenditure of money. We are unfeelingly told by the health officers that the diseases of the poor are brought on by their own criminal neglect. We are all sensible how much the amelioration and care of such patients depends upon the skill and humanity of those whose duty it is to administer to them, and that much of the evil complained of may have arisen from the want of these qualities. If the abuses lately developed could exist in the public proceedings of the Board of Wardens, with all the means of correction which their public action commands, how must we shudder to think of what cruelty and injury may, and most probably does exist in the carrying out of the more private acts of these unworthy and ignorant conservators of the public health.

Our Board of Health Again.

The New York *Daily Times* informs us, concerning this excellent and scientific body, that the Directory sets down "one of the twenty-two as a clerk, two as watchmen, one as a carpenter, one as formerly a policeman, two as carmen, two as keepers of groceries, one as a reporter, one as an upholsterer, and one as a builder. If, in the performance of their official duties, a chemist should be needed, we presume the carman would be on hand to make the delicate tests and experiments. If a physician's practiced acumen were demanded, there is the carpenter or the grocer ready. Meanwhile the fact is established that the ratio of deaths to population in New York is about one in twenty-eight, while in London it is about one in forty!"

While these gentlemen have the reins of *Hygeia* in their hands, vessels are daily arriving with yellow fever on board, and our quarantine officers have not any remedy, but to let them lie close to the city while they endeavor to cure their patients in the old and ordinary manner. How long will such a state of things exist?

DR. BROWN SEQUARD, a savant of the first order, has concluded, before the London Royal College of Surgeons, a course of six lectures on the physiology and pathology of the central nervous system. In one of his recent lectures he stated that he found a spot in the brain—the point of the "pen" of the *calamus scriptorius*—not larger than the head of a pin, which, if touched, is sudden death, as instant as lightning.

SWILL MILK.—This question is agitated in Cincinnati, and is beginning to be discussed in the *Eclectic Medical Journal*, published in that city, in the columns of which we are sure that it will receive a candid and careful consideration, the results of which we shall anxiously look for.

Important to Patent Agents and Lawyers.

UNITED STATES PATENT OFFICE, }
June 30, 1858. }

SIR—The specification and one drawing of your * * * * are herewith returned, to enable you to furnish a specification which shall more definitely and fully state the construction and operation of your alleged improvements. The claim should be more definite, and should contain the words "substantially as herein above described," or words to that effect. Your oath is not in proper form. The accompanying rules are sent for your guidance. Respectfully yours, &c.,
J. HOLY, Commissioner.

REMARKS.—We purposely omit the name of the invention, as well as that of the applicant, from the above official letter. It pertains to an application for a patent which was prepared by a lawyer, who, though probably well versed in legal lore, possessed no knowledge or facilities for doing patent business. His client's specification was consequently botched up, and the application rejected until proper papers should be filed. We publish this letter as an example of cases that are constantly being placed in our (Munn & Co., Patent Attorneys) hands, for the purpose of being straightened up, and conducted to a successful issue.

It is not to be expected, especially in these days, when new inventions are so rapidly multiplying, that agents who live at a distance from the Patent Office, and have no facilities for the management of patent business, can carry it on with satisfaction, either to themselves or their clients. Now, we have at our command the combined facilities of the two largest patent agencies in the country, one being located at New York, and the other at Washington. These facilities include the constant daily access to all the official records, assignments, extensions, books, models, and papers pertaining to nearly all American patents ever granted, and to thousands of rejected cases and foreign patents. In addition to this, we have the advantage of many years experience in the business, during which we have, and do now maintain, a palpable pre-eminence over all other establishments of the kind in the world.

We mention these facts for the benefit of our brother agents, wherever they may happen to be located, and would say that the combined advantages of our agencies are always at their service. We shall be happy to render them every assistance in our power in any matters relating to patent business, whether it be in the prosecution of rejected cases, the preparation of specifications, drawings, assignments, searches of the records, extensions, re-issues or appeals, &c.

In new applications it will generally be advisable to have their papers pass through our hands for revision before being sent to the Patent Office, for it is usually more difficult to straighten a case after it has been improperly submitted, than before the documents are filed. Some agents may find it convenient to have us prepare the patent papers from beginning to end. When this is desired, the model should be forwarded to us. Copies of any desired claims, or the patents, with drawings in full, we can promptly furnish.

Our brother agents are, no doubt, frequently applied to for their opinions relative to the novelty and patentability of new inventions. But such has been the wonderful augmentation of improvements within the past ten years, that few persons can give an opinion worth a straw, unless it is based upon or backed up by a thorough special examination of the models and patents at Washington. We therefore advise all agents to recommend their clients to have a Preliminary Examination made, at Washington, to ascertain whether their invention is actually new. This service will be promptly rendered by us, and, including a written report, will cost but a small fee. The client's name need not appear. A sketch and description of the improvement is all that we need. We shall be

pleased to correspond with patent agents at all times, and to furnish any further information, by way of making arrangements, that they desire. (Address Munn & Co., New York).

In respect to taking out foreign patents we would also say that our facilities are of the most extensive and complete character. We employ the most experienced attorneys abroad, so that those who commit business to our care will nowhere have it exposed to the risks of irresponsible and incompetent sub-agents.

Ingenuity Wrongly Applied.

There is scarcely a week passes that we have not presented for inspection some startling theory, founded upon an improper conception of a principle in science, which, according to the sanguine expectations of the inventor, is in its practical operation to produce a revolution in the particular branch of mechanics or social life to which it refers. At one time an enthusiastic inventor ignores the well-known law in mechanics that the raising of a given weight of any material requires the expenditure of a corresponding amount of power, and attempts to create a power by raising water by the aid of an Archimedean screw to supply a water wheel, or some equally fallacious process. At another, we have a plan for almost doubling the power of a high-pressure steam engine, by simply passing the exhaust steam through an auxiliary re-acting rotary engine; the author not reflecting that in the precise proportion as the steam in its escape from a steam cylinder is impeded, will there be a re-acting force exerted against the piston. Indeed, many of the systems and alleged improvements brought to our notice, and applauded by editors of newspapers who should know better, are founded on more vain hypothesis than those we have mentioned. Oftentimes they are the result of the thoughts of men of otherwise really eminent abilities, who are guided by the purest intentions. It is to these latter that we wish to offer a few remarks.

When you conceive a design having for its object the production of an extraordinary result—such, for instance, as increasing the speed of machinery without a corresponding increase of power, subject it to a scientific scrutiny and judgment, lest when your ardor has persuaded you beyond the bounds of sober judgment, and caused you to subject to practical test what well-known principles had already declared impracticable, you will be regarded rather as an enthusiast than as a man of science. If a man, having the reputation of experience and knowledge in any branch of the arts, in the glow of his ambition and enthusiasm, endeavors to destroy all distinctions, and to erect a fine-spun but fallacious system on the ruin of a more perfect model, he inflicts a downright injury upon what is conceded as sound. Many persons, in examining their plans and reasoning, will find that by endeavoring to accomplish what is unattainable, they prejudice the mind against what is practicable. And though it may be said that such speculations have their use, as they afford hints of improvement, yet, in view of the character of their authors, they are attended with this dangerous inconvenience, that the mind in search after truth is discouraged in its progress when it finds those whom it has been led to regard as its most capable conductors deviating into the mazy tracks of luxuriant fancy, instead of leading it through the safer paths of sound philosophy and practical science.

Deferred Articles.

A large quantity of matter of immediate importance compels us to again defer, until next week, the publication of the interesting articles on Boilers and Furnaces, and Horse-shoeing.

On the 1st inst., one of Berdan's mechanical bakeries was opened at Chicago, Ill. The usual festivities, speeches, &c., accompanied the celebration.