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Commissioner of Patents' Report.

Chief Examiner Henry B. Renwick, of New York, has charge of the examining of six different classes of subjects, viz., metallurgy, steam and gas engines, navigation implements, civil engineering and architecture, fire-arms, &c., and a miscellaneous class. He examined 639 applications last year, rejected 373 of them and passed 266. Not quite as many rejections as Mr. Fitzgerald, but still the sum is a large one—we believe too large. Can these gentlemen be expected to have decided always correctly, when they have gone through so many specifications in one year, working six hours per day? No. A great number of gold washers have been patented, the gold mines of California having called out the genius of the nation in this line. The most ingenious of these washers patented, as we learn from Mr. Renwick, was a hollow revolving cone, which is fed with water, which carries the light particles over the edge, while the gold sinks to the centre—a very simple and good machine, we think.

A patent was granted for a curious crucible for heating zinc ores:—"The crucible is formed like a wine bottle, with its bottom rising high up into the interior; the fire is built inside of this bottom, and the heated air, gases, &c., after circulating in the same, pass out under the edges of the bottle's bottom, and ascend in flues built along its sides.

Quite a number of machines for working in iron have been patented: the one invented for rolling iron, by Mr. Burden, of Troy, N. Y., is especially mentioned, and also the machine for filing saws, on page 228, Vol. 4, Sci. Am. A patent was granted for a novel machine for making lead pipe, which, if used in our city, (and it would no doubt be, if it was a superior one) would have saved the U. S. Circuit Court a tedious trial during last week.

No less than fifty patents were granted for improvements and inventions relating to steam engines and boilers. A screw flue boiler was patented. We saw the model of it; it is highly spoken of in the Report, but we have not heard of any of our boats or factories using it.

"Many applications have been, as usual, made for letters patent for inventions in that mechanical chimer, the rotary engine. Most of them have been rejected." This is the language of the Report. The history of the rotary steam engine published in Vol. 4, Sci. Am., has done more good to inventors in this field, than all the reports which have ever emanated from the Patent Office.

The following is the description of a singular stuffing-box, patented by a Mr. Moat, of England: "It consists in surrounding the piston rod inside of the stuffing-box with a piece of leather, vulcanized India rubber, or some other fit material, in the shape of an hour-glass without top or bottom, its neck being in contact with the rod, and its wide ends resting against the periphery of the brass collars or glands usually placed in the top and bottom of the box, which, in this case, extend into it farther than is customary. A communication is formed between the interior of the stuffing-box and a force pump, and fluid is pumped into the space between the inside of the box and the outside of the hour glass, until the pressure in the cavity is a little greater than that in the cylinder; all leakage of steam or vapor is thus prevented, and the rod may be said to move through a fluid packing."

"Many applications," says the Report, "were made for patents based upon alleged novelties in the feathering, or the vertical float paddle wheel, of the latter of which the well known 'Morgan's Wheel' may be taken as a type." All these cases, it seems, were rejected—every one of them. If the applicants had carefully perused Volume 5 of our paper they would have saved money and time. The Examiner, however, might have thought he saw resemblances to old inventions, when no resemblances were apparent to others. A curious patent was granted for a Canal Propel-

ler, with a wheel playing between a double stern. The wheel is made to direct the water from the banks so as not to injure them, and it has a contrivance behind to quell the waves. This boat, it is stated, has been so far successful that its proprietors have been permitted to run it on several canals free of toll.

More than 25 patents were granted for improvements in fire-arms and implements of war;—among the patents granted was one for the Prussian rifle, which was illustrated in our last volume. One patent was granted for a revolver, whereby the hammer revolves, from barrel to barrel, in succession, and another was granted for a breech-loading rifle; and particular mention is made of Smith's improvement for cooling shot, which is illustrated and described on page 132 of our last volume.

A vast amount of general intelligence is required to fill the office of Examiner in the Patent Office, so as to perform all its duties faithfully and well; and along with these qualifications, a candid and liberal mind is just as essential.

Reform of the English Patent Laws.

We learn by our worthy cotemporary, the London Patent Journal and Inventor's Magazine, that a great meeting was recently held in London by the "Inventors Patent Law Reform League," for the purpose of adopting measures for a reform of the British Patent Laws. We hope that a reform of the oppressive Patent Laws will be accomplished during the next Session of Parliament. There is no country in the world where patents are so excessively high, and all for the purpose of carrying out one of the most absurd processes of hide-and-go-seek, to employ useless officials with high salaries—government gentlemen beggars. Every pensioned man who has done nothing to win a pension, and every man who has a fat office, and does no work for his pay, is a beggar—a political pauper in every sense of the term. We speak of such individuals in every country, and by this we speak strongly against the complicated process connected with the securing of a British Patent. We do not speak against it, as an evil of to-day—the evil originated when the creating of offices for favorites was the fashion, but it is wrong to maintain such evils in England at the present day, when there is so much of a better spirit abroad. The price of an English Patent is enormous, and additional fees for Scotland, Ireland and the colonies, appear to be a kind of absurdity. The management of patents for the colonies, is something inexplicable to us. A patent can be taken out in Canada, or it may be taken out in England for Canada. Now, supposing an inventor was to secure a patent for Canada, in Canada, today, and another to secure one for the same thing in England, at the same time, what would be the result? We cannot tell: it is altogether too complicated a question of British politics for us to unravel.

We are glad to see that an interest is now felt for the rights of inventors—poor inventors—by some men of the right stamp about London. Mr. Sidney stated at the meeting to which we allude, that "he felt convinced that the members of the League had only to ask for what they wanted, and to point out the reform required, and it would be granted." We recommend British Inventors to get a thorough revision of the laws for securing patents, and adopt a system like that of the United States, with some improvements. Whenever the fees for British patents are reduced, there will be a reduction of fees for English inventions at our Patent Office. We can pledge, we believe, the honor of America to do this. We want to see every nation open, to receive upon liberal terms the benefits of all inventions—everywhere produced.

Notice.—Erratum.

In our remarks last week about the experiment with Mr. McCallum's Bridge, we made a mistake in stating that he was the architect of the Cascade Bridge. He personally called on us to make this correction. Julius Adams, C. E., an able man, was the engineer of the

bridge, and Mr. Fowler was the architect. Mr. McCallum, like ourselves, is an admirer of that motto, "honor to whom honor is due."

American Chair Manufacturing Company.

By reference to the last volume of the Scientific American our readers will find that a patent was granted on the 25th of September, 1849, to Thomas E. Warren, Esq., of Troy, N. Y., for an improvement on steel springs as applied to chairs, &c. Having occasion to visit Troy last week, and a few leisure hours being left upon our hands, we were slowly straying from that excellent hotel, the Troy House, down River street, "to see what we might see," when the following sign at once arrested our attention—"Thomas E. Warren's Patent Spring Chairs." This brought to our recollection Mr. Warren's patent, so into his factory we marched, to gratify our curiosity, and to inquire how the invention was succeeding. Mr. Warren kindly invited us to accompany him through his factory, and we must say that we were surprised beyond all expectation with all that we saw and heard. Mr. Warren informed us that he had been enabled to form a company with a heavy capital in carrying out the manufacture of his patent—and the invention was now applied to almost every kind of seat and couch. The mechanical manipulations by which this invention is carried out and applied in the manufacture of chairs, &c., displayed great ingenuity. Mr. Warren being a natural genius, and one of that kind of inventors so useful to the world—combining management, energy and sagacity with his other gifts. His course is to test every invention—its practicability and payability, and then secure it by patent; but he does not stop here—he does not wait for a stray purchaser to come along and buy it, but at once braces himself to the work by manufacturing it himself, thereby rendering it useful to the public. The springs employed by him are cut from the best of hoop spring steel, shaped and tempered for use, and applied so as to render them life-renters on every chair and seat to which they are attached. We have had two of Mr. Warren's patent spring chairs in our office for the past year, and we are better pleased with them than with any other chairs we have ever seen or used. On another page will be found two engravings representing one of them, and from the description there given, its good qualities will be made apparent to all.

The engine and boiler which Mr. Warren employs to drive his machinery, are unique, novel and ingenious. The boiler is vertical with vertical tubes, and is so arranged and constructed that it returns the heated current and presents a great amount of exposed water-surface to the heat, according to the room which it occupies. It is therefore a great economiser of fuel, by generating more than a proportional amount of steam in comparison with other boilers, according to its circumferential dimensions. The engine has a cylinder of 6 inch bore and has an 18 inch stroke. It drives a reciprocating saw, one circular saw, two lathes for turning iron, two drilling machines, two wood turning lathes, a blower for his forge fires, &c. The work which it manages to perform, with 40 lbs. pressure of steam, is wonderful. There are some improvements on the engine for which Mr. Warren has taken measures to secure a patent, and an application for a patent on improvements on the boiler is now pending.

"The American Chair Company" employ about sixty workmen in the various departments of their manufactory, and orders accumulate somewhat faster than they can be supplied. This shows the prosperity of the business, the usefulness of the invention and the value of Mr. Warren's patent.

Box and Match Machine Wanted.

We have had some enquiries made about machines for making round wood boxes for matches, and for making the splints for matches, both round and square. We cannot tell where they are made, or who makes them. Some of our readers who may be writing on business to us, and who may know about them, may have the kindness to drop us a few words on the subject.

Causes which Contribute to give Various Temperatures to Countries in the same Latitude.

It is well known that the nations on the west coast of Europe enjoy a milder climate than any others in the world, in the same latitude. Edinburgh is about fifteen degrees farther north than New York, yet the same severity of cold is never experienced there in midwinter. There are what are termed Isothermal lines on some maps, which are traced through places of the same mean annual temperature. These were first laid down by the great Humbolt, eight lines of which are traced through the northern hemisphere, five of them being chiefly confined to opposite shores of the Atlantic, and three of them extending round two-thirds of the earth's surface. Two stations of equal latitudes, the one in Europe and the other in North America, give a mean temperature of 4 1-10 degrees to the former above the latter. To account for this, all writers on the subject attribute the elevated temperature of Europe over America to the influence of the Gulf Stream, which breaks upon the coasts of Ireland, Scotland, and Norway.

Mr. R. Adie has lately published an article in the Edinburgh Philosophical Journal, in which he attributes the elevated temperature of the West of Europe to the influence of hot breezes from the desert of Sahara, in Africa and gives good reasons why the Gulf Stream is not the cause, as has been supposed heretofore. The Gulf Stream, after a course of about four thousand geographical miles, passes along the coast of the United States for 800 miles, to the Banks of New Foundland, where it begins to cross to the shores of Norway. Now, if the Gulf Stream, with its higher temperature than the other waters of the Atlantic, was the cause of the higher temperature of the countries in north-western Europe, the shores of which it washed, why is it that the atmosphere of the places on the American coast, contiguous to the Banks of New Foundland, are not much elevated in temperature, if any, while on the coast of Norway, where the Gulf stream must have less influence, the temperature for the latitude is very great. Mr. Adie says, "there must be another source of heat to account for this elevated temperature of north-western Europe." Here is his opinion—the way he accounts for it: "At a distance varying from 1,500 to 3,000 geographical miles, according to localities, in the great desert, there is a magazine of heat, the greatest on the face of the globe, and composed of heated air capable of travelling with ten times the velocity of ocean currents. The air of this desert is generally north-easterly, and this may be supposed to militate against the ground assumed, by its thus taking away the air from the north-west of Europe, where the temperature is elevated; but the continued stream of air in the region of the trade winds all round the world, from north-east, must have a counterbalancing south-west wind somewhere, and for this reason the south-west winds of the temperate zone restore the equilibrium, which the perpetual north-east trade winds would disturb." Mr. Adie, therefore, lays it down that the south-west winds, which are so general on the north-west coast of Europe, are the return currents of air carried towards the equator by a north-east wind, and the influence of this heated air should reach Europe by a south-west wind. He does not, however, deny that the Gulf Stream exerts an influence in elevating the temperature of Britain and Norway, but he places the current of hot air from Sahara as the first distant source of heat, and the Gulf Stream as the second, which are the causes that give to the north-west coast of Europe a temperature whose mean elevation is above all other countries in the same northern latitudes. In summer, Britain and Norway have lower temperatures than the countries in North America, on the same lines, but in winter the temperature is much higher.

Maryland Institute of Mechanic Arts.

The receipts of this Institute for the fair, we see it stated in Baltimore papers, to be \$5,500, and \$5,000 subscriptions have come in since the fair for the building of a new hall. A School of design has been opened, in connection with this institute.