

Scientific American.

NEW YORK, AUGUST 26, 1854.

To Our Readers.

We take the present opportunity, according to our usual custom, of directing the attention of our readers to the Prospectus for our next volume, and also to the Prizes we have offered for the largest lists of subscribers. As we employ no traveling agents, we have for the past five years adopted this method as an inducement, to any person who desired, to labor in extending the circulation of the "Scientific American." Last year we offered 12 prizes—four hundred and fifty dollars; this year we offer 14—five hundred and seventy dollars. We consider this plan a fair, free, and honorable means of exciting an interest in the minds of many to do some good to themselves, their acquaintances, and us, by endeavoring to increase the number of readers to a paper devoted to American inventions, and the dissemination of reliable and useful information.

With respect to the cheerful reception which those who obtained prizes last year, met with, when soliciting subscribers among their acquaintances and brother mechanics, we would refer to their letters acknowledging the receipt of the amount awarded to each, which will be found on pages 150, 174, 182, and 205, this volume. We commend these letters to all who may desire to compete for the prizes now offered. Nearly all of those who obtained prizes last year, asserted, that it did not require much trouble to obtain them, they attributed their success to the popular character of the paper more than anything else.

To those who have heretofore exerted their influence in extending our circulation, either by obtaining lists, or inducing their friends to subscribe, we feel deeply grateful. A great number of those who obtained lists of subscribers last year, and previous years, acted the part of free, generous knight errants in the field of scientific literature. Our circulation is now far greater than that of any periodical published in the world devoted to such objects, and it is the only weekly paper of the kind published on our continent. It has now a circulation of 23,000 copies; a large number to be sure, but not so large as it should be by 33,000, according to our population: nor as large by 20,000, as we mean it shall be within three years. We are aware that the readers of such a paper cannot be so numerous as those for some other periodicals, because the cast of mind which feeds on sound, solid information, of a scientific and mechanical character, is more select than that which finds delight in light literature. We are of opinion, however, that in many places there are persons who only want to have the matter clearly brought under their notice, to become constant readers and subscribers to the "Scientific American." It is greatly to the credit of some villages in our country, containing but a small population, that they contain so many subscribers. Thus in Columbia, S. C., there are 139—the greatest number, we believe, for its population, of any village or city in the Union. In Jacksonville, Ill., we have 94; in Lancaster, Ohio, we have 80. We are positive that the constant readers of the "Scientific American" comprise the deepest thinkers and the most intelligent portion of the inhabitants in every place where it circulates; they must necessarily be so in order to feel interested in the scientific and mechanical subjects which are constantly brought forward for discussion.

Two more numbers, after this, will complete the present volume. We earnestly solicit subscribers to send in their names as early a date as possible, in order that we may form a proper estimate of the number of copies with which to commence the next volume. We certainly anticipate a large accession of new subscribers, and relying on the kindness of good old friends we believe we shall not be disappointed. We have added improvement to improvement every new volume, and the next—Volume 10—we shall endeavor to make superior to all its predecessors.

Models for the Patent Office.

Inventors will save themselves, ourselves, and the Patent Office an amazing sight of trouble if they will but obey the following instructions concerning the construction of models. We have had no less than ten models refused by the Office within a month for being too large or too frail, and it will no doubt cost the inventors more than one hundred dollars to supply their places with those of suitable size and quality. The Commissioner is growing more and more strict every day, and if inventors wish to save themselves trouble and expense, they must follow the rules of the office. We again publish the rules of the office concerning models, and we do hope attention will be paid to them by those who are constructing models with a view of applying for patents:—

"The model must be neatly and substantially made of durable material, and not more than one foot in length or high, except when a larger model is permitted by the Office for special reasons to be shown by the applicant. If made of pine or other soft wood, it should be painted, stained, or varnished."

"A working model is always desirable, in order to enable the office fully and readily to understand the precise operation of the machine. The name of the inventor, and also of the assignee (if assigned,) must be fixed upon it in a permanent manner."

"Models for the U. S. Patent Office must be fastened in all their different parts by other means than by glueing, as such will not endure the handling and atmosphere to which they are necessarily exposed."

The New Patent Bill.

We understand from a reliable source that the Committee on Patents in the Senate have modified the Patent Bill reported by them, and have stricken out some of the objectionable features, as explained in the "Scientific American," page 341. This is certainly very gratifying intelligence, and we regret the necessity which compels us to ask the committee to a further pruning down of this curious bill—for curious it is that in this advanced age, our national Congress should attempt to saddle down genius with so incongruous a system, called "protection to inventors." We learn that in the main, no changes have been made in the amount and number of fees required on passing claims through the Patent Office. Now if the Committee desire to increase the Patent fee, why don't they come square up to the business and say it shall be thirty, forty, or fifty dollars, as the case may be, without attempting to deceive inventors by throwing in a batch of petty fees, from fifteen cents up to one hundred dollars, compelling them to carry around one of Dabot's Arithmetics in order to cypher out what amounts are expected of them. Simplicity and clearness ought to form the ground work of our patent system—let us have this or nothing.

Patents in Great Britain.

Our London agents caution American inventors against the operations of parties in and about Washington, who act in concert with agencies in London, for introducing good improvements into Great Britain as soon as the patents are issued here. They mention one case where the inventor, upon reaching London, found to his great mortification that his invention had already been secured by another, who had received it as a communication from some one on this side. Cases of this character are represented as not uncommon. We have no personal knowledge upon the subject, and write upon the hint of our agents in London. It is a very dirty business to purloin the invention of another and we hope to hear no more of it. If well authenticated facts come to our knowledge, implicating parties in such transactions, we shall not withhold their names from the public.

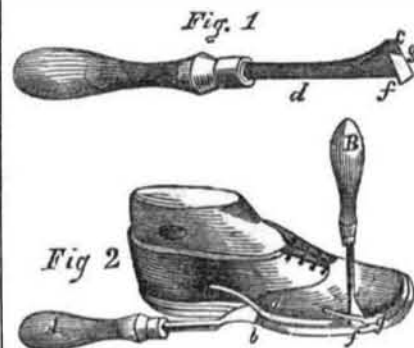
Fair of the American Institute.

This Institution has come to the conclusion of having no Fair this year. The last one entailed a heavy loss, but it was honorably managed. This is the first gap in the annual fairs of the Institute for twenty-two years. We hope it will be able to have a first rate one next year.

Trimming Welts of Boots and Shoes.

The annexed views represent an improvement in an instrument for the above named purpose, for which a patent was granted to Lyman Clark, on the 13th of last June, and one half of it assigned to Joseph Sawyer.

Figure 1 represents the improved instrument, and figure two shows its application and the manner in which it is operated in contrast with the common instrument now used.



In pegged work it is desirable that the welt should show as thick as possible, while, at the same time, as there is but little wear upon it, it is generally made of inferior leather, and in order that it may be prepared for the head which it receives, it is necessary that its upper edge be pared evenly and smoothly. There are two ways in which this has usually been done. In the first method the welt is first hammered down, and the edge is then taken off with a shoe knife. This leaves a smooth and perfect surface upon the upper side of the welt, but is objectionable on account of the danger of cutting the upper leather of the boot or shoe. In the other process, which is the one commonly in use at the present time, the instrument, A, represented is employed. This tool has a small pointed guard, a, projecting from beneath the welt edge, b, and is used as follows:—The welt, in place of being thickened up by hammering, is laid over towards the sole by the welt bone, which is inserted between it and the upper leather. This is necessary in order to enable the pointed guard to pick up the edge of the welt. The latter is then trimmed by applying the instrument as shown. The point, a, however, is very liable to injure the body of the shoe, particularly at the place where it is seen applied. After the welt is thus pared, it is again to be thickened up by hammering, which again produces a rough surface, which is afterwards made smooth by the use of the Rand file; this instrument, as well as the paring tools, is very liable to injure the upper leather, and it is estimated by the largest manufacturers that all their job work is deteriorated to the amount of ten or twelve per cent. upon its value by the various instruments used to trim the welt. To remove all these inconveniences, and to produce an instrument which cannot possibly injure the upper leather, and which may be operated upon the welt after it is hammered down, thereby leaving a smooth and perfect surface, without the use of the Rand file, is the object of this invention. Figure 1 is a view of the instrument; c is a broad flat guard formed by the extension and flattening of the shank, d. Nearly at right angles with the guard is the blade, f, having its cutting edge at g, set at an angle somewhat less than a right angle with the surface of the guard, for the purpose of pressing the welt down as it is cut. The instrument is operated as at B, in figure 2. The guard, c, being inserted beneath the welt which is previously hammered down, and the tool is worked rapidly without the possibility of injuring the upper leather even in the most careless hands, while the surface which it leaves is smoother and more even than is produced by any other method of trimming the welt.

More information respecting this instrument may be obtained of Sawyer & Clark, South Royalston, Mass.

New Motive Power.

An ingenious Swedish machinist, P. Lagergreen, has invented a new power engine, intended to supersede steam. The moving force is the pressure of the atmosphere, which acts on a vacuum in a copper reservoir, connected with two cylinders provided with pistons, as in

a common steam engine. The vacuum in the reservoir is produced by the admission of a certain quantity of alcohol and of atmospheric air, each time the machine makes a stroke. Explosive air is hereby produced, is fired at each turn, and instantly burns away; one of the pistons being at the same time opened, an atmospheric pressure is obtained equal to fifteen pounds on the square inch. This machine is light and simple, and its fuel (alcohol) takes little space. Whether it will be superior to or cheaper than steam, is a question others must decide.—[N. Y. Times, Aug. 11.]

[The above we have seen copied into a number of our cotemporaries. It is neither a new motive power, nor does it possess a grain of modern science, in the line of inventions, to supersede steam. The same plan has been proposed over and over again. A patent was granted in 1823 to Samuel Brown, of London, for a gas vacuum engine, the vacuum of which was produced by mixing hydrogen and oxygen in a cylinder, and igniting them under a piston to produce a vacuum. The hydrogen of the alcohol referred to in the above is mixed with air, then ignited for the same purpose. It has also been proposed a number of times to ignite gunpowder under a piston to produce a motive engine, and Commissioner Ewbank suggested the benefits that might be derived from annihilating air under a piston, but the query was how to do this;—that was the rub.]

American Carriages.

The well known coach manufactories of the Messrs. Abbott and Lewis Downing, at Concord, N. H., employ 300 men, and turn out each year about one hundred and fifty stages, and nine hundred express and other wagons. These are ordered from every part of the United States, and even South America and Australia—the greatest demand being from the newly settled States of our Great West.—Through the agency of the Messrs. Abbott, a stage company has been formed to run a daily line of coaches between the cities of Valparaiso and Santiago, in Chili, and in their establishment are several stages, elegantly finished intended for this route.

Miller's Car Brake.

The Detroit papers give an account of some experiments which were recently made near that city with the steam brake of Henry Miller, of that place, on a train of cars. When the train of cars was running at the rate of 20 miles per hour, it was brought to a dead stop by the brake in a distance of 15 rods without reversing the engine. When the train was going with a velocity of 30 miles per hour, it was stopped in a distance of 30 rods in 20 seconds of time. These were excellent tests of the working of this brake.

Dederick's Parallel Press.

On page 384, in the description of Dederick's Press, it was stated that it had been applied as a cloth press; this was not correct.—It is a new press which he has invented, that he has applied to the pressing of cloth, and which acts vertically. Messrs. Deering & Dederick make good machines at their Agricultural Works, corner of Bleecker and Franklin Streets, Albany, N. Y.

\$ 570 IN PRIZES

The Publishers of the "Scientific American" offer the following Cash Prizes for the fourteen largest lists of subscribers sent in by the 1st of January, 1855.

\$100 will be given for the largest list,	
\$75 for the 2nd.	\$35 for the 8th,
65 for the 3rd,	30 for the 9th,
55 for the 4th,	25 for the 10th,
50 for the 5th,	20 for the 11th,
45 for the 6th,	15 for the 12th,
40 for the 7th,	10 for the 13th,
	and \$5 for the 14th.

The cash will be paid to the order of each successful competitor; and the name, residence and number of Subscribers sent by each will be published in the "Scientific American," in the first number that issues after the 1st of January, so as to avoid mistakes.

Subscriptions can be sent at any time and from any post town. A register will be kept of the number as received, duly credited to the person sending them.

See new prospectus on the last page.