

New Inventions.

Recent American Patents.

Timber Planing Machine.—By Joseph W. Killam, of East Wilton, N. H.—The invention has for its object the planing of timber and all kinds of angular wood stuffs, large or small, the various sides being all planed simultaneously. Two cutter heads only are employed, the shape of the cutters being arranged to correspond with the number of sides which it is desired to cut on the stuff. For example, suppose a square piece of timber is to be planed; the cutters are made V-shaped, and placed one above the other; the stuff, instead of laying flat, is turned on angle when fed in, so that each cutter planes two sides of the timber at once. Six sides, octagonal, and other angles, can be planed with equal facility by a change in the form of the cutters. There is an ingenious feeding bed device connected with the machine which we cannot here describe.

This improvement is calculated for dressing off large timbers of all kinds, for dwellings, churches, ships, &c., also for finishing table legs and angular sticks of every description.

Self-Closing Gate.—By J. A. Ayres, of Hartford, Conn.—Gates that may be opened and closed by the mere pressure of a carriage wheel upon a lever, without subjecting the occupant of the vehicle to the necessity of getting out for that purpose, are becoming quite common. They have been already introduced, with success, in many parts of the country.

The present invention is one of the latest improvements of this class. It consists in placing a pivoted board at a suitable distance from the gate, the board being connected by a rod with the lower gate hinge. The board is so weighted that one end is always elevated above the ground. When a carriage comes along it strikes the board, presses it down, and acts through the rod on the hinge, causing the gate to open. The gate is held, after opening, by a catch which the carriage wheel releases in passing through, and the weight attached to the board just mentioned. The hinge which connect with the rod then causes the gate to swing back and remain shut. This appears to be a very cheap and simple device.

New Method of Casting Metals.—By Ezra Ripley, of Troy, N. Y.—This consists in a peculiar method of quickly withdrawing the air from the mold, so as to insure a better filling of the same with the metal. This is done by the application to the mold of an air-tight expansive chamber. The withdrawal of the air begins at the same instant that the molten metal commences to fill the mold.

Water Proofing Leather.—By J. P. Molliere, of Lyons, France—This is a method of rendering the soles and heels of boots and shoes water proof, by hammering them, thus closing their pores. The leather is first cut out into the desired form, and then subjected to the active operation of a series of small steel hammers, having slightly rounded faces. It is alleged that the leather thus treated is not displaced or spread, and that it is rendered wholly impervious to water.

Tan Vats.—By David H. Kennedy, of Reading, Pa.—The inventor employs a large tank placed above the vats, and connected with them by suitable main and branch pipes, for the purpose of causing the tanning liquor to flow regularly from one vat to the other, without the aid of pumps. Any particular vat may be cut off or isolated from the others whenever it is desirable, without stopping the circulation of liquor through the remaining vats. This is a good improvement. Mr. Kennedy is the inventor of a process for tanning, patented some time ago, which, it is said, greatly reduces the time commonly required to convert hides into leather.

Method of Melting Iron Filings.—By A. Pevey, of Lowell, Mass.—The inventor provides a perforated cast iron vessel, in which he deposits the filings, and melts them up, vessel and all, in a suitable furnace.

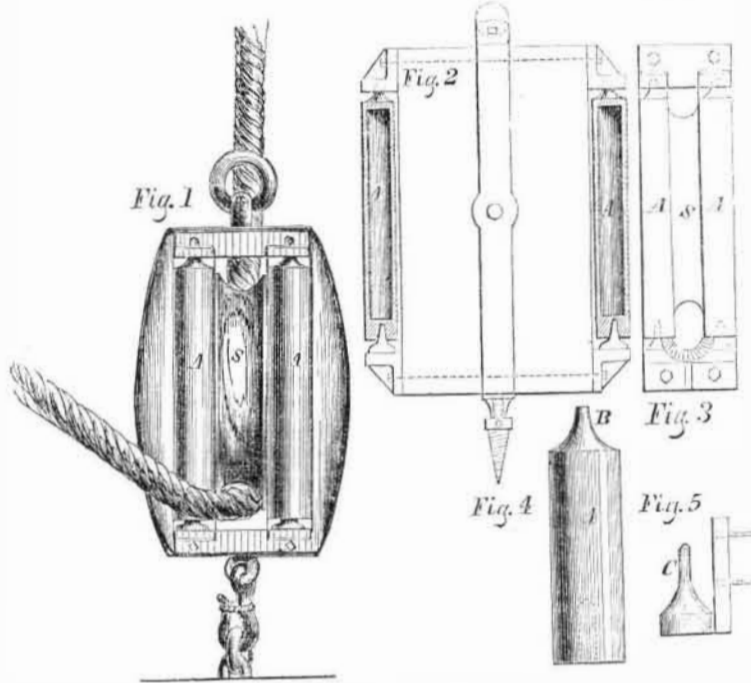
NOTE.—Patents for the above inventions, except the two last, were granted Jan. 22nd, 1856. For claims of the inventors see official list in another column.

Registering Thermometer.

It is sometimes very convenient and useful to have a thermometer that will not only indicate but leave a record of the lowest temperature of the atmosphere during a certain period—such as at night—when the instrument cannot be watched. As mercury freezes at 28 degs. below zero, alcohol colored with alkanet root is the medium used to indicate degrees of cold as low as 40 degs. A spirit thermometer (a very neat one of which is now before

us manufactured by G. Tagliabae, No. 298 Pearl st., this city,) is made to register the lowest degree of cold to which the spirit may fall during night, by a peculiar fine small tube placed inside of the spirit tube, and which allows the spirit to rise past it when set, (if a rise in temperature occurs,) but which falls with the spirit to the lowest point of atmospheric temperature, and thus leaves a record of the lowest degree of cold.

IMPROVEMENT IN HOISTING BLOCKS.



In almost every species of hoisting, whether on ship board or shore, it is frequently necessary to change the bend of the rope, so that while one portion moves, for example, perpendicularly, the other part moves horizontally. Such a change of bend is indicated by the rope in fig. 1.

The block through which a rope thus bent is to pass, must be made specially for that purpose, and its cheeks must be provided with friction rollers, so as to prevent the rope from being chafed by so short an angle. The present improvement relates to this class of blocks. It is the invention of Mr. H. Merrill, of Taunton, Mass., and was patented Dec. 25, 1855.

Our engraving shows, at fig. 1, a side view of the improved block, the sheave of which is of the ordinary construction, indicated by S, the friction rollers by A. The other figures are sectional views of the parts.

This improvement does not consist in the use of the friction rollers, for they are not new, but in a peculiar method of hanging the rollers.

(For the Scientific American.)
Marble and Marble Sawing Invention.

Messrs. Editors.—Something more than six months since it was made known, through your columns, that an invention was needed for sawing tapering forms in marble. You accompanied that notice with editorial remarks, in which you prophesied that the required machine would be produced, and encouraged inventors to undertake the work.

Your expectation has been met. Sixteen patents have already been granted for machines of the character proposed, and several of these are now doing satisfactory work. In a short time a number more will be added to the list. With so many earnest, practical minds directed to a single point a failure was impossible. This competition, unparalleled in point of success, has had, and must continue to have, the effect greatly to diminish the commercial value of each patent from the price it might have commanded standing alone. As no one or two of these machines can enjoy anything like a monopoly of the public confidence or of actual merit, they will at once be introduced into general use. What the patent right of a machine of exclusive excellence would have been worth may be "guessed," from the fact that several discriminating inventors, when they had satisfied themselves of their success in the production of a good machine, refused the \$10,000 offered, and one of them sold the right of using a single machine to one of the largest marble manufacturers in Vermont for \$1000. An ordinary gang of saws is worth \$1000, but

When placed in the ordinary bearings, their journals soon become so clogged up by dust or dirt, that they cannot revolve, and the rope is then worn or scored. In the present invention this difficulty is wholly obviated. The rollers are made pointed, (B,) at one end, which point or pindle revolves in a suitable socket, as shown; the other end of the roller has a socket, and rests upon a point or pindle, C. The inventor claims that the socket which receives the pointed end of the roller serves as a cover to prevent the entrance of dirt, while the cavity in the other end of the roller acts in the same manner to cover the lower pindle.

We are told that hoisting blocks thus made will never become clogged and useless from the causes named. The improvement adds nothing to the cost of construction. The rollers may be cast hollow, and the strap terminate in an auger point, for convenient fastening, when desired, as shown in fig. 2.

For further information address the inventor as above.

this invention, by doubling its efficacy, makes it pay for itself the first year. The absolute or aggregate value of this invention must be very imperfectly understood by those who are ignorant of the present extent of the marble business in this country at the present rate of its development, and of its capacity for unlimited expansion. The business is yet in its infancy, although it has increased more than a hundred-fold in ten years. I have no hesitancy in saying that the entire marble interest of Vermont is now valued, by its owners, at not less than \$15,000,000! Here is found marble of almost every hue, from the ebony black to the snowy white, and varying nearly as widely in texture. Sudbury, Brandon, and Middlebury have statuary marble equal to the best Italian; as the busts of our native sculptor, Kinney, testify. Roxbury has an inexhaustible supply of the true *Verd Antique*, so identical in composition and appearance with that hitherto obtained from ancient ruins, that the best judges have mistaken the one for the other. Although these quarries have been opened but a couple years, this beautiful stone has already found its way into the new capitol extension at Washington, and into the parlors of the rich in New York and Paris. The committee for the erection of the Benjamin Franklin monument in Boston, adopted it for that purpose after subjecting it to the severest tests of heat, cold, and pressure. The "Vermont Italian" quarry of Dorset presents a bold front on the side of the mountain, half a mile long by 150 feet high, and of a breadth which

ages cannot exhaust. Rutland alone turns out half a million dollars worth a year.

And yet this marble formation which extends the entire length of Vermont, runs also through Berkshire County, in Massachusetts, through western Connecticut, and, I believe, into New Jersey. And probably the marble interests above briefly alluded to are not a moiety of those which exist in the country.

No sane person, with these facts before him, will say that an improvement which at once does away with one-half of the expense of an important branch of the business is not of great value, and no reasonable person will charge mercenary motives upon those who were instrumental in the production of these improvements. Some inventors, in their too great haste, seizing upon the first idea that presented itself, instead of carefully and experimentally feeling their way to the truth, have made failures; and now finding themselves minus a trifling sum of money for patent fees and models, seem to forget that some waste of property and life always attends a great victory.

There is yet ample room in the marble business for the exercise of the inventive faculty; some important improvements are yet needed. In conclusion, Messrs. Editors, allow me, in behalf of the marble manufacturers of Vermont, to thank you for the early "aid and comfort" you gave this great improvement.

M. M. MANLY.

South Dorset, Vt., Jan. 1856.

[The above letter, as will be seen by the signature, is from the gentleman who offered the prize of \$10,000 for the best marble sawing invention. The letter contains some very interesting information.]

Salt to Remove Ice.

By sprinkling common salt on ice it absorbs water, and in the act of so doing thaws or softens the ice by the heat generated during the action of attracting the moisture. This quality of salt is often taken advantage of to thaw the ice on pavements in order to prevent persons slipping on them. A correspondent of the *New York Courier* warns persons not to pursue this practice unless they wish to injure the surface of their pavements. He says "the salt causes the surface of the stone to peel off as if rotten. A few months after such application, scales of one-fourth or one-eighth of an inch in thickness may be picked off by the fingers. The salt (chloride of sodium) which soaks into the stone, becomes decomposed, and forms chlorides with its constituent salts, which being soluble leak out by subsequent rains, and impair its adhesive properties. The city railroads of New York have made liberal use of salt to clear their tracks of ice and snow. The concrete in which the ties are imbedded might be injuriously affected by repeated applications; deliquescent salts being formed and carried off by the rains."

To prevent the stone flags scaling off, it would be a very easy thing to sweep or scrape off the salt with the thawed ice, which should always be done. If the above is true with regard to the action of the salt on stones, would it not be an excellent and easy plan to use salt for roughing the Russ pavement—something much to be desired.

Death of an Inventor.

William Blake, the inventor of Blake's Fire Proof Paint, died at Westfield, Mass., on the 8th inst., from the effect of an explosion that occurred in some chemical experiments which he was making. A few weeks previous to this event he called upon us to consult about obtaining a patent for a new explosive material for fire-arms, and described the experiments which he had made conjointly with an acquaintance, who was an experienced chemist. He stated that all their experiments were not completed, but they had already obtained very satisfactory results. His experiments are now ended forever. *Memento Mori.*

Life Boats.

The Committee appointed by the Secretary of the Navy, to test various Life-boats at the Navy Yard, Brooklyn, have reported very favorably on the compressible boat of Mr. Berdan, described on page 86, Vol. 10, SCIENTIFIC AMERICAN.