

NEW INVENTIONS.

Improved Railroad Brake.

Mr. E. G. Otis, of Bergen, Hudson Co. N. J. has taken measures to secure a patent for an improved Railroad Brake. He employs a cam on a long rod or lever, which cam acts upon a bar connected with a toggle joint, by the operating of which, a collar, fitting loosely on one of the axles, is thrown in or out of gear with the axle by means of a clutch. A chain attached to the collar, which is also connected to a lever, causes the brake shoes to act against the wheels by the operation of the rod on which the cam spoken of is placed. The brake is a powerful one, and acts instantaneously. There is also a cap friction brake for acting on the wheels by turning the rods in a contrary direction, so as to arrest the cars when instantaneous stopping is not required. In a train of cars there are several rods connected by compensating joints, which allow of the lengthening and contracting of the space between the different cars. The trucks are so constructed also, that if an axle gives way, the wheels are prevented from running off the track by having strong guards placed on each side of them. The trucks are also supported from the car bed, so as to prevent smashing if a wheel breaks.

Improvements in Truss Girders for Bridges.

Mr. Dudley Blanchard, of the city of Troy, N. Y., has taken measures to secure a patent for a system of trussing and bracing of bridges, whereby much weight of metal (if a metal bridge,) and much weight of wood is saved. Every one of the several braces of the truss is made of a strength proportioned to the amount of the burden it is required to bear. The top chord is so constructed that its capacity for giving the lateral support to the top ends of the braces is proportionate at every part of its length, to the amount of such support it is required to give to sustain the burden. The lower chord is constructed upon the same principle.

Fowl Feeder.

Mr. S. W. Albee, of Walpole, Cheshire Co., N. H., has taken measures to secure a patent for an apparatus for feeding fowls. Within a suitable case there is enclosed a hopper and feed boxes; the case has doors hung and arranged with levers in such a manner that they may be opened by the fowls as they alight or tread upon steps which are connected to the leaves of the doors. The grain is placed in the hopper within the case, and falls from thence into the feed boxes, the supply being regulated by slides. When the fowls leave the steps, the doors close by their own gravity, and when the doors are opened by the fowls alighting on the step, they obtain the grain from the feed boxes which are placed within their reach. When it is desired, the fowls are prevented from opening the doors by turning or raising up the steps. Thus the fowl feeder preserves the grain from vermin and filth, as it is enclosed within the case; much waste is also prevented and the fowls can feed themselves at pleasure. It is a valuable invention for farmers.

Improvements in Roofs of Buildings.

Mr. William W. Bratt, of Granville, Washington Co., N. Y., has taken measures to secure a patent for an improved mode of jointing metal plates for roofs, which is applicable to all kinds of metal, and which, without any soldering or bolting, makes a tight roof, by the way in which one plate is made to lock into another.

New Breech-Loading Rifle.

Mr. Albert G. Bagley, the famous maker of gold pens, has invented one of the most handsome and original breech-loading rifles that we ever saw; it is unique; the breech chamber is quite different from any that we have examined. It loads down the breech, which answers the purpose of a loading muzzle. The breech chamber is pushed into and out of the barrel by the turn of a screw. The nipple for the cap lies horizontally, and altogether it is a most capital invention. We had thought there was no room for improvement in breech-loading rifles; but who can set bounds to the inventors of this world?

Improved Candles.

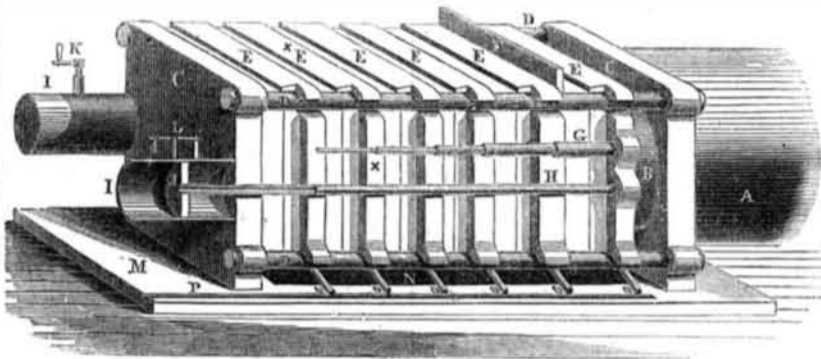
The Terre Haute Express, (Ind.), speaks very favorably respecting the *pure lard candles*, manufactured by Mr. B. M. Harrison, of that place. About another kind of candles the Express says:—

"Mr. Harrison showed us, also, a sample of his make of lard candles, which surpasses anything of the kind we have ever seen. They

have the appearance of wax, are smooth and glossy, and nearly clear enough to show the wick. To the finger they feel like wax, and we understand they will hang in the sun in the hottest summer days without melting."

We rejoice to hear of any improvement made in candles, for assuredly there is room for it. The kind sold in this quarter of the world is poor soft, and miserable stuff.

LATOURETTE'S PATENT OIL PRESS.—Figure 1.



The accompanying engravings represent the improved Steam Heated Horizontal Hydraulic Oil Press, of D. L. Latourette, of St. Louis, Mo., which was patented on the 28th of last October. The press is for manufacturing linseed, castor, and other oils.

Figure 1 is a perspective view. Figure 2 is a vertical section of the truss. Figure 3 is a longitudinal section at x figure 1, of the truss. Figure 4 are side views of the truss.

A is the hydraulic cylinder; B is the ram; C C are head pieces connected by the bolts, D D, and forming the main pressing case; E E E E E E are the trusses, with a recess for the substance surrounded by steam; F is the lid of the truss, raised ready to receive the charge. The bottom of the truss opens downwards, so that the cakes pass out below. G are the pipes, which communicate with their respective trusses, and work into each other through stuffing boxes, providing for the extension or contraction of the trusses, as they are moved forward, or made to retrograde on the guide rods, by the working of the press.

H is a hollow piston-rod communicating steam to the first truss, and by means of piston J, carries back the ram and trusses, when the hydraulic pressure is taken off; I I are steam cylinders in which piston J works; K is a throttle valve where the steam from the boilers is let on to the press; L is a safety valve regulating the pressure and temperature of steam in the trusses; M is a bed-plate on which the whole rests; N is an opening in the bed-plate through which the cakes are discharged into the basement story; O O O O O O are pipes through which the oil is discharged into trough, P. The steam is kept continually on the press whether working or stationary; a a, in the section figures, is the top and bottom of the truss, which open and close as shown by the dotted lines, figure 2; b b are the caps of a a, to keep them firmly closed; c c are the sides of the truss, d d are the brackets spanning the bolts, D D; f f is the pipe for steam. It is attached to pipes, G; O O are pipes where the oil is discharged. The truss is lined with wrought-iron plates, which

Fig. 2. Figure 3.

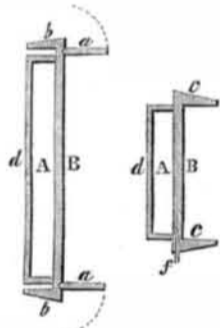
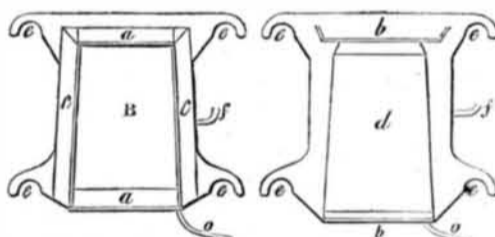


Figure 4.



are perforated opposite channels which deliver the oil on the lower cap, b, which is guttered thence into pipes O.

The patentee of this press is a practical worker in oil, having devoted many years to the business; and this improvement is the result of his observation and experience. Its advantages over all other machinery for the purpose, will appear obvious to every experienced oil manufacturer, as it secures a perfect and uniform temperature to the substance while pressing, until the oil is thoroughly extracted—thus securing a considerable quantity of oil over any machinery now in use. Besides, it saves greatly in labor, no handling of the substance being necessary, and turns out a given amount of work with unprecedented despatch. The press here shown is of one thousand tons pressure, and will work off five hundred bushels bulk per day. One man will work the press, charging and discharging—charging at the top through spouts—and the cakes and oil are discharged in the basement. The cakes are thin and oblong in shape, and six in number, and are filled, pressed, and discharged simultaneously. Free escape is given to the oil from the entire surface of the cake. No bags or mats are used, the cakes being surrounded with a polished metal surface. By means of the regulating valves, a perfect uniformity is given to the workings of the press, so that its operation is not dependent upon

the contingency of the attention or carelessness of the workman.

The advantages of heating by steam, in preparing oleaginous substances for pressing, are now being appreciated, and most of our extensive manufacturers have adopted it in various ways in the important process of tempering. To transfer the substance immediately to the press, on being properly heated, has always been considered of great importance; and if any delay in this occurs, a loss in the yield of oil invariably follows. This press combines the two processes of heating and pressing. The best known methods of heating, by steam, and the best known method of pressing, by hydraulics, are here connected in a manner at once simple and efficient.

More information may be obtained of Knap & Co., makers, Pittsburgh, Pa., or of D. L. Latourette, Patentee, St. Louis, Mo.

Sharpe's Rifle.

We have received three numbers of the "Hartford (Conn.) Excelsior," containing notices of Sharpe's Breech Loading Rifle, engravings of which we published in our last volume. Mr. Sharpe, it is stated, has invented a new primer which surpasses Maynard's. It asserts that with 55 grains of powder it sent a ball, weighing one ounce, one mile and a quarter. The bullet used was a picket bullet. The reason given for its superior action, is

that "the charge chamber is made larger than the rest of the bore of the barrel, and forms an air chamber around the powder, which produces a more thorough combustion and instantaneous ignition, and the ball meeting with so much resistance, by having to receive the impress of the grooves as it starts, the gas is under high pressure before the ball moves and the same force that starts the ball is required to stop it."

We think it would be well for Mr. Sharpe to prepare a pamphlet describing how to make his cartridges and how to use his rifle. Some have objected to his sliding gate at the breech, and have asserted that it will leak after being used for some time; they also say that it is not strong enough—that there is danger in having it snap off at the shoulder of the stock. The strength of this gate should be mentioned, together with all precautionary information, &c.

Newspaper Portfolio.

Mr. E. G. Taylor, bookbinder in the Sun Buildings, New York, and neighbor to the Scientific American, has invented and manufactures a new kind of portfolio for filing newspapers, which is the best thing of the kind that has ever been brought before the public. The newspaper is put into file by simply turning a screw to admit it, and then it is fastened by turning the screw in a contrary direction. It has covers like other portfolios, and is very neat. This is something which we long considered "an invention wanted." Every person who files a newspaper should have one. The price is \$1.50.

The Woodworth Planing Machine.

Resolutions have passed the New York, Pennsylvania, and Ohio Legislatures, instructing the Senators from those States to present the same before the Senate of the United States, as an expression of the decided and well matured opinions of the people of those States, against a further extension of the Woodworth Patent.

We do not make any over-statement of figures, when we say that nine-tenths of the people of the United States are opposed to the monopoly.

In the Boston Post of Feb. 26th, the decision of Judge Sprague is published in the case of the Woodworth and Norcross Planing Machines. Judge Sprague refused to grant an injunction against the Norcross machine, because he held it to be evident that the defendant's machine was not an infringement of the Woodworth Patent. He paid a tribute to the invention of William Woodworth, as "we have always done (and never have spoken against it) but then he, like us, thought the owners of the Woodworth Patent claimed too much for it,—they have claimed inventions as being identical with the Woodworth machine, which, in our opinion, were entirely different. They have managed to get injunctions against machines, which we believe were totally different from Woodworth's—not the same at all. The policy of the monopoly has been "to frown down or buy up opposition." They have often abused their privileges as good citizens, and deserve censure.

Some of our readers may be thinking we have said enough upon this subject, and do not like to hear it mentioned, week after week, in our columns. Those readers must bear with us, for the sake of such a vast number who are deeply interested in this subject. The monopoly will not be easily beaten back; they will return again and again to the assault, and every opportunity will be laid hold of to get the Bill passed as secretly as possible. Continual vigilance is necessary in a question of this kind. Let people supply their Senators and Representatives with facts on the subject, and let them keep up the agitation while a speck of war remains in the horizon.

To Treat Persons Apparently Dead.

Remove the body into the cool fresh air. Dash cold water on the neck, face, and breast, frequently. If the body be cold, apply warmth by water.

Professor Emmons, State Geologist of North Carolina, in a letter to the Governor, expresses the fullest confidence that there is an almost inexhaustible source of coal in that State.