NEW INVENTIONS.

Ship Boring Machine.

An improved apparatus for the purpose of boring treenail holes in ships' bottoms has been invented by Samuel T. Sanford, of Fall River, Mass., who has taken measures to secure a patent. This machine very much lessens the difficulty experienced by shipwrights when boring treenail holes in the bottoms of ships. The auger stock is connected by a ball and socket or other universal joint, to a long pole, which is supported by a standard, but capable of motion in either a horizontal or vertical plane. A couple of pullies and a band transmit the motion of a shaft resting in the standard, to the auger so that it revolves. This plan allows the tool to be brought to any required point, and will permit it to bore in any direction, whilst the power to do so can be applied on the ground or wherever the standard can be readily placed. The workman can quickly remove the auger from the stock by a neat arrangement of a screw-thread and tongue, and a stock guard having small sharp pins at its end serves to maintain the position of the tool.

Improved Wagon Brake.

A self-acting brake for wagons on common roads has been invented by W. D. Williams, of Raleigh, N. C. This brake is intended for retarding the velocity of a wagon while going down hill, and is so arranged that the action of the horse in drawing, when arrived at the bottom, will restore the brake to its former position, where it will remain while the wagon is on level ground. The arrangement consists of two iron clamps encircling the front axle, and each connected to a front hound by a link and two joint pins. The hounds are secured to the sides of the reach as well as to a cross-piece, and the latter by rods is connected to a similar piece, which carries the bar for actuating the brake blocks. An additional advantage of this brake, due to its capability of swinging on a centre, is, that it can be thrown forward when it is desired to dump the load, and then replaced in its former position.

Power Loom Shuttle.

An improved shuttle motion of a simpler kind than that generally employed in power looms, has been invented by William Crighton, of Fall River, Mass., who has taken measures to secure a patent. The improvements consists in connecting the two pickers by means of a rigid rod, so that it is made imperative for both to move together, the motion being imparted by a picker lever, which is operated upon to throw the shuttle in both directions by a single cam on a short shaft at one side of the loom. The results obtained by this improvement are the giving of the pickers a perfectly parallel motion by simpler mechanism than that commonly employed for the purpose, and thus dispensing with the long shaft and with one cam, the invention being altogether less complicated and expensive than the separate mechanism employed in most looms to drive the shuttle in each direction.

Race's Self-Acting Blast Regulator.

The annexed engravings are views of an improvement in regulating the blast in pipes, &c., invented by George Race, of North East, Duchess Co., N. Y., who has taken measures to secure a patent for the same.

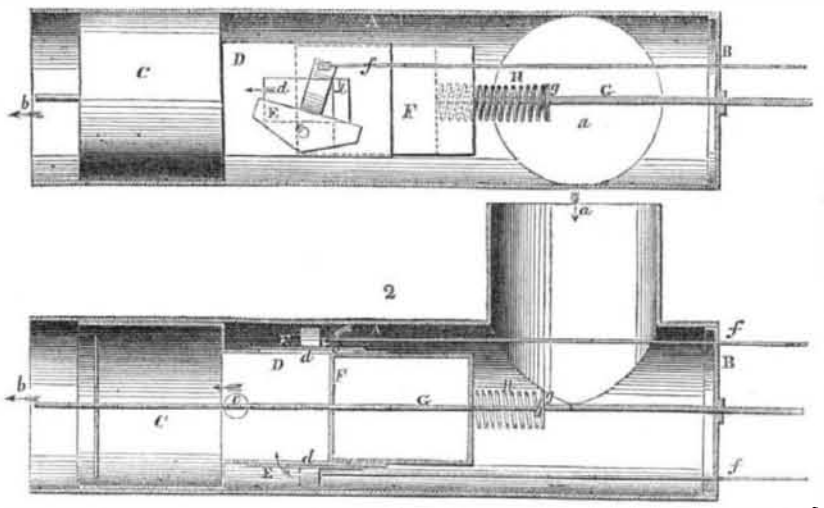
Figure 1 is a longitudinal section of part of a blast pipe, showing the improved regulator inside, and figure 2 is a transverse section of the pipe with an end view of the regulator. The same letters refer to like parts.

In the manufacture of iron by the blast furnace, it is of the utmost importance that pressure of the blast should be as nearly uniform as possible, but the apparatus now in use for regulating the pressure of the blast does not produce the desired uniformity. The object of this invention is to produce a more uniform pressure.

A is part of the blast pipe into which the blast enters at *a*, and from which it passes at *b*, towards the tuyere; B is a movable cap for the introduction and withdrawal of the regulator, which is as follows:—

C is a short tube which fits tightly in the blast pipe; it supports the valve socket, D, which is a tube of such size as to allow of a considerable space between it and the blast pipe. The valve socket may be of any suitble metal and form, but perhaps the square form allows of the best arrangement of shutters to vary the form of the passages. On opposite sides of the socket, D, there are small apertures, *c c*, and on the other two opposite sides are passages, *d d*, of oblong or square form. The small apertures, *c c*, are always full open; *d d* are the regulating passages,

Figure 1.



each being formed with a shutter, E, which consists of a flat plate turning on a pivot, *e*, in such a way that it will leave a parallel or taper opening through the passage. The shutters are adjusted by rods, *f f*, which pass through the cap, B. The regulator valve, F, consists of a hollow metal box fitting easily in the socket, D, but it is only made hollow for lightness; it slides freely upon the rod, G, which passes through its centre. This rod is screwed for a considerable portion of its length, and the thread part works in a nut in the centre of cap, B. The valve is attached to rod, G, by a spring, H, which is connected to the valve, and to a disc, *g*, which fits easily to the rod, but is prevented from moving beyond a certain point by a nut, *h*, on the rod. When there is no pressure upon the valve its front edge is always nearly even with the back eyes of the passages, *d d*, when, it is held by a stop piece, *i*, attached to it. The blast enters the pipe in the direction shown by the arrow, in figure 2, and a portion always escapes towards the tuyeres by the holes, *c c*, which are independent of the regulators, and which may be dispensed with altogether; the remainder passes through, *d d*. The valve is acted upon by the pressure of the blast, and, and as the said pressure increases or decreases, the valve is forced farther into or recedes from the socket, D. As the pressure increases and acts with more force upon the valve, the spring yields and allows the valve to enter the socket and thereby reduce the area of the passages, *d d*. and as the pressure decreases the opposite effect is produced. The area of the passage may be made to vary in proper relation to the varying pressure at the back of the regulator, in order to make the quantity passing through *c c*, *d d*, correspond inversely with its density, by properly adjusting the shutters so as to regulate the width of the front and back parts of the passages. The working pressure may be increased or diminished at pleasure, by means of the screw-rod, G, which serves to increase or decrease the tension of the spring, H. By increasing the tension of the spring the pressure of the blast is made less effective; by closing the valve, and by decreasing its tension, the opposite effect is produced, and thus the blast is rendered more uniform than by any of the plans now in use.

More information may be obtained by letter addressed to the inventor.

KETCHAM'S PATENT LOCK.

Figure 1.

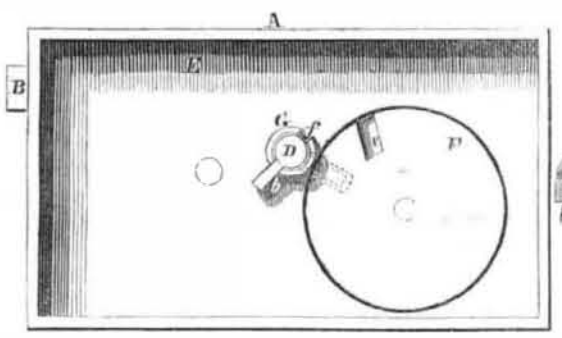


Figure 2.

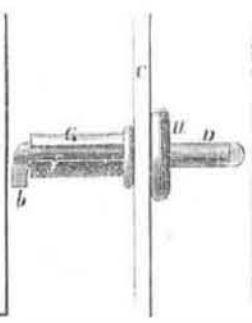
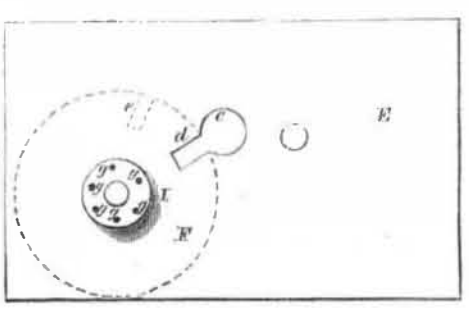


Figure 3.



The annexed engravings are views of an improvement in locks, for which a patent was granted to the inventor, Richard Ketcham, of Seneca Castle, Ontario Co., N. Y., on the 7th of last Dec., (1852.)

Figure 1 is a back view of the lock, the back plate being removed for the purpose of showing the circular tumbler, slotted collar and the end of the spindle, and the manner in which the spindle may be released, so that it can be made to act upon the bolt; figure 2 is a section of the slotted collar and spindle; figure 3 is a front view of the centre plate; figure 4 is a back view of the lock with the back plate removed and the centre plate taken from within the lock; figure 5 is a transverse vertical section of the lock, the centre plate and circular tumbler not being bisected. The same letters refer to like parts.

A is the case of the lock; B is the bolt placed against the inner side of the front

Figure 4.

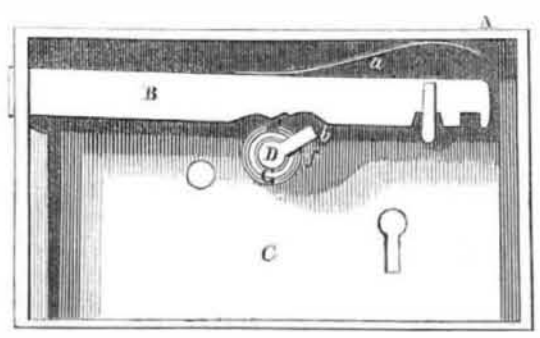
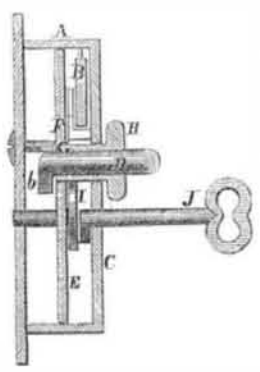


Figure 5.



plate, C, of the case. The bolt has the usual spring, *a*; D is a spindle, to the outer end of which the usual knob is attached. The inner end of D, is bent so that the bent portion, *b*, forms a right angled triangle with the other portion; E is a plate fitted within the case, A, dividing it longitudinally, into two parts. Near the centre of plate, E, there is a circular aperture, *c*, and slot, *d*, adjoining it, through which the spindle, D, and crook, *b*, passes. This crook, *b*, is really the key, it acts upon the bolt, B, to move it according to the direction in which the spindle is turned; F is a circular tumbler placed on the back side of the centre plate, E; this tumbler has a recess, *e*, on its edge, large enough to allow, *b*, of the spindle, D, to pass through; G is a collar which passes through the front plate, C, of the case. This collar has a slot, *f*, to allow the spindle to be drawn in it, the slot, *f*, being for the crook, *b*, to work in. The collar has a small circular projection, H, on its outer end, on the outer side of the front plate, C. When the bolt, B, is thrown out, it is in a locked state, and the object of the invention is to prevent the crook, *b*, from acting upon the bolt, and to keep it from being withdrawn. In order to do this, the crook, *b*, is passed through the centre plate, E, the crook, *b*, passing through the slot, *d*, in the plate, E, and also through the recess, *e*, in the tumbler, F. When this is done the tumbler is turned, and also the collar, G, so that the slot, *f*, of the collar, the recess, *e*, of the tumbler, and th slot, *d*, of the centre plate, E, are not in line While the slots, *f d*, are in this position, and the crook, *b*, on the back side of the centre plate, the crook, *b*, cannot act upon bolt, B; it must first be drawn through the centre-plate and slots. The dotted lines, figure 1, show the position of the parts when the bolt B, is forced outward. In order to withdraw the bolt, the slots, *f d*, and recess, *e*, must be brought in line, to allow, *b*, to be drawn through the centre-plate, E. To do this, the key, J (not properly the real key) is inserted into the lock, and acts upon a disc, I, on the front of the plate, E, said disc being perforated with apertures, *g*, around its edge. The point of the key fits in either of these apertures, and as the said disc is attached to the axis of the tumbler, F, which turns with the key, the collar, G, is turned by operating the projection, H, and the spindle turned by the ordinary knob. The slots in the collar and the recess, *e*, in the tumbler, are brought in line by means of turning the collar to letters, figures, or secret marks, on the face plate of the lock. These characters are not represented in the figures, as they can be varied for different locks. When the slots, *f d*, and recess, *e*, are in line, the spindle, D, is drawn through the centre-plate, and made to act upon the bolt by turning the spindle, as before mentioned.

More information may be obtained by letter addressed to the patentee.

Banvard's Panorama of the Holy Land.

This beautiful Panorama has for some time been on exhibition at the Georama, 596 Broadway. To the christian, the scholar, and all others having any interest in the Holy Land, (and who has not), this exhibition presents uncommon attraction and interest. We advise all to visit it before it leaves the city.

More than four millions of acres have been redeemed from the Mississippi in Arkansas.