

New Inventions.

Tobacco Pressing Machine.

The annexed engraving is a perspective view of a machine for pressing plug tobacco, for which a patent was granted to A. A. Parker, of St. Louis, on the 27th of April last year. This machine is on exhibition at the Crystal Palace, and as the tobacco trade of our country is very extensive, it attracts, and justly should, the attention of all those engaged in the tobacco business.

The tobacco is received into a hopper, then carried forward, and fed into moulds or cells in a rotary disc box, in which it is pressed into plugs by toggle jointed levers, and from which it is discharged in plugs, into a receiving long pressure box, where all the elasticity of the compressed tobacco is destroyed, and the plugs rendered incapable of swelling again, and from which they are discharged, firm and permanent in packing shape and size. Means are also employed in this press to keep the moulds or cells, and all the contact parts of the machine, clean and free from the gum and liquorice of the tobacco.

A is the frame of the machine, and B is the driving handle of the main shaft; this shaft is driven by belt and pulley, as in the Crystal Palace; C is a pinion wheel gearing into and driving the cog wheel, D, from the shaft, E, of which it may be said all the peculiar motions are transmitted; F is a sector cam on this shaft; it has two pins on its inner face, and as it revolves, these pins take into the arms of the spoke wheel, H, which moves said wheel two arms for every revolution of F; G is a wheel on the stud of H, it gears into a wheel coupled with the one J, which gears into the pinion, K, and revolves its shaft, L. On the other extremity of this shaft is secured the mould or cell disc, M, in the compartments of which the tobacco is pressed. By the motions described, it will be observed that the mould disc, M, has an intermittent rotary motion, and that one quarter of it (one cell) is moved every revolution of the shaft, E; N N are pitmans secured on the shaft, E, and attached to the toggle jointed levers, O O. These levers press the tobacco in the moulds, for as the shaft, E, revolves, the levers, N, being placed eccentrically on it, as they draw down, they make the levers, O O, force a pressing head into the cell or mould of M, and press the tobacco firmly in the same; the toggle jointed levers will recede when the levers, N, change their position in rotation. There are four pressing heads, P, they are not secured to the ends of the levers, O, but rotate with an intermittent motion on a small slide shaft. The reason for this arrangement is that after a presser head or plunger has pressed about twelve plugs, its face gets gummed up, and will not press well.—

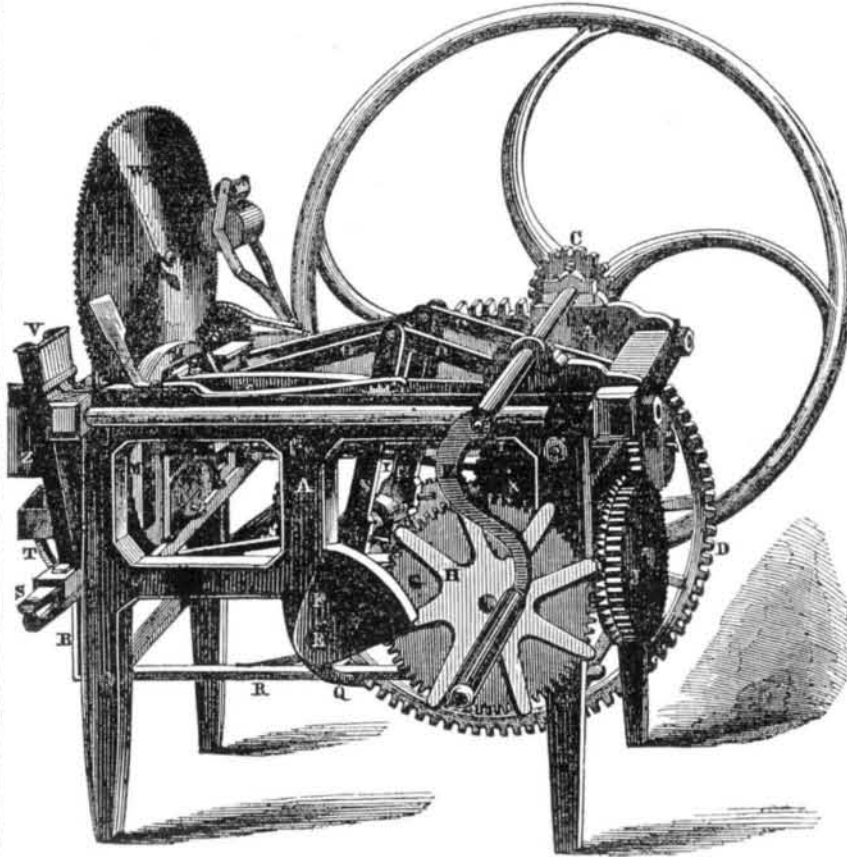
To obviate this difficulty, a clean presser head is presented after twelve plugs are pressed, by the dirty one being turned down by a rod operated by a small pinion; the unclean plunger dips into a trough of water below, and is scrubbed with a small brush, and so on, the presser heads rotate, press, get dirty, and are cleaned. At the back of the cell or mould disc, M, is the solid plate wheel, W, the bottom of which forms the solid back of the mould or cell, in which the plugs of tobacco are pressed. When a plug is pressed the levers, O O, recede and that cell or mould rotates, until it comes opposite to the receiving compressing box, Z, behind, into which the pressed plug is discharged or forced by the thrusting rod, Y, which is secured to the wheel, X, eccentrically, which gives it a reciprocating motion. Thus there is one cell or mould of M, filling, one in which the tobacco is being compressed, one being discharged, and one passing empty to get filled, all the time. The mould boxes are filled or fed from hopper, V, into which the loose roll of tobacco is placed by two feeders, S and T, the one S, receives it from the hopper and carries forward as much as will be a plug, to the one T, which then takes it forward and forces it into a cell or mould of M. The feeding motions of T and S are by levers, R and T; the one R is operated by a cam, Q, on shaft E, which forces it forward, and then it springs back to feed forward another plug. The back of the pressing cell—the plate wheel, W, is kept

clean and free from gum, because it gears into teeth on the back of M, and revolves. As this wheel revolves it is met with a sponge at one side, and above that it is oiled with the two roller rubbers. This softens the tenacious gum of the tobacco, which is then easily scraped off by the broad scraper seen at the left hand side.— This enables the moulds or cells of M always to

have a clean back. This is essential to the successful working of a tobacco pressing machine. The common presses for pressing tobacco are very defective; this one is new entirely, in principle, construction, and all its operations.

The receiving compressing box, Z, into which the plugs are discharged from the moulds or cells, embraces a principle essential to the suc-

PARKER'S TOBACCO PRESSING MACHINE.



cess of a tobacco-pressing machine. If the tobacco was freely discharged when quickly pressed into plugs, it soon would lose its form and compactness. This receiving compressing box has its bottom, top, and sides, composed of endless belts, and it is of such a size as to hold the plugs under pressure while confined for about half an hour, during which time the plugs lose their elasticity, and always retain their form after they are discharged. This machine presses about 20 plugs per minute, and the receiving compressing box contains a great many plugs, as it is somewhat long. When full, as one pressed plug is thrust in by the lever Y, one is discharged, ready to be packed up, and so on continually.

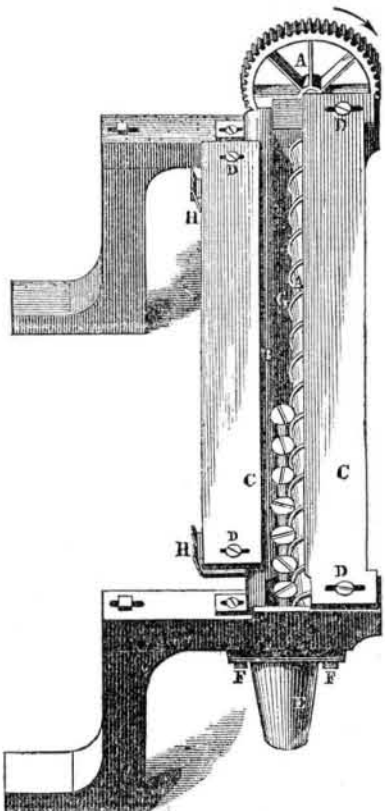
The pressing power of the press can be increased by extending or diminishing the dis-

tance between the back and front ends of the levers, they being attached to the cross-bar at the back of the machine, which can be shifted forward or back by the large screw rods, one of which is seen passing through them. This is an advantageous arrangement for graduating the pressing power.

This is quite an original and excellent machine for the purpose specified. We have seen a great many certificates from very respectable persons, speaking highly of its qualities. We have examined the machine for ourselves in the Crystal Palace, and have never seen one like it before, and it will no doubt soon put all the old presses used for the same purpose hors du combat.

Mr. Parker resides in St. Louis, but is at present living in this city, and may be frequently seen at the Crystal Palace.

Improved Hopper for Screw Machines.



The annexed engraving is a plan view of an improved hopper for feeding blanks into screw

machines, invented by James Greaves, of Utica, N. Y., who has a practical acquaintance with such machines, and knows what defects require to be remedied.

A is the screw shaft to carry the blanks along, and deposit one at each revolution; B is a rod which supports one side of the blanks, they sliding off at one end of it. The distance between it and the screw shaft, A, is regulated by set screws. The plates, C C are to keep out blanks having unturned heads, they being larger than those with turned heads, will not pass between the plates; these plates are regulated as to the distance between them by the screws, D D; E is the throat which guides the blanks to the fingers, it is fastened by the screws, F F, and projects in the inside up to the rod, B, and screw shaft. A number of throats of different sizes should be provided for each machine; G is a plate which projects under the rod and shaft for the purpose of keeping out all blanks that are too long; it is raised and lowered by screws. This is simply the feeder of a screw cutting machine, and a number of the blanks are now shown passing through it. Screw blanks is the name given to the pieces of metal intended to be made into screws; the heads are on them, but the threads are not cut. They are delivered by this machine like fingers to the screw cutting jaws. Mr. Greaves believes that this is the best screw blank hopper ever presented, and that it is a very great improvement on any that has ever been used before.—

It is so simple in all its parts that every person will understand its construction and operation.

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

Railroad Signals.

Wm. Wigston, of this city, has taken measures to secure a patent for a system of atmospheric railroad signals. The signals are raised and lowered on a railroad simultaneously with the changing of the switches by atmospheric pressure, so that information can be communicated to engineers of an approaching train at a considerable distance from it. The signals inform the engineers if the switches are properly arranged, and if there is any danger ahead. The invention consists in arranging along the track, at suitable distances apart, a series of upright signal cases, containing in the lower part of each an air pump, and having the signal cases in communication with one another by a tube supplied with a sufficient quantity of air to alternately raise and lower the signal of each case simultaneously with the shifting of a switch. The top part of the piston of each air pump is jointed to a vertical rod, which passes up through the case, and has a signal on its outer end. Each signal rod has a short arm which plays in a curved groove on the inside of the outer case, and as the signal piston rises and falls, the signal is turned. The handle of the main air pump to operate the signals along the line, is connected by a rod and elbow shifter to the switch, consequently the signals are operated by atmospheric pressure simultaneous with and by the movement of the switch.

Improved Carriage Top.

Eliphalet S. Scripture, of Green Point, L. I., has taken measures to secure a patent for an improvement in carriage tops. The object of the invention is to render the carriage top very convenient and portable, so that it can be put up and taken down with great ease, and removed so as to be folded up and stowed away in a small place when not used. The top has an adjustable and stretching spring bar, which is attached to a back bow, and secured in an adjustable step in combination with the folding front, in such a manner that it (the carriage top) can be folded up and taken down, and removed conveniently from the carriage if required. It can be applied to all vehicles requiring a carriage top.

Extension Pencil Case.

An improvement in extension pen and pencil cases has been invented by Gilbert S. Clark, of this city, for which he has taken measures to secure a patent. The improvement consists in a peculiar arrangement of the pen and pencil slides, whereby an extension case is obtained for both pen and pencil, the pencil tube being placed within the pen slide, and the two, pen and pencil, can be operated separately.

Extension of an Important Patent.

The patent issued July 17th, 1839, to Isaac Babbitt, for the use of soft metal linings for axles, gudgeons, etc., has been extended for seven years from July 17, 1853. We understand that A. B. Ely, Esq., 52 Washington street, Boston, has been appointed sole agent for Mr. Babbitt. This invention is one of great value, and is now in general use. Its use cannot now be continued without liability to the patentee.

We are frequently receiving letters from correspondents asking us if they can procure space in the Crystal Palace; we cannot answer such letters for the want of information upon the subject. Application should be made to the Superintendent of the Exhibition.

The Missouri River.

A new mouth for the Missouri River has been cut into the Mississippi through a neck of land about half a mile above where it has been.— The object of the new cut is to prevent the washing away of the Illinois shore. Steamers now pass through the new cut.

Setting Carriage Spindles.

A correspondent wishes information as to the best method (or a correct rule) for setting the journals of carriage axles. He asserts that there is a diversity of opinion among carriage makers on this point.