

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list.

Printing Floor-cloths.—In printing oil or floor-cloths it has hitherto been the practice to employ a separate block for each color, and those designs or patterns in which a large number of colors are employed involve a great deal of labor and time in the printing of them, as separate blocks are not only employed, but separate pads or cushions also for each color, in order that each block may be properly charged with the color designed for it. The printing, therefore, of elaborate designs by the old process is very slow and tedious, the proper registering of the blocks requires care and close attention, and the expeditious manipulation of them can only be acquired by time and practice. The cutting of the blocks is also an expensive feature, as each block is so cut as to form in relief the portions of the design which contains the color it is to print. This invention is designed to reduce the number of blocks to four for the printing of any design of any required number of colors, and to dispense entirely with the cutting of the blocks in relief to print the usual colors separately. It is the patent of John Marchbank, of Lansingburgh, N. Y.

Brick Press.—This invention relates to an improvement in the manner of compressing or forcing the clay into the mold, whereby the clay will be forced into the angles of the mold, and the bricks or molded clay produced with sharp angles on the corners. The invention also relates to an improvement in the mold, whereby the same may be very readily adjusted in the press and discharged therefrom, and the mold allowed to be taken from the molded clay and left upon the pallet boards with the greatest facility. The invention further relates to an arrangement of rotating knives and scrapers employed for tempering the moistened clay when used in connection with a press-box and clod-crusher, so combined and arranged that the latter will, when the machine is in operation, always be supplied with a requisite quantity of clay for the molds. The inventor of this machine is J. A. Lafer, of Albion, N. Y.

Seeding Machine.—This invention relates to a device for varying the feed in cylinder drills and to a peculiar form of seed-delivering mechanism. The variation of the feed is effected by reversible duplex gear wheels which transmit motion from the axle to the cylinder shaft. By the use of four of the said gear wheels and an ingenious device for securing their stud shaft; seven changes are effected in the quantity of seed deposited upon a given area of ground. The delivery cylinders work in secondary hoppers constructed in such a manner as to prevent crushing or breaking the grain, insure a uniform flow of seed and expose the operation constantly to the view of the attendant. The machine embodies a number of other valuable improvements, making it altogether one of the most complete and efficient recently produced. It is the invention of Joseph Ingels, of Milton, Ind.

Operating and Sighting Guns.—By this improved mode of working guns the men and machinery employed to operate them are entirely protected from injury by an enemy's shot, the muzzles of the guns being pointed to suitable apertures in the deck of the vessel or in projections upon the deck, or in shot-proof casemates of any kind, through which apertures the guns are swabbed and loaded by steam power. For this purpose a combined swab and rammer is employed, attached to the piston of a steam engine, and provided with an automatic device for injecting water within the bore in the act of swabbing in order to cool or cleanse the gun. A scoop or ladle operated by steam is employed to elevate the charge to a suitable position to enter the muzzle. The gun is turned from below by means of a vertical pintle, preserved from the effect of the recoil by suitable springs. The improvements in sighting guns consist, first, in the use of telescopes of peculiar construction, by means of which distant objects can be viewed and the guns accurately sighted by a gunner situated below the deck upon which the guns are placed; and, secondly, in a device for concentrating the fire of two or more guns upon one point at any

desired distance. The inventor is E. A. Stevens, of Hoboken, N. J.

Valve Gear of Steam Engines.—This invention consists in a certain arrangement of valve connections whereby a single eccentric is rendered capable of operating the two induction and eduction valves of a double-engine with suitably arranged cylinders. It also consists in certain novel and simple means of shifting the eccentric for the purposes of varying the length of and reversing the movement of the valves, whereby a single eccentric is made to effect, in a better manner, all that is effected by two eccentrics and a link motion. W. R. Greenleaf, Silver Creek, N. Y., is the inventor of this device.

Revolving Fire-arm.—This invention consists in securing the cylinder axis pin in place by means of a bar or rib attached to the under side of the barrel by a screw or other pivot, upon which it is capable of turning transversely to the barrel for the purpose of releasing the pin when it is desired to remove the cylinder, such rib or bar holding the pin at a point forward of the connection of the lever of the rammer when such lever is attached to the pin, and so preventing the pin from being strained by the act of ramming home the charges. It also consists in making the lower surface of the said bar or rib in such form that it shall serve as a bed or resting place for the lever of the rammer when the said bar or rib is brought parallel with the barrel and the loading lever is brought into the position it is desired to occupy when not in use, whereby the lever, when locked, is made to secure the rib or bar against displacement and injury by an accidental blow or pressure. Fordyce Beals, of New Haven, Conn., is the inventor of this improvement.

Air Engine.—This invention consists in the attachment of the pump cylinder of an air engine to the working piston and the employment of a stationary compressing piston, the object being to employ the weight of the said cylinder to aid the working piston in its downward or return stroke, the engine being single-acting and the air only operating to produce the upward stroke. It also consists in a certain arrangement of the induction and eduction valves and valve chest of the working cylinder of the engine, whereby great facility is afforded for getting at the valves whenever necessary. Henry Messer, of Roxbury, Mass., is the inventor of this device.

Steam Engine.—This invention relates to that class of steam engines known as trunk engines, and it consists in a construction and mode of applying and operating the induction and eduction valves of such an engine, to cause the admission of steam from the boiler to the cylinder on that side of the piston on which the trunk is situated and which presents but a comparatively small area in annular form, and to cause the steam, after it has produced a stroke of the piston by its action on that side, to pass to the opposite side and produce the return stroke by the action of its expansive force on the larger area of the latter side, by which means, the area of the two sides of the piston being properly proportioned, a nearly uniform development of power is obtained during both strokes or during the complete revolution of the shaft. Thomas Northey, of Saint Mayben Parish, England, is the inventor of this device. His present address is Hamilton, C. W.

The Way they make Hot-beds in Germany.

Take white cotton cloth of a close texture, stretch and nail it on frames of any size you wish; take 2 ounces of lime-water, 4 ounces of linseed oil, 1 ounce of white of eggs, 2 ounces of yelk of eggs, mix the lime and oil with very gentle heat, beat the eggs well separately, mix them with the former; spread the mixture with a paint-brush over the surface of the cotton, allowing each coat to dry before another is put on, until they become water-proof. The following are the advantages this shade possesses over a glass one:—First, the cost is hardly one-fourth. Second, repairs are easily made. Third, they are light; they do not require watering no matter how intense the heat of the sun; the plants are not struck down or burnt, faded or checked in growth; neither do they grow up so long, sickly and weakly as they do under glass, and yet there is abundance of light. Fourth, The heat arising entirely from below is more equable and temperate, which is a great object. The vapor arising from manure and

earth is condensed by the cool air passing over the shade and stands in drops on the inside, and therefore the plants do not require as frequent watering. If the frames are large they should be intersected by cross-bars about a foot square to support the cloth. These articles are just the thing for bringing forward seeds in season for transplanting.

VALUABLE RECEIPTS.

SOLDERS.—In addition to the receipt given in our last for solders, the following is a useful table of solders with their fusing points:—

No.	Parts of Tin.	Lead.	Melting Degrees, Fah.
1.	1.	25.	558
2.	1.	10.	541
3.	1.	5.	511
4.	1.	3.	482
5.	1.	2.	441
6.	1.	1.	370
7.	1½.	1.	334
8.	2.	1.	340
9.	3.	1.	356
10.	4.	1.	365
11.	5.	1.	378
12.	6.	1.	381
13.	4.	4.	1 Bismuth 320
14.	3.	3.	1 " 310
15.	2.	2.	1 " 292
16.	1.	1.	1 " 254
17.	1.	2.	2 " 236
18.	5.	3.	3 " 202

The alloy No. 8 is used sometimes for soldering cast-iron and steel; the flux used for this purpose is sal-ammoniac, but common resin may be employed. Gold and silver are sometimes soldered with pure tin and a flux of resin. Copper, brass and gun metal are soldered with No. 8 and a flux of resin or sal-ammoniac. The chloride of zinc is used for soldering sheet and plate iron as a flux with the same solder. Lead and tin pipes are soldered by plumbers with No. 6, 7 and 8 and a flux of resin and sweet oil. In soldering with soft brass the ends of the article to be soldered are secured together by a wire and granulated solder and powdered borax are mixed in a cup with a small quantity of water and spread along the joint with a spoon. The article is then placed in a clear fire and the solder melts at a bright red heat, when the article is then removed from the fire. In soldering small articles with the blow-pipe they are supported on a piece of charcoal or what is better pumice-stone, and the flame is ejected upon the solder. In soldering lead pipes, the parts to which the solder is not to be attached are usually covered with a mixture of lamp-black and size. In soldering any articles care must be exercised to have the edges of the plates or articles perfectly clean or the solder will not adhere. A flux is employed for the purpose of preventing oxidation. Resin and sal-ammoniac powdered and mixed together make a good flux for copper and sheet iron soldering. In other cases a strong solution of sal-ammoniac is used to moisten the edges of the joint, then the resin is sprinkled upon it and the solder applied. The chloride of zinc is made by dissolving pieces of zinc in muriatic acid. It is well adapted for soldering zinc plates and pipes, and is applied with a brush to moisten the edge of the article to be soldered. The solder is then applied in the usual way with a tool. Zinc is a very difficult metal to solder because it is so easily coated with oxide, and it also volatilizes with heat.

ARTIFICIAL CORAL FOR GROTTOS AND OTHER ORNAMENTS.—To 2 drachms of vermilion add 1 ounce of resin and melt them together. Have ready the branches or twigs peeled and dried and paint them over with this mixture while hot. The twigs being covered, hold them over a gentle fire, turning them round till they are perfectly covered and smooth. White coral may also be made with white lead and resin. When irregular branches are required, the sprays of an old black-thorn are best adapted for the purpose, and for regular branches the younger shoots of the elm are most suitable. Cinders, stones or any other materials may be dipped in the mixture and made to assume the appearance of coral.

ZINC WASH FOR ROOMS.—Mix oxide of zinc with common size and apply it with a brush, like lime whitewash, to the ceiling of a room. After this apply a wash, in the same manner, of the chloride of zinc, which will combine with the oxide and form a smooth cement with a shining surface.

A NEWSPAPER was started not long ago, the first number of which contained a letter from a correspondent signed "A Constant Reader."