(No Model.) 3 Sheets—Sheet 1.

# J. W. PECK.

## MACHINE FOR THE MANUFACTURE OF CRAYON PENCILS.

No. 381,810. Patented Apr. 24, 1888.

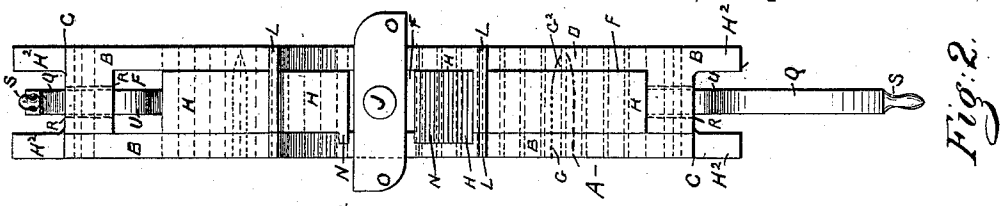


Fig. 2.

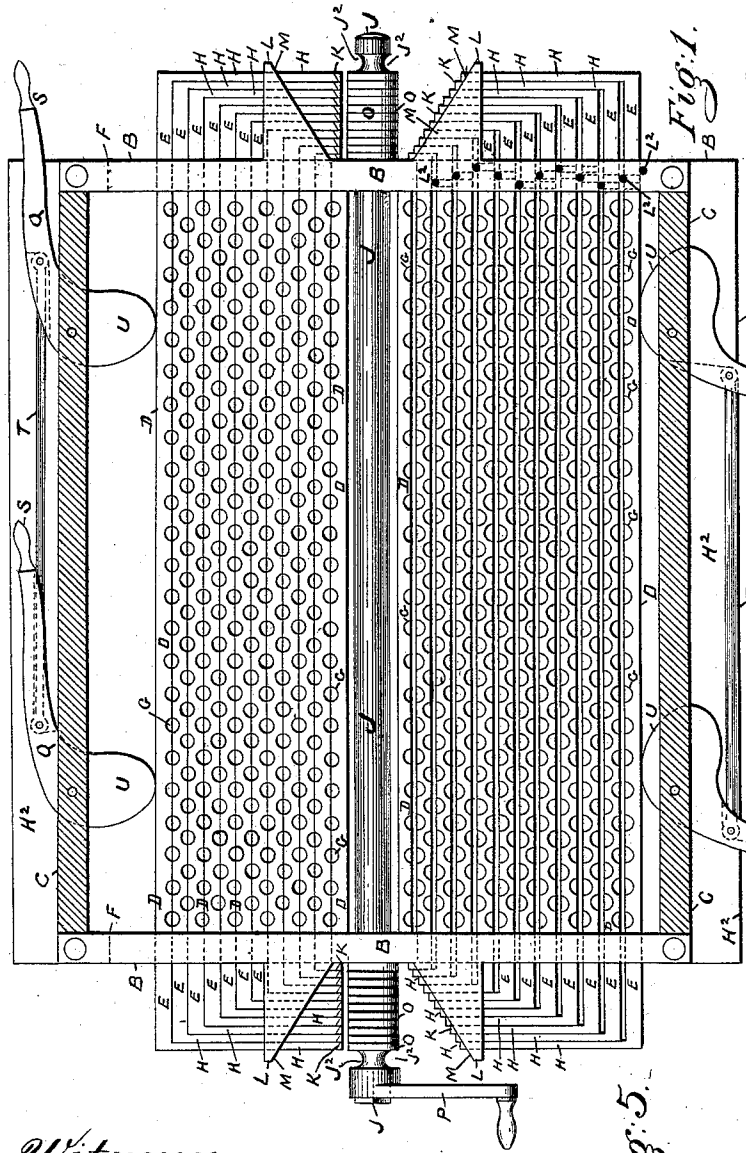


Fig. 1.

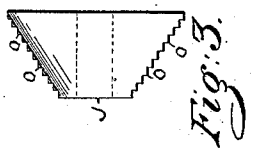


Fig. 3.

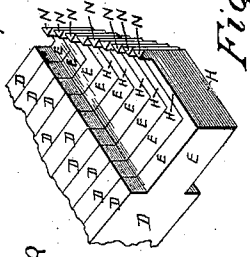


Fig. 4.

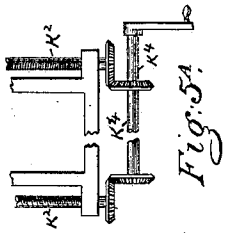


Fig. 5A.

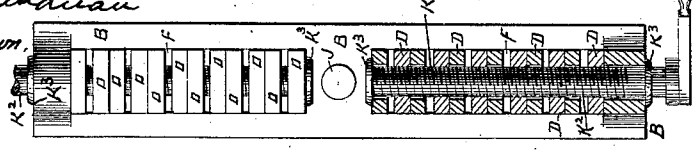


Fig. 5.

Witnesses.
A. E. Buchanan
Frances M. Brown.

Inventor
Joseph W. Peck,
by his Attorneys
Brown Bros

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 2.

# J. W. PECK.

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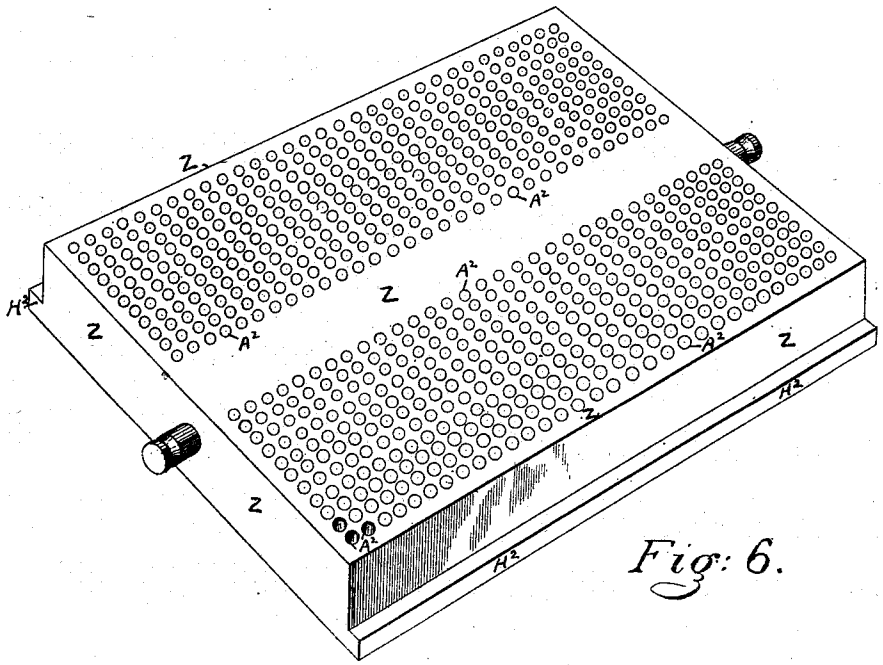



Fig: 6.

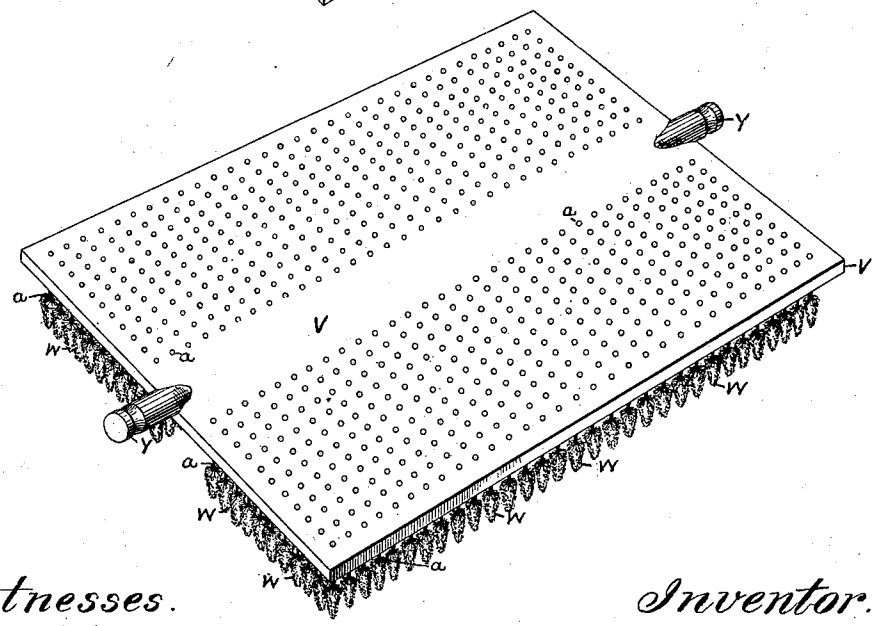



Fig: 7.

Witnesses.
John F. Nelson.
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by his Attorneys.
Brown Bros.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 3 Sheets—Sheet 3.

# J. W. PECK.

## MACHINE FOR THE MANUFACTURE OF CRAYON PENCILS.

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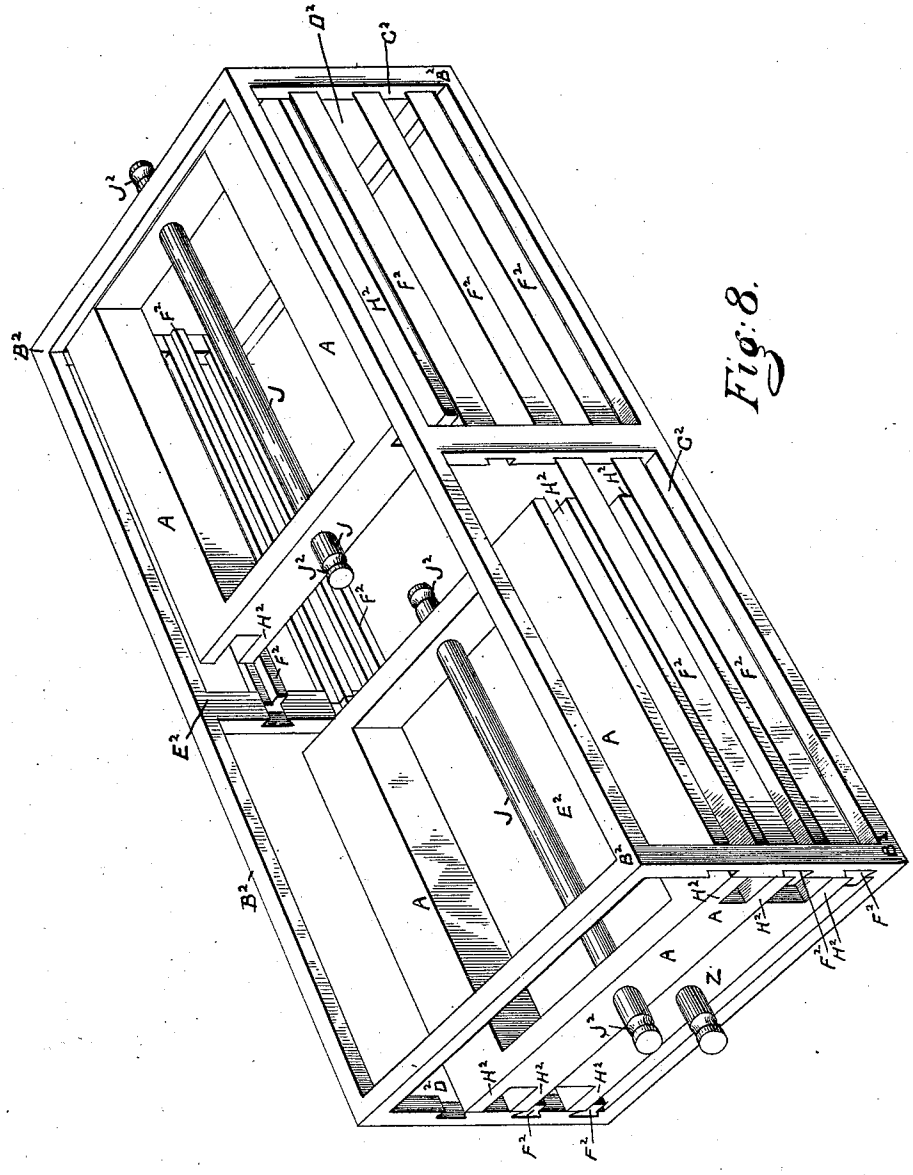



Fig. 8.

Witnesses.
A. E. Buchanan.
Frances M. Brown.

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N. PETERS. Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

JOSEPH W. PECK, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO ZENAS PARMENTER, OF SAME PLACE.

## MACHINE FOR THE MANUFACTURE OF CRAYON PENCILS.

SPECIFICATION forming part of Letters Patent No. 381,810, dated April 24, 1888.

Application filed March 26, 1887. Serial No. 232,595. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. PECK, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Machines for the Manufacture of Crayon Pencils, of which the following is a full, clear, and exact description.

This invention relates to the manufacture of crayon pencils and to apparatus to be employed therefor.

The apparatus of this invention consists, essentially, first, of a mold-frame carrying a series of sectional molds, in combination with mechanism for opening and closing the sections of the separate molds; second, of a board or frame provided with a series of swabs of suitable construction and material and corresponding in location to the sectional molds of the mold-frame for simultaneously swabbing and dressing the series of molds; third, of a board or frame provided with a series of holes or sockets each of suitable shape to receive and hold a molded crayon and severally located to correspond with the location of the series of sectional molds of the mold-frame; fourth, of a cabinet-rack having horizontal ways to receive, preferably, a series of mold-frames, each having a series of sectional molds adapted to be opened and closed, and also a crayon-receiver having a series of holes or sockets each of suitable shape to receive a molded crayon and severally located to correspond with the location of said molds, and all in a manner for a mold-frame and a crayon-receiver to be placed the former over the latter, and so placed enable the crayons molded in the frame, and on opening its sectional molds, to be dropped and deposited in the holes of the crayon-receiver.

In the drawings forming part of this specification, Figure 1 is a plan view of the mold-frame and its series of sectional molds and mechanism for opening and closing the molds. Fig. 2 is an end elevation of the mold-frame of Fig. 1. Fig. 3 is a detail view in illustration of the mechanism for opening the section-molds. Fig. 4 is a perspective view in illustration of a construction of the sections of the sectional molds for limiting their movement in opening. Fig. 5 is an end view of the mold-frame and showing a modification of the mechanism for opening and closing the mold-sections. Fig. 5$^{A}$ is a detail view hereinafter referred to. Fig. 6 is a perspective view of the block or frame for receiving the molded crayon-pencils. Fig. 7 is a perspective view of the board or frame and of the swabs for simultaneously dressing the molds of the mold-frame of Fig. 1. Fig. 8 is a perspective view of the cabinet-rack for receiving the mold-frames and crayon-pencil receivers and otherwise for use in the manufacture of crayons, as will hereinafter appear.

In the drawings, A represents a rectangular-shaped frame composed of parallel sides B B and ends C C. This mold-frame contains two series of flat plates, D D, each of a similar rectangular shape and size, and severally parallel and vertically and edgewise placed alongside of each other, extending from side to side B B of the frame, and at their opposite ends having an arm, E, severally projecting through slots or ways F of the sides B of the mold-frame and beyond the outer face of said sides. The flat plates D D and their arms E are free to be moved in the mold-frame A, and the several plates D of each series in their contiguous faces have depressions or cavities G, constituting, with the several plates closed together, a series of molds with closed bottoms G$^{2}$, Fig. 2, and otherwise of the shape and size desired for the crayon pencils to be molded therein, as hereinafter explained.

Each arm E of the mold-plates D has a right-angular extension, H. The several extensions H and those at the opposite ends of each series of mold-plates D are parallel and lie against each other, and those of each series or set project in common toward the axis of a horizontally-arranged shaft, J, which extends from and turns in and projects beyond the outer face of the sides B B of the mold-frame. With the mold-plates D of each series of mold-plates severally closed together, their separate extensions H have their ends K coincident and in a common vertical plane. The several extensions H of each series of extensions are of different lengths.

L is a stationary guideway of the mold-frame A for each series of extensions H, and each guideway L has a vertical edge, M, of a direc-

tion which extended will intersect the axis of the shaft J. The edge M of each guideway L serves as a stop and rest for abutments N of the mold-plate extensions H, which belong to said guideway, as said mold-plates are moved to open the molds, as hereinafter described.

The shaft J, at its opposite end portions and on the outside of the frame A, has a series of diametrically-oppositely-arranged cam-shaped faces or edges, O, at varying distances from the axis of the shaft. These cams O, at the opposite ends of the shaft, are severally in corresponding vertical planes of the ends K of the extensions H of the mold-plates D at such end, and otherwise they are arranged so that turning the shaft J, with its winch-handle P, in one direction they will, acting on and against the ends K of the mold-plate extensions H, move the mold-plates of each series of mold-plates uniformly away from each other, and thus open their molding cavities or depressions G, and turning the shaft in the other direction they will pass out of contact with said ends of the mold-plate extensions, and thus leave the mold-plates free to be moved toward each other to close their said molding cavities or depressions.

The molding-cavities closed are charged with the material or composition of materials, suitably prepared and as well known, from which the crayon pencils are to be molded and made.

Q Q are levers arranged in pairs at the opposite ends C C of the mold-frame and fulcrumed in horizontal slots R thereof. Each lever Q has a handle, S, connected (the handles of each pair together) by a rod, T, and also each lever Q has a similar cam-shaped end, U, inside of the ends of the mold-frame suitably shaped to bear against the outer mold-plate of each series of mold-plates. These levers Q are for closing, as has been stated, the mold-plates together, and being arranged in pairs at the opposite ends of the mold-frame and connected, as stated, the swinging of either lever of each pair of levers correspondingly swings the other lever of the pair, and thus the mold-plates are set up together evenly along their length. The inner plate of each series of mold-plates is confined against movement by its rest against the inner end of the guide-slots F for the arms E of the mold-plates.

The mold-frame, with two series of opening and closing mold-plates constructed and arranged, and in combination with mechanisms for opening and closing said plates, all as described, plainly secures a series of sectional molds for crayon pencils located in a common frame and capable of being simultaneously closed and opened—closed preparatory to receiving the material of which the pencils are to be made and molded, and opened preparatory to removing or discharging the molded crayons therefrom.

V, Fig. 7, is a board or frame having a series of separate swabs, W, made of cotton waste, sponge, bristles, or other material suitable for the purpose, and each attached to or carried by separate wire or other stem, *a*, of the board or frame and severally arranged at distances apart corresponding to the arrangement of the series of molds in the mold-plates of the mold-frame, as has been described, and all so that the swabs previously prepared with any suitable mold dressing material—such as oil—can be entered simultaneously into them to dress them, and thereby the molds prepared against adhesion of the crayon pencils which are molded in them. The swabs W are prepared, as stated, with oil or other suitable dressing by dipping them into a tank containing the dressing, and their common carrying board or frame V has handles Y for convenience in handling it.

Z, Fig. 6, is a board or frame having a series of sockets or holes, $A^2$, for receiving and holding the crayon pencils molded in the sectional molds and as they are removed therefrom. These sockets are of suitable shape and at distances apart corresponding with those of the separate molds of the mold-plates.

$B^2$ is a cabinet-rack for receiving mold-frames A and crayon-holder boards or frames Z, all substantially such as described. This cabinet-rack consists, in substance, of a vertical standing frame open on its sides $C^2$, ends $D^2$, and top $E^2$, and of a series of parallel horizontal removable guideways or strips, $F^2$, suitably arranged for receiving mold-frames and crayon holders or receivers Z, which are slid along over them, and which are provided with a protecting strip or strips, $H^2$, along their opposite ends C for their rest upon said guideways $F^2$ of the rack $B^2$.

Mold-frames and crayon-holder blocks constructed as described are placed the mold-frames on one set and a crayon-holder Z on another set of guideways, $F^2$, next below the set that contains a mold-frame, in which position the crayon-receiver, of suitable depth therefor, is in close contact with the lower surface of the mold-frame, the same having been previously overturned preparatory to the then discharge and deposit of the separate molded crayon pencils which it contains in the sockets or holes of said crayon-receiver on opening the mold-plates, as has been described, and pounding it with a mallet or otherwise sufficiently therefor.

The cabinet-rack $B^2$, preferably, is arranged for a series of mold-frames, and in practice a mold-frame is first placed on one of its guideways, and its mold having been charged it is slid and set back out of the way and another similarly placed and charged, and so on for a series of mold-frames, after which the mold-frames, one after another, are drawn out into position to be overturned, and having been overturned and brought into suitable position over a crayon-receiver located on guideways of the rack next below the guideways on which the so-overturned mold-frame is placed, the

mold-sections or plates are opened, as described, and the crayon pencils molded in them are deposited in the sockets of said located receiver-block.

Before overturning a mold-frame, as described, such guideways of the cabinet-rack as would obstruct its overturning are to be removed, and for facilitating the overturning of a mold-frame, the frame is first suspended by and at the grooves $J^2$ of the opposite end portions of the shaft J upon pendent hooks (not shown) of a pulley-block and tackle (not shown) suitably arranged to raise the mold-frame as necessary to place it in position for being overturned and to lower it to a rest upon its guideways of the cabinet-rack next above the crayon-receiver block Z, as has been stated.

The pulley-block and tackle, preferably, are to be carried by a crane, so that they can be placed in position, and, again, they are to be used to lift and lower the swab-carrying plate or frame in its use stated, and the tank containing the dressing material for the swabs is suitably and conveniently located therefor, and preferably constructed to support said swab-carrier for the swabs when not in use to be immersed in the dressing contained in the tank.

Each series of mold-plates D, Fig. 5, may be adapted for being opened from the turning of separate operating screw-rods $K^2$, two for each series, and located at the opposite ends and engaging every other one of the several mold-plates, passing loosely through the other plates, which are stationary, and sufficient space being left for the opening movement of the plates under the action of the screw-rods to take place. Again, these screw-rods pass loosely through the side B of the mold-frame, and also through the inner mold-plate, and each screw-rod has collars $K^3$ on the opposite faces of said side of the mold-frame and said inner mold-plate to confine the screw-rods against lengthwise movement as they are turned to slide the moving mold-plates of the series of mold-plates with which they are engaged and combined, as stated.

Under an arrangement and connection of screw-rods $K^2$ with a mold-frame A and its separate mold-plates D, as described, turning said rods in one direction opens mold-plates from each other and turning them in the opposite direction closes the mold-plates upon each other.

In lieu of separate screw-rods for each series of mold-plates, as particularly described, screw-rods in common for both series of mold-plates may be used, and again, if so employed, the screw-rods may be adapted by having a thread all of the same direction to work the moving plates of both series of mold-plates in the same direction, or by having its thread of opposite directions as to each series of mold-plates in directions opposite to each other, or, in other words, the mold-plates of each series from and toward the center line of the mold-frame common to the two series of mold-plates. Again, the screw-rods $K^2$ at the opposite ends of the mold-plates, as above described, can be obviously arranged to turn as one—as, for instance, by using a common operating-shaft, $K^4$, geared with each screw-rod, Fig. $5^A$.

In lieu of the construction particularly described for limiting the opening of the mold-plates, the mold-frame A may be provided with stop-pins suitably located on the frame between the separate mold-plates, as, for illustration, shown at $L^2$, Fig. 1.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination, a mold-frame, sectional mold-plates in two series located therein and those of each series free to be opened from and closed upon each other, and a shaft common to both series of mold-plates and having diametrically-opposed cams which are constructed and arranged together with said mold-plates for said shaft, turned in one direction to act through its said cams on said mold-plates to open them from each other, and turned in the other direction to leave them free to be closed, substantially as described.

2. In combination, a mold-frame, sectional mold-plates in two series located therein and those of each series free to be opened from and closed upon each other, a shaft common to both series of mold-plates and having diametrically-opposed cams which are constructed and arranged together with said mold-plates for said shaft, turned in one direction to act through its said cams on said mold-plates to open them from each other, and turned in the other direction to leave them free to be closed, and means consisting of levers fulcrumed upon the mold-frame and having cams to work on said mold-plates to close them upon each other, substantially as described.

3. In combination, a mold-frame, A, sectional mold-plates D, located in said frame and arranged in two series and those of each series to be free to be opened from and closed upon each other, an extension, H, of each mold-plate D, and a shaft, J, located between and common to said two series of mold-plates and turning in bearings of said mold-frame and provided with diametrically-opposed cams O to work through said extensions H on said mold-plates, substantially as described, for the purpose specified.

4. In combination, a mold-frame, A, sectional mold-plates D, located in said frame and arranged in two series and those of each series to be free to be opened from and closed upon each other, an extension, H, of each mold-plate, having an abutment, N, fixed guideways L for said extensions, and made with an angular running edge, M, and a shaft, J, located between and common to said two series of mold-plates and turning in bearings of said mold-frame and provided with diametrically-opposed cams O to work through said exten-

sions H on said mold-plates, substantially as described, for the purpose specified.

5. In combination, a mold-frame, A, a series of sectional mold-plates, D, located in said mold-frame and constructed and arranged to be opened and closed, and a frame or block, V, having a series of dressing-swabs, W, correspondingly located to the molds of the mold-plates and otherwise for simultaneous entrance into said molds, substantially as described, for the purpose specified.

6. In combination, a mold-frame, A, a series of sectional mold-plates, D, located in said mold-frame and constructed and arranged to be opened and closed, and a frame or block, Z, having a series of holes or sockets, $A^2$, correspondingly located to the molds of the mold-plates and otherwise adapted to be placed against said mold-plates, substantially as described, for the purpose specified.

7. In combination, a mold-frame, A, a series of sectional mold-plates, D, located in said mold-frame and constructed and arranged to be opened and closed, a frame or block, Z, having a series of holes or sockets, $A^2$, correspondingly located to the molds of the mold-plates and otherwise adapted to be placed against said mold-plates, and a cabinet-rack, $B^2$, having guideways $F^2$, to receive said mold-frames and said blocks, and otherwise constructed and arranged substantially as described, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH W. PECK.

Witnesses:
ALBERT W. BROWN,
FRANCES M. BROWN.