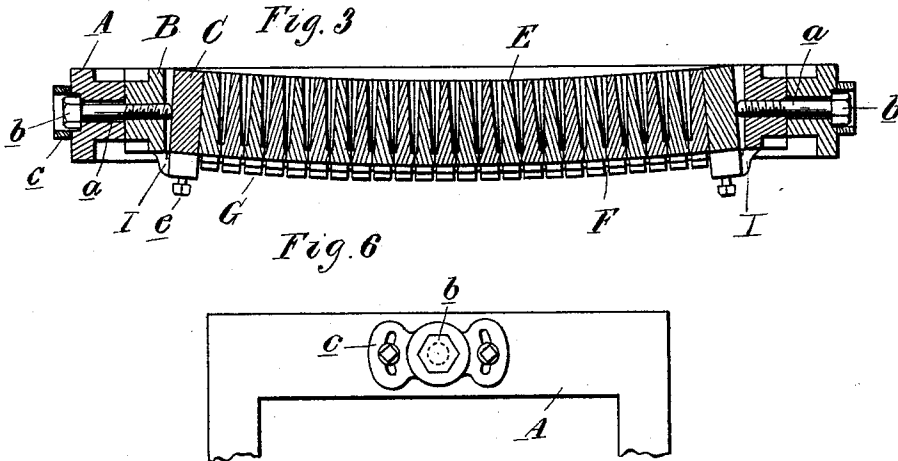
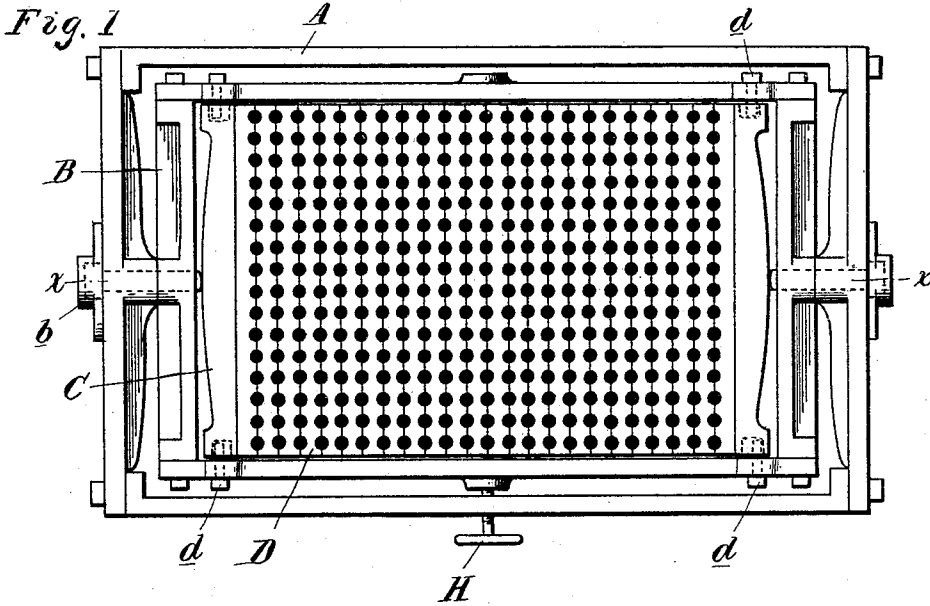


A. A. FUCHS.  
CRAYON MOLDING MACHINE.

No. 479,212.

Patented July 19, 1892.



Witnesses:  
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A. A. FUCHS.  
GRAYON MOLDING MACHINE.

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Fig. 2

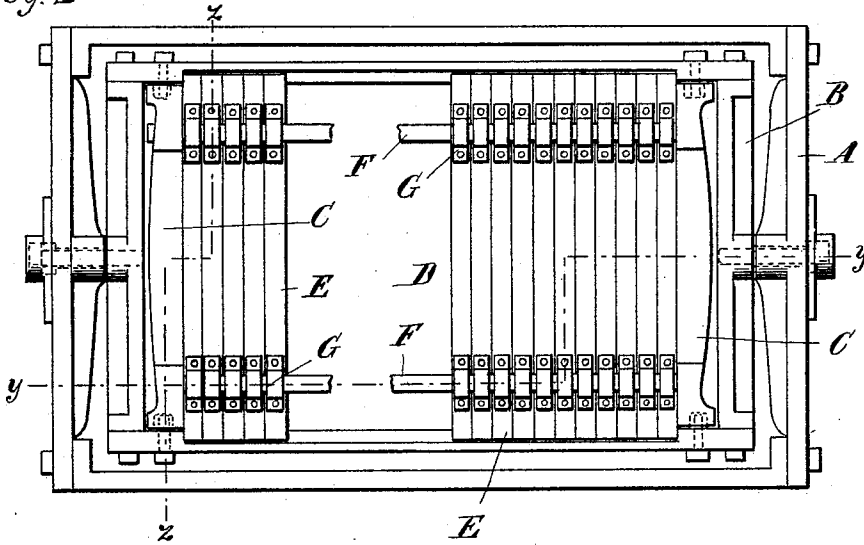


Fig. 4

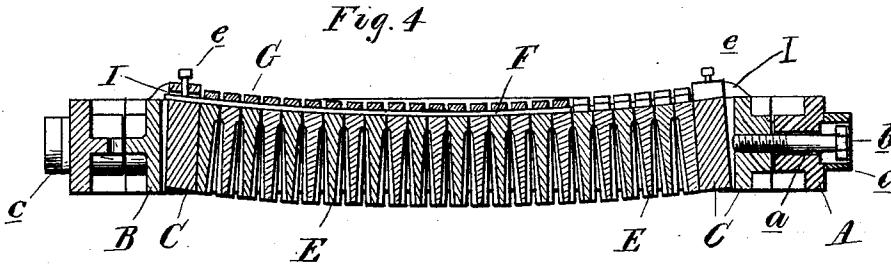
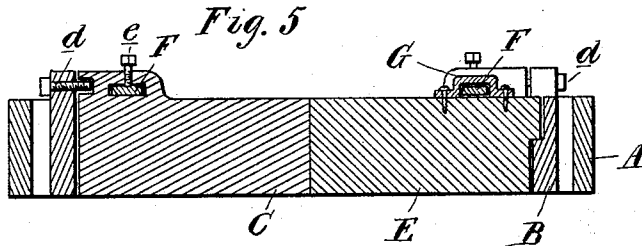


Fig. 5



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# UNITED STATES PATENT OFFICE.

ARTHUR A. FUCHS, OF TIFFIN, OHIO.

## CRAYON-MOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 479,212, dated July 19, 1892.

Application filed January 21, 1892. Serial No. 418,763. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR A. FUCHS, a citizen of the United States, residing at Tiffin, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Crayon-Molding Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in crayon-molding machines; and it consists, primarily, in constructing a mold-plate of sectional molds assembled upon or provided with a flexible back support, whereby the action of gravity alone will cause the sectional molds to close up or separate, as desired.

It further consists in the construction, arrangement, and combination of various parts in the specific construction devised by me for carrying out the spirit of my invention, all as more fully hereinafter described.

In the drawings, Figure 1 is a plan view of my improved molding-machine, showing the face of the mold-plate. Fig. 2 is a like view thereof with the mold reversed to show the back or under side thereof. Fig. 3 is a longitudinal section on line  $xx$  in Fig. 1. Fig. 4 is a similar section on line  $yy$  in Fig. 2. Fig. 5 is a cross-section on line  $zz$  in Fig. 2. Fig. 6 is an end elevation of the frame.

A is a horizontal frame of rectangular shape and suitably supported above the floor. B is the mold-frame of similar but smaller size, supported within the frame A, and C are clamping-heads slidingly supported in the frame B. The frame B is reversibly supported within the frame A by trunnions  $a$ , which are slidingly secured in the frame A, and one has a right-handed and the other a left-handed screw-thread engagement through the frame B, whereby on reversing the frame B the trunnions are forcibly drawn in or out against the clamping-heads C. The trunnions  $a$  are preferably made rounded with a polygonal head  $b$ , over which is fitted a cap  $c$ , adjustably secured to the frame A. This cap permits the trunnions to slide freely endwise, but prevents them from turning except when the cap is removed for the purpose of adjusting the trunnions. The clamping-heads C are slidingly supported within the frame B

in any suitable manner, such as shown in the drawings, where  $d$  are screws entering elongated sockets in the ends of the heads C.

D is the mold-plate, consisting of a series of sectional strips E, provided with the usual tapering crayon-molds formed by halves in the adjusting-faces of the mold-strips. These mold-strips are supported on the back between the heads C by flexible bars F of steel or other suitable material. The ends of these bars are secured in slots formed in the heads C by set-screws  $e$ , and each mold-strip is connected thereto by straps or stirrups G, secured to the under side of the mold-strips.

H is a locking-pin through the frame A, adapted to engage with the frame B to prevent it from turning accidentally on its trunnions.

The parts being constructed and arranged as shown and described, they are intended to operate as follows: When the mold-plate is face up, as in Fig. 1, the trunnions are so adjusted as to cause the heads C to clamp the mold-strips between them, and the molds are thus tightly closed up. On account of the slight wedge shape which is preferably given to the mold-strips, and also on account of the flexibility of the bars F, the weight of the mold-strips causes the mold-plate to slightly sag between the heads C, and the mold-strips are thus by the action of gravity alone caused to wedge together like the portions of an arch. In this portion of the mold-plate the material is filled in its fluid state into the molds, as in the usual manner, and after becoming set the mold-plate is turned over on its trunnions. In this reversed position the bars F, as before, have to support the entire weight of the molds, and as the trunnions  $a$  by the action of reversing have been caused to slide outwardly, so as to relieve the pressure upon the heads C, the mold-plate will again sag toward the center, as before; but the mold-strips, instead of closing up, will now open up on the under side, as shown in Fig. 4. This opening up is sufficient to detach the molded crayons individually from the molds, and they drop out onto a rack placed below or are readily dislodged by tapping the mold-plate on the upper side. To prevent too much strain on the bars F, suitable shoulders I are secured on the sides of the frame B and on the ends

of the molds-strips to support the latter after the mold-plate has sagged sufficient to open the molds. After the crayons are thus removed from the molds the mold-plate is turned  
 5 back again into its original position, which again causes the sliding trunnions *a* to bear against the heads C, and the mold-strips are again caused to tightly wedge together and fall back into the original position ready for  
 10 repeating the operation.

My invention does not necessarily comprise all the parts shown and described. In the first instance the sliding trunnions may be dispensed with and ordinary trunnions substituted, as the flexible bars alone, applied in  
 15 the manner described, will cause the mold-strips to be closed up tightly when face up. The only advantage of using them is that of a safety device in case of accidental failure of  
 20 the other parts to work as intended from one cause or another, such as when water or oil becomes lodged between the mold-strips, when the increased force provided by clamping would expel it.

In its most simple form a serviceable mold-plate may be made merely of a number of mold-strips of a kind shown assembled in the manner described to a flexible support on the back of the character, but not necessarily  
 30 of the exact description of the bars F. Such a plate, if not made too large and heavy, could be lifted and turned by hand, using suitable end supports for the ends of the mold-plate. In such a construction the two  
 35 frames A and B and the trunnions would be altogether wanting.

In the construction shown in the drawings the mold-strips are free to adjust themselves laterally upon the supporting-bars between  
 40 the sliding heads; but it is obvious that if a mold-plate is constructed, as indicated, in its most simple form, the mold-strips may, if desired, be all fastened to the supporting-bars in such close contact with each other  
 45 that if the mold-plate is supported upon the ends or upon the ends of the supporting-bars (which may be left more or less projecting) the weight will bind them tightly together when face up.

50 What I claim as my invention is—

1. A crayon-mold consisting of a series of sectional mold-strips wedge-shaped in cross-section and a flexible transverse support which connects said mold-strips together on  
 55 the back to form a mold-plate adapted to open and close the molds by its flexion, substantially as described.

2. A crayon-mold consisting of a frame, two sliding heads supported within said  
 60 frame, and a series of sectional molds transversely connected at the back to one or

more flexible supporting-bars and suspended by said bars between the sliding heads, to which the ends of the supporting-bars are connected, substantially as described. 65

3. The combination of the frame reversibly suspended on trunnions within an outer stationary supporting-frame, two sliding heads supported within said frame, a series of sectional molds between the heads, and a  
 70 flexible support secured to the under side of the heads and sectional molds and adapted to clamp the same together by the weight of said molds, substantially as described.

4. The combination of a frame, reversibly supported on trunnions, two sliding heads supported within said frame, and a series of sectional mold-strips secured upon and supported by a flexible bar or bars between the sliding heads and shoulders on rests on the  
 80 reversible frame to limit the deflection of said bars, substantially as described.

5. The combination, in a crayon-mold, of a series of sectional molds, a flexible bar or bars to which said molds are secured on the  
 85 back and upon which they are suspended, two heads between which said series of molds is adapted to be clamped and to which the ends of the flexible bars are secured, a frame within which said heads are slidingly  
 90 supported, and trunnions by means of which said frame is reversibly suspended within an outer frame, said trunnions being slidingly secured in one frame and having a screw-thread engagement in the other frame and  
 95 adapted to clamp the sliding heads and sectional molds together, substantially as described.

6. The combination, in a crayon-mold, of an outer stationary supporting-frame, an inner frame reversibly suspended therein by  
 100 trunnions sliding in the outer frame and having a screw-thread engagement through the inner frame, sliding heads supported within said inner frame, and a series of sectional molds supported between said heads  
 105 by a flexible bar or bars, substantially as described.

7. The combination of the stationary outer frame, the inner frame reversibly secured  
 110 therein, the sliding trunnions *a*, having a screw-thread engagement with said inner frame, and the adjustable caps *c* on the heads of said trunnions, substantially as described.

In testimony whereof I affix my signature, 115 in presence of two witnesses, this 5th day of January, 1892.

ARTHUR A. FUCHS.

Witnesses:

HARRY TAGGART,  
 W. S. WAGNER.