

(No Model.)

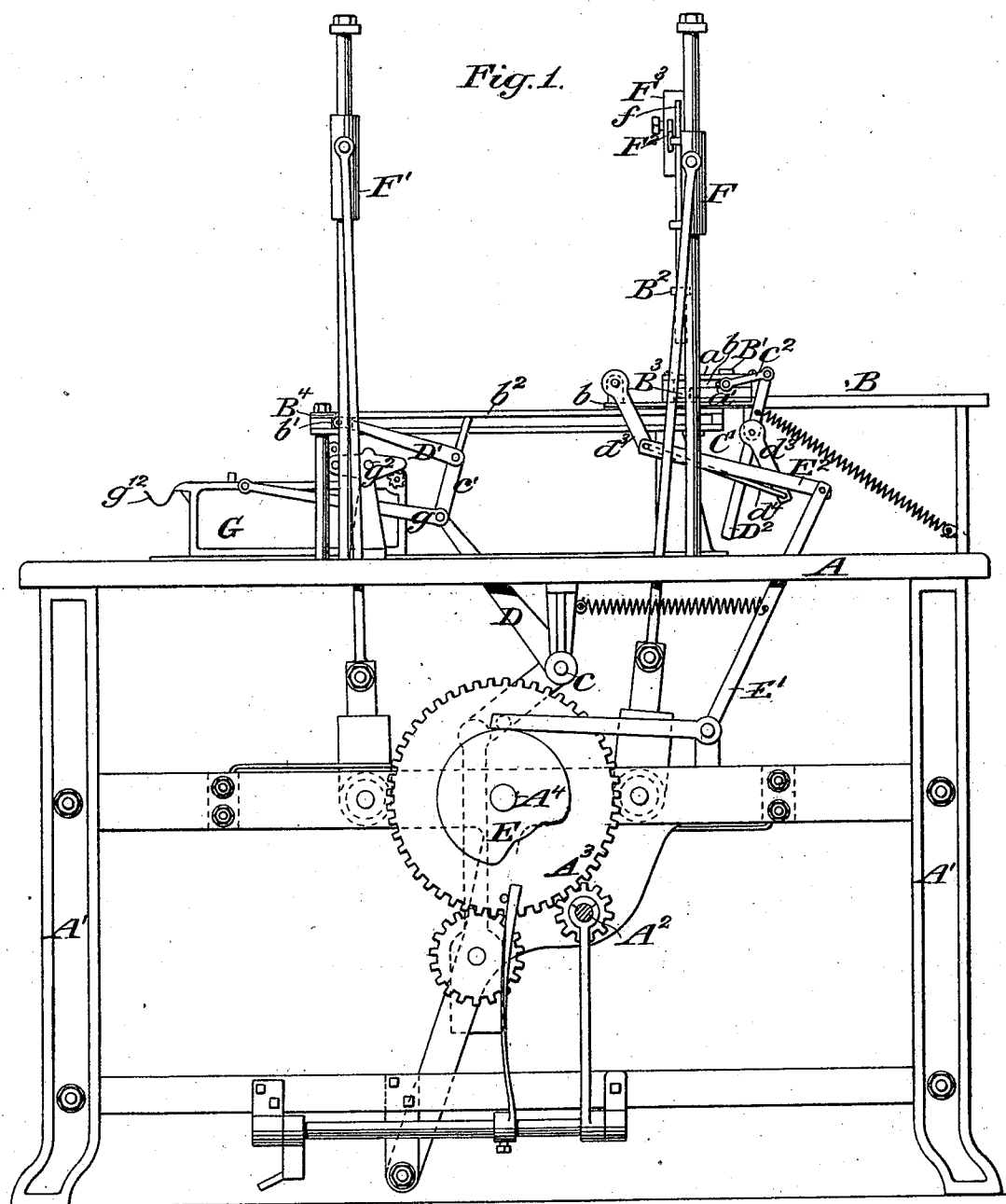
4 Sheets—Sheet 1.

L. F. WINTER.

MACHINE FOR FORMING FILLERS FOR CIGARS.

No. 504,100.

Patented Aug. 29, 1893.



Witnesses  
*Jas. E. Warner*  
*Louis Kubois*

Inventor  
*Louis F. Winter*  
By his Attorney  
*W. L. Remond*

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Fig. 2.

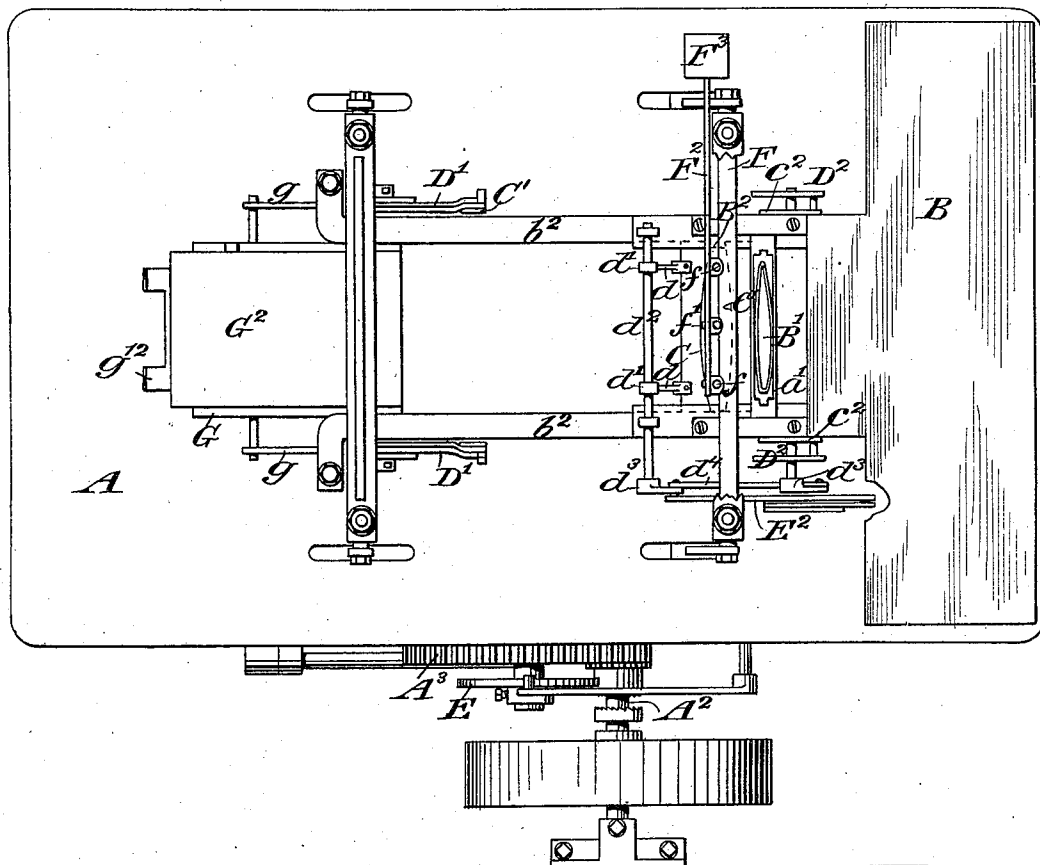
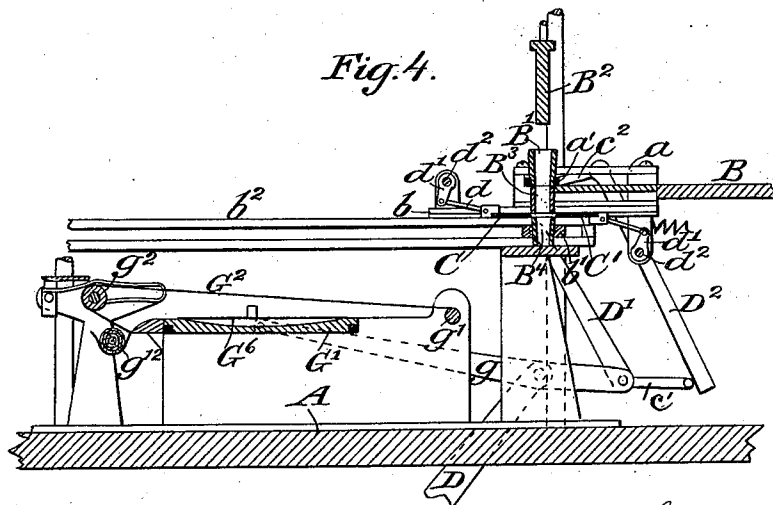


Fig. 4.



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(No Model.)

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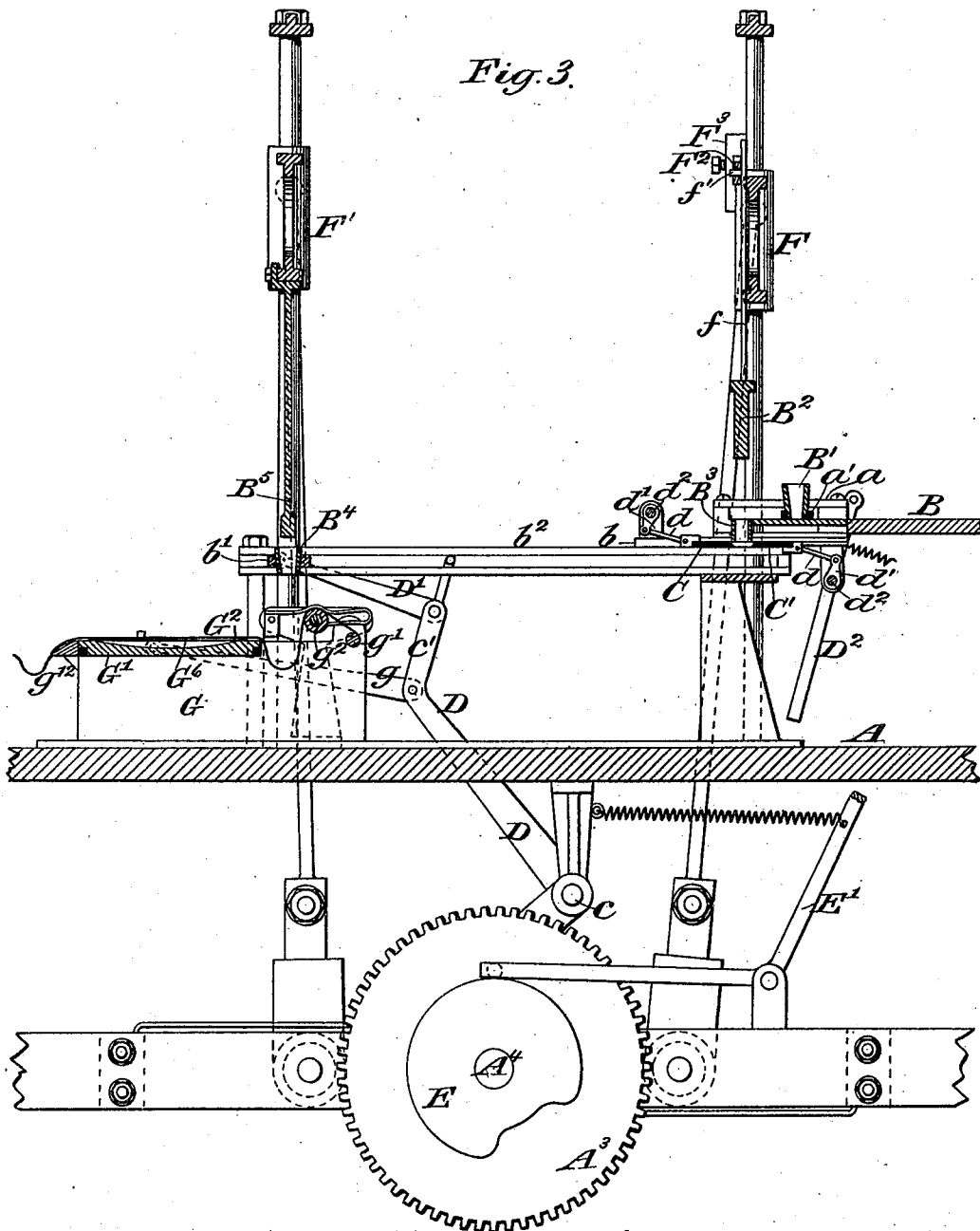
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Fig. 3.



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(No Model.)

4 Sheets—Sheet 4.

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Fig. 5.

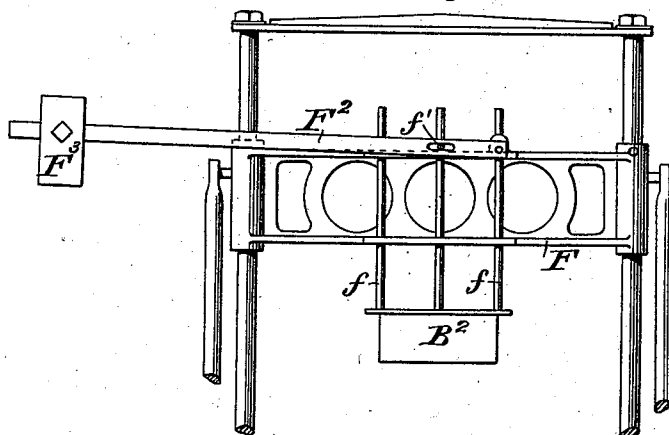


Fig. 6.

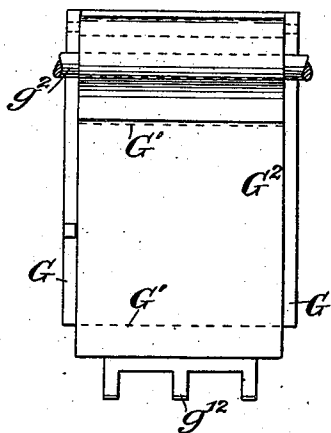
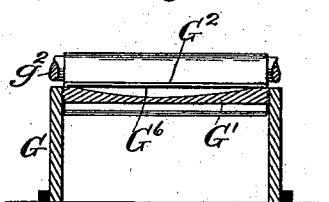


Fig. 7.



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# UNITED STATES PATENT OFFICE.

LOUIS F. WINTER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO LEON A. KLEIN AND JOSEPH DELA MAR, OF SAME PLACE.

## MACHINE FOR FORMING FILLERS FOR CIGARS.

SPECIFICATION forming part of Letters Patent No. 504,100, dated August 29, 1893.

Application filed November 30, 1892. Serial No. 453,671. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS F. WINTER, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Forming Fillers for Cigars, of which the following is a specification.

The object of this invention is to provide a machine in which there can be no waste or loss of tobacco, and further to discharge the filler in perfect shape on the binder.

I have not deemed it necessary to show all the driving mechanism required for this machine, inasmuch as said driving mechanism may be like that shown and fully described in the patent to J. Dela Mar, No. 461,072, of October 13, 1891, and to which reference may be had.

In the accompanying drawings Figure 1, is a side elevation of a machine embodying my improvement. Fig. 2, is a plan view thereof. Fig. 3, is a vertical longitudinal section on a scale somewhat enlarged. Fig. 4, is a section of a portion of the machine showing certain tobacco receivers in line ready for the operation of an ejector. Fig. 5, is a detail of a rear elevation. Fig. 6, is a top or plan view of a roll table employed. Fig. 7, is a transverse section thereof.

Referring by letter to the drawings, A, designates a platform or bed plate supported by suitable legs A', to which cross-bars are attached to support bearings for certain parts of the machine.

A<sup>2</sup> designates the driving shaft having a gear wheel meshing with a gear wheel A<sup>3</sup> mounted on a shaft A<sup>4</sup>.

B is a table mounted on standards extending upward from the bed plate A. Forward of the table B, a guide-way *a*, is arranged and in which a carrier *a'*, is reciprocated to carry a filler holder B', beneath a vertically reciprocating plunger B<sup>2</sup>, and to move the empty filler holder away from the plunger after the filler shall have been ejected. The filler holder B', is open at top and bottom and the opening through it is substantially cigar-shaped in cross section. The holder B', is removable from the carrier *a'*, so that while one holder is being moved forward to the plunger

an attendant may be filling another one to take the place of the returned empty one. A cigar-shaped throat-way B<sup>3</sup>, is fixed at the forward end of the guide-way *a*, in line with the plunger B<sup>2</sup>, and over which the holder B', comes to rest when the filler is ejected therefrom.

C, C', designate shearing blades movable horizontally in ways *b*, to cut or trim the filler between the throat-way B<sup>3</sup>, and mold B<sup>4</sup>, when the parts B', B<sup>3</sup>, B<sup>4</sup> are in the position, one above the other, as shown in Fig. 4. The mold B<sup>4</sup> is supported by a carrier *b'*, that is reciprocated in ways *b*<sup>2</sup> supported from the bed plate A. The mold containing a filler of tobacco is movable from beneath the throat-way B<sup>3</sup>, to the position shown in Fig. 3, beneath a vertically reciprocating ejector B<sup>5</sup>, which operates to force the filler from the mold B<sup>4</sup>, onto a roll apron, as will be herein after described.

I will now describe the means for causing the movements of the parts above mentioned. D, designates arms extending from a rock shaft *c*, which is rocked by means of a crank as shown and described in the patent above referred to. These arms D, at their upper ends are turned at an angle to the main portion, as shown at *c'*, and links D' extend from a pivotal connection with the ends of these portions *c'*, to a pivotal connection with the ends of the carrier *b'*. The carrier *a'* has link connections *c*<sup>2</sup>, with the upper ends of fulcrumed levers D<sup>2</sup>, which are arranged in line with the movement of lugs extending inward from the parts *c'*, of the arms D, so that when the arms D, are operated to move the carrier *b'*, rearward the lugs will contact with the levers D<sup>2</sup>, and rock said levers so as to move the carrier *a'* forward. The shearing blades C, C', have link connections *d*, with crank arms *d'*, extended from rock shafts *d*<sup>2</sup>. Each rock shaft *d*<sup>2</sup>, has at one end a crank arm *d*<sup>3</sup>, and these crank arms *d*<sup>3</sup>, are connected together by means of a link *d*<sup>4</sup>, so that the shafts *d*<sup>2</sup>, will be simultaneously rocked to cause the blades C, C', to move in opposite directions. Motion is imparted to the rock shafts *d*<sup>2</sup>, and consequently to the blades C, C', by means of a cam E, mounted on the shaft A<sup>4</sup>, which

serves at the proper time, to rock an angle lever  $E'$ , which is fulcrumed at its angle to a fixed portion of the machine frame as shown, and has at its upper end a link connection  $E^2$ , with one of the crank arms  $d^3$ . The plunger  $B^2$ , is connected to a cross head  $F$ , and the ejector  $B^3$ , is connected to a cross-head  $F'$ . These cross-heads are operated vertically by means precisely similar to those shown in the patent before referred to, and need not be further described here. I prefer the plunger  $B^2$  to have a yielding pressure on the filler in the parts  $B'$ ,  $B^3$ ,  $B^4$ , and to provide means for regulating the pressure to pack the filler to any desired degree. With this end in view, the plunger has a yielding connection with the cross-head  $F$ . Rods  $f$ , extend upward from the plunger and loosely through holes in the cross-head; one of these rods  $f$ , here shown as the middle one, has a lug  $f'$ , extended into a slot in a lever  $f^2$ , pivoted at one end to the cross-head (see Fig. 5) and having a weight  $F^3$ , adjustably mounted on its free end; obviously by moving the weight along the lever the pressure of the plunger may be regulated.

I will now describe the means for rolling the filler.  $G$ , is a carriage movable back and forth on the bed plate  $A$ . It has arms  $g$ , pivotally connected at one end to the carriage and at the other end, pivotally connected to the arms  $D$ , at the junction of the main portion with the portion  $c'$ . The movement of the arms  $D$ , imparts a to-and-fro movement to the carriage  $G$ . To give a desired form to the filler, I provide a mold board  $G'$  which is hollowed out in its upper surface to conform to the longitudinal curves of a cigar (see Figs. 6 and 7). The mold board is removably attached to the carriage  $G$ , so that, if desired, mold boards of different forms may be used. The mold board has a yielding apron  $G^6$ . The apron  $G^6$  is secured at its ends to the ends of the mold board so as to extend over the hollow of the board. This apron consists of soft yielding material, such as rubber, so that when a filler is drawn over the apron  $G^6$ , said apron will yield and conform to the hollow of the mold board. The mold board employed is hollowed out transversely to the desired form of the filler to be made. The apron  $G^6$ , is normally above the hollow, or on a level plane, extended across the hollow of the board. When a filler is rolled this apron  $G^6$ , will gradually yield to the shape of the board and form the filler longitudinally without danger of breaking it. If this apron  $G^6$ , were omitted the roll apron would yield too abruptly or unevenly and endanger the filler.  $G^2$ , is the roll apron, preferably of rubber or similar yielding material so as to conform to the curve of the hollow in board  $G'$ , which is covered with the apron  $G^6$ , which yields to the roll apron to shape the filler. The roll apron is fastened at one end to the forward portion of the carriage  $G$ , extends loosely over

the board  $G'$ , and is secured at its opposite end to a bar  $g'$ , at the rear portion of the carriage  $G$ . The apron extends over a roller  $g^2$ , having journal bearings in standards extending upward from the bed plate  $A$ . The carriage  $G$ , and apron operate to roll the filler in the manner described and shown in the patent above referred to and therefore needs no further description here.

The operation of the machine is as follows: An operator places a quantity of tobacco in the holder  $B'$ , and the machine operates to bring the parts  $B'$ ,  $B^3$ , and  $B^4$ , in the position shown in Fig. 4; then the plunger forces the tobacco down, with a yielding pressure. This forces a quantity of tobacco into the mold  $B^4$ , which is of the desired size for a filler. The cutters now operate to trim the filler above the mold  $B^4$ ; and remains closed to hold the surplus filler; then the plunger assumes its upward position and the mold moves forward to the ejector, and the carrier  $a'$ , moves back to receive another holder  $B'$ ; at this time the trimmings of the first charge remain in the throat-way  $B^3$ , to be subsequently forced into the mold  $B^4$ , so that there is no waste of tobacco. An operator at the forward end of the machine places a binder on the apron  $G^2$ , and the ejector is operated to force the charge from the mold  $B^4$ , into the loop of the apron where it is rolled and deposited on the receiver  $g^{12}$ .

Having described my invention, what I claim is—

1. In a machine of the class described the combination with driving mechanism, of the stationary part having the throat-way, the mold, the holder, said mold and holder being respectively movable toward and from each other below and above the throat and movable in line with the throat and mechanism for causing the movements, substantially as specified.

2. The combination with the mold, the holder and the stationary part having the throat-way of the shearing blades operating horizontally between the mold and throat-way said mold and holder being movable toward and from each other and arranged respectively below and above the throat-way, substantially as specified.

3. The combination with the mold, the stationary throat-way and holder movable above the throat-way and in line therewith, each substantially cigar-shaped in cross-section, of the cross-head, the plunger, having a yielding connection with the cross-head and means for moving the cross-head vertically, substantially as specified.

4. The combination with the stationary throat-way, the mold and the holder the said mold and holder being movable in line with the throat-way, of the cross-head, means for operating the same, a plunger carried by the cross-head and having a sliding connection therewith, the lever pivoted at one end to the

cross-head and having connection with the plunger, and a weight adjustable on the lever, substantially as specified.

5 The combination with the stationary throat-way, the mold and the holder the mold being below the throat-way and the holder being above the throat-way and each movable to register with the throat-way of the plunger and means for adjusting the pressure  
10 of the plunger, substantially as specified.

6. In a machine of the class described the

combination with the fixed throat-way and the reciprocating mold below the throat-way, and the plunger movable through the mold, of the carrier above the throat-way and the holder removably attached to said carrier,  
15 substantially as specified.

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Witnesses:

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