

(No Model.)

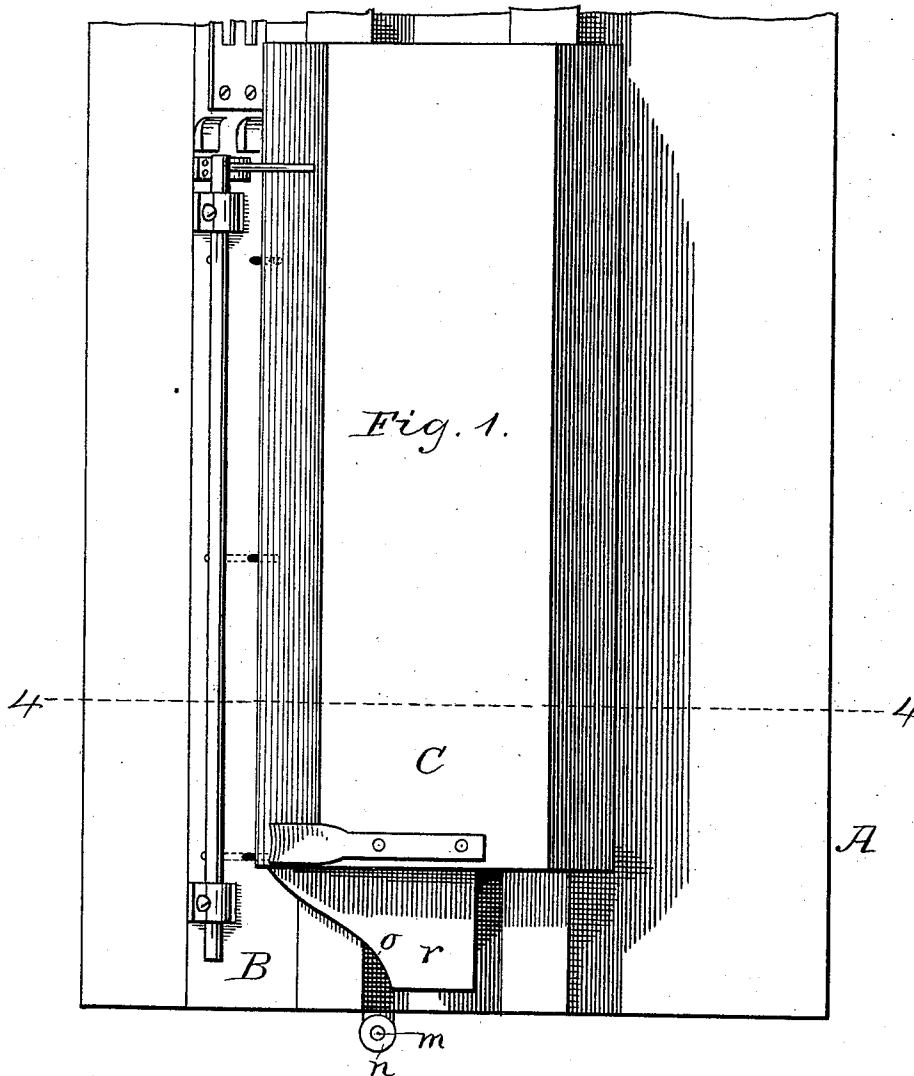
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J. R. CUMMINGS.

DELIVERY MECHANISM FOR STEREOTYPE PLATE TRIMMING,
GROOVING, AND SHAVING MACHINES.

No. 465,352.

Patented Dec. 15, 1891.



Witnesses
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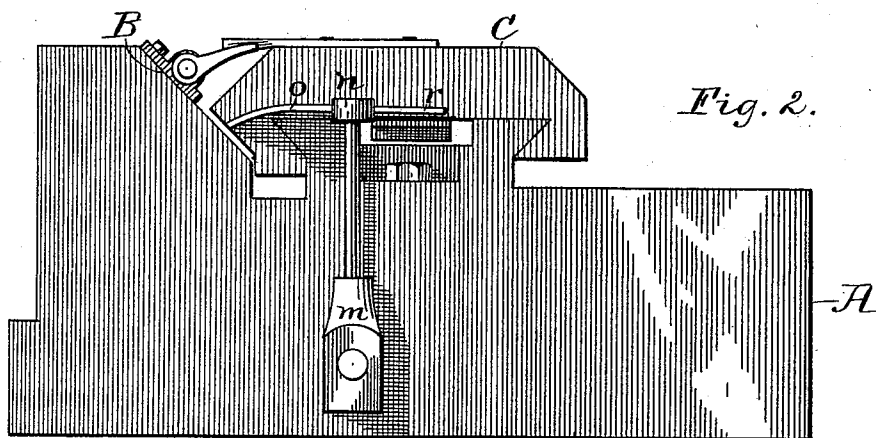


Fig. 2.

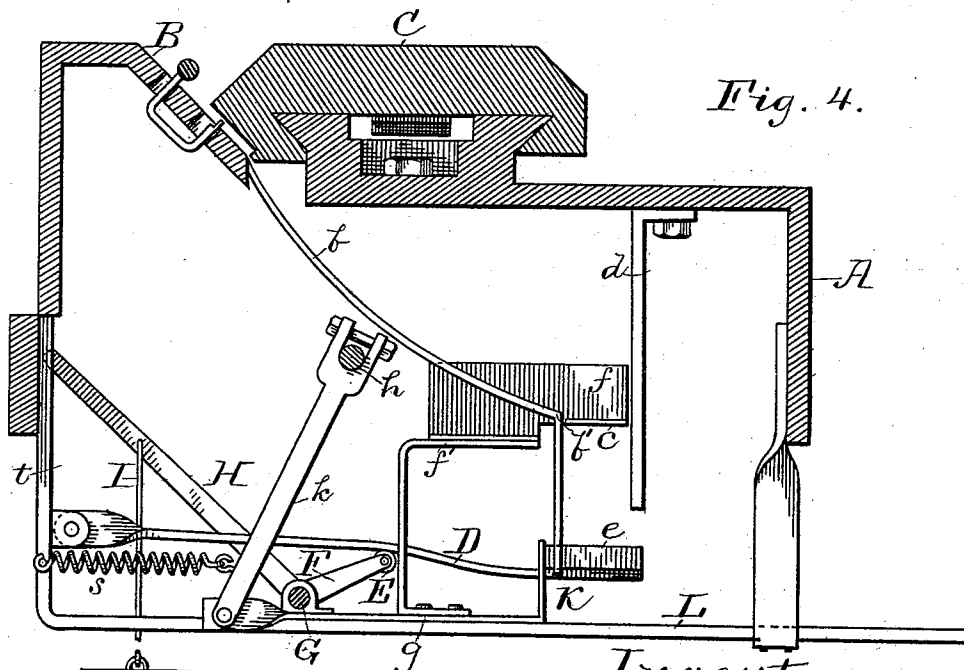


Fig. 4.

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(No Model.)

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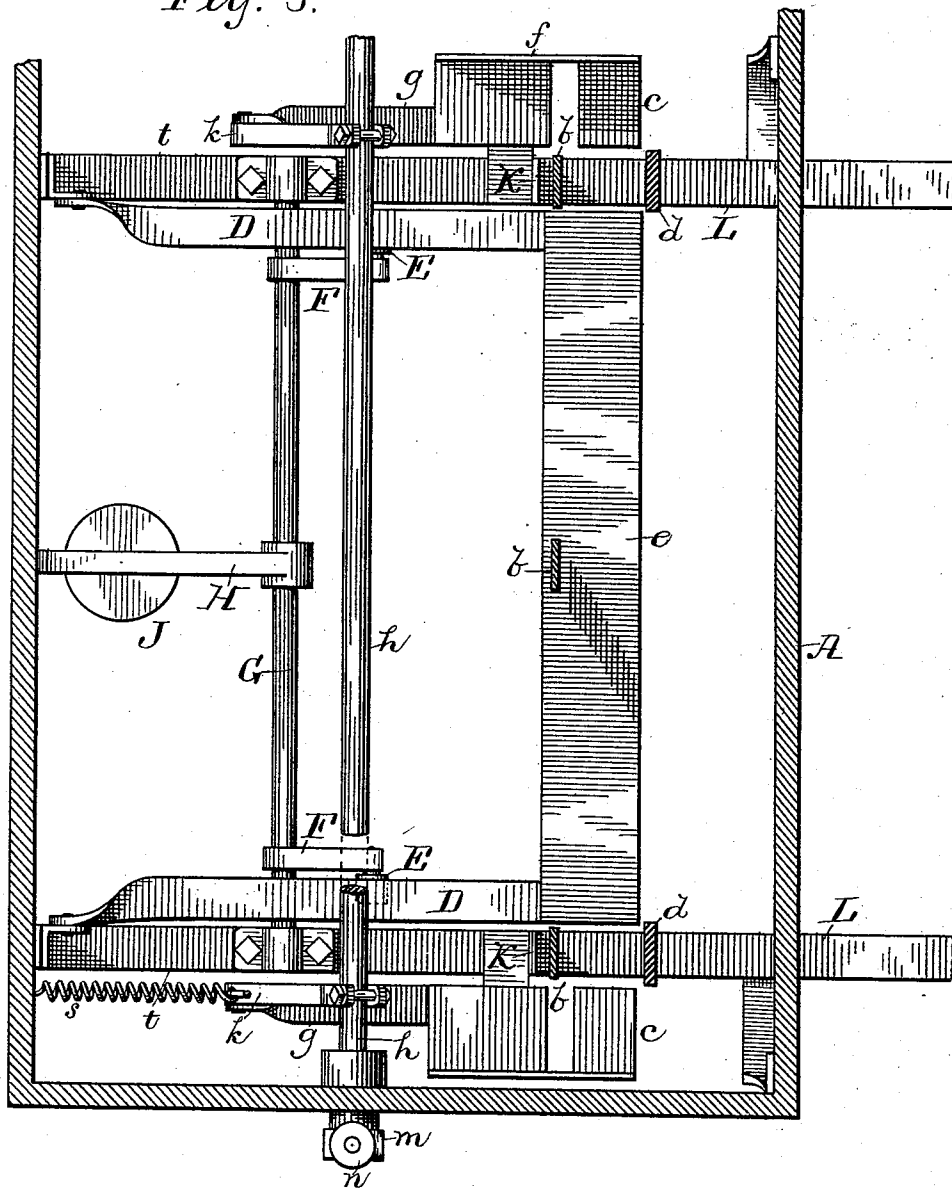
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Fig. 3.



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Sam Barney
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UNITED STATES PATENT OFFICE.

JOHN RAYMOND CUMMINGS, OF CHICAGO, ILLINOIS.

DELIVERY MECHANISM FOR STEREOTYPE-PLATE TRIMMING, GROOVING, AND SHAVING MACHINES.

SPECIFICATION forming part of Letters Patent No. 465,352, dated December 15, 1891.

Application filed May 23, 1891. Serial No. 393,838. (No model.)

To all whom it may concern:

Be it known that I, JOHN RAYMOND CUMMINGS, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in the Delivery Mechanism for Stereotype-Plate Trimming, Grooving, and Shaving Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to improve on the delivery mechanism for my stereotype-plate trimming, grooving, and shaving machine for which I applied for Letters Patent of the United States on or about February 24, 1891, Serial No. 382,386.

The nature of these improvements is such that the complete and finished stereotype-plates are piled up in stacks of six each and then pushed to one side on suitable tracks or guide-frames, from whence they can be easily removed, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1 is a plan view of that end of my improved machine in which my invention is located. Fig. 2 is an elevation of the contiguous end of the machine. Fig. 3 is a plan view of the same with the top of the table-frame and superstructure removed; and Fig. 4 is a transverse vertical section therethrough, taken on line 4 4, Fig. 1.

Reference being had to the drawings, A represents the supporting-frame of my machine; B, the bed, which is inclined at a suitable plane toward the carrier, and C represents the said carrier. As fully explained in the application hereinbefore referred to, the carrier receives the stereotype-plate from the feed-racks at one end of the machine, carries it to and past the cutting-tools, and then when it has reached the limit of its forward movement leaves the completed stereotype lying upon the bed while it makes its return movement. The finished stereotype-plate is held in the position in which it was left until the carrier has nearly reached the limit of its return movements, whereupon it is released, so that it slides laterally down the inclined surface of the bed to and through a longitudinal opening *a* at the foot of the same onto the

ways *b*. The incline of these ways *b b* at their upper end is the same as and is a continuation of the plane of the bed B. Their incline gradually changes to an easier slope as their lower angle *b'* is approached, so as to slacken the speed of the plate gravitating down the same, and from their angles they pursue a perpendicular downward course, so as to form a guard, which keeps the stereotype from rebounding out of register with the plates in its pile, as will hereinafter appear. As the stereotypes slide off the ways *b* they are deposited upon the platforms *c c* and are prevented from moving off the same by the perpendicular gage-bars *d d*, secured to and depending down from the under surface of the top of the frame A, as shown. There are two of these platforms so located on the outside of the transverse plane of said ways that the ends only of the stereotype rest thereon. The plane of these platforms is just below that of the angle *b'* of the ways *b*, and when said platforms *c* are reciprocated toward and past said gage-bars *d* the stereotype, being prevented by said bars *d* from reciprocating with said platforms, is pushed off the same and falls onto the sub-platforms *c' c'*. From these platforms, as the said platforms return to their normal positions, the stereotype is deposited onto drop-platform *e* by striking against the perpendicular portion of ways *b*.

Platforms *c* are each made by bending horizontally a suitable portion of the lower edge of the vertical sheet-metal guards *f*, which prevent longitudinal displacement of the stereotype deposited on said platforms *c*, and platforms *c'* are made, preferably, by bending horizontally the remaining portion (or a part thereof) of the lower edges of these guards, but in such manner that the plane of platforms *c'* will be lower than *c*, and so that there remains a space between the adjacent parallel edges of each pair of platforms, as shown. These guards *f* are secured to and carried by the angle-shaped frames *f'*, the lower end of the vertical part of which latter is secured to a transverse reciprocal bar *g*.

Bars *g g* are reciprocated through the medium of the arms *k k*, to the free ends of which they are pivotally connected, and the said arms project downwardly from a longitudinal

rock-shaft *h*. Rock-shaft *h* is suitably journaled, and its rear end extends through the end rail of the supporting-frame A and is provided with an upwardly-projecting arm *m*.

5 On the extremities of this arm is preferably journaled a friction-wheel *n*, which, when the carrier C is approaching the limit of its movement, is met and pushed sidewise by the cam or beveled edge *o* of the extension *r* on the

10 forward end of the carrier. Thus it will be observed that every time the carrier approaches the limit of its forward movement the rock-shaft is turned, causing arms *k k* to push bars *g*, guards *f*, and platforms *c c* forward until the stereotype, having no support,

15 falls onto sub-platforms *c'* and from thence, as the platforms return to their normal position, onto the drop-platform below. When the carrier starts on its return movement, the rock-

20 shaft and devices actuated thereby, including the platforms *c*, are automatically returned to their original positions by means of the coil contraction-spring *s*, which connects arms *k*, or one of them, to a strap or cross-frame *t*.

25 These frames *t* are somewhat L-shaped, are connected at one side to the side rail of supporting-frame A, and assist in the support of the operative devices of my invention. The platforms *c* are returned to their normal positions in sufficient time for the next stereo-

30 type to be received thereon. This, however, does not take place until the carrier has almost reached the limit of its return movement.

35 As before stated, the stereotypes are delivered onto the platforms *c* and from them drop to the drop-platform *e*. This drop-platform in its normal position is above the plane of the bars *g* and is secured to and supported

40 in such position by the levers D D. These levers are fulcrumed at their opposite ends to suitable lugs projecting from the vertical parts of the cross-frames *t t* and are supported at about their centers of length on the rollers

45 E, journaled in the extremities of arms F F, which project in an upward position from the rock-shaft G. This rock-shaft G is journaled in suitable bearings on the horizontal stretch of frames *t*. It has about its center

50 of length, or midway between frames *t*, an arm H, projecting in an opposite direction from arms F, which are weighted in any suitable manner, but preferably by a rope or wire, or rod I, depending down therefrom with

55 weights J on its end. Thus when a number of stereotypes have dropped, one on top of the other, on the drop-platform sufficient to overcome the weight of weights J, said platform moves downward until the ends of the

60 stereotypes rest on frames *t t*. They remain in this position until the next reciprocation of the bars *g g*, whereupon the upturned ends K of said bars push them off said drop-platform (which the drawings will show to be of

65 a length corresponding to the distance between frames *t t*) onto the tracks L L, which

are a continuation of frames *t*, and lead transversely away from said drop-platform to the other side of the machine, from which the stacks of stereotypes can be easily removed ready for boxing and shipment. The

70 moment the drop-platform is relieved of the weight of the accumulated stereotypes it rises to its original position and until the arm H, which is of sufficient length, bears against and

75 is stopped by the frame A, as shown.

What I claim as new is—

1. In a stereotype-finishing machine, the combination, with a supporting-frame having an inclined bed and having a longitudinal

80 opening in its top at the base of said bed, and a longitudinal reciprocal carrier C, as described, of the inclined ways *b b*, leading down from said bed, the gage-bars *d* opposite the lower ends of said ways, and the trans-

85 versely-reciprocal platforms *c c*, as set forth.

2. In a stereotype-finishing machine, the supporting-frame A, inclined bed B thereon, and longitudinal reciprocal carrier C, said

90 supporting-frame having a longitudinal opening *a* at the foot of said bed, the inclined ways *b b*, leading from said bed, vertical gage-bars *d* opposite the ends of said ways, the transversely-reciprocal platforms *c c*, and the drop-platform *e*, as set forth.

95

3. The combination, with the supporting-frame A, inclined bed B, and longitudinal reciprocal carrier C, having an extension *r*, which is provided with a cam-edge *o*, as described, said frame having a longitudinal

100 opening at the foot of said bed, of the ways *b b*, vertical gage-bars *d d* opposite the ends of said ways, transversely-reciprocal platforms *c c*, reciprocal bars *g g*, actuating said

105 platforms *c*, arms *k k*, rock-shaft *h*, and arms *m*.

4. The supporting-frame A, bed B, longitudinal reciprocal carrier C, and extension *r*, which is provided with a cam-edge *o*, said supporting-frame being provided with a longitudinal

110 opening at the foot of said bed, in combination with the ways *b b*, vertical gage-bars *d d*, placed opposite the ends of said ways, platforms *c c*, metal guards *f f*, to which said platforms *c* are secured, transversely-reciprocal

115 bars *g g*, actuating said guards and platform, arms *k k*, rock-shaft *h*, and arm *m*, projecting therefrom, as and for the purpose set forth.

5. The supporting-frame A, inclined bed B, carrier C, and extension *r* thereof provided

120 with a cam-edge *o*, said supporting-frame being provided with a longitudinal opening at the foot of said bed, in combination with the ways *b b*, gage-bars *d d*, placed opposite the lower ends of said ways, platforms *c c*, trans-

125 versely-reciprocal bars *g g*, actuating said platforms *c*, arms *k k*, contraction-spring *s*, rock-shaft *h*, and arm *m*, as set forth.

6. The supporting-frame A, bed B, and carrier C, said supporting-frame being provided

130 with a longitudinal opening *a* at the foot of said bed, in combination with the ways *b b*, ver-

tical gage-bars *d d*, and transversely-reciprocal platforms *c c*, drop-platform *e*, levers *D*, supporting the same, arms *F F*, rock-shaft *G*, from which said arms *F* project, and the
5 weighted arm *H*, as set forth.

7. The supporting-frame *A*, inclined bed *B* thereof, longitudinal reciprocal carrier *C*, said supporting-frame being provided with a longitudinal opening *a* at the foot of said bed,
10 ways *b b*, transversely-reciprocal platform *c*, and gage-bars *d d*, in combination with the drop-platform *e*, located below the normal position of said platform *c*, levers *D*, arms *F*, rock-shaft *G*, actuating said levers through
15 the medium of said arms *F*, rock-shaft *h*, actuated by said carrier, and transversely-recip-

rocal bars *g*, having their ends *K* upturned and actuated by said rock-shaft *h*, as set forth.

8. The supporting-frame *A*, inclined bed *B*, longitudinally-reciprocal carrier *C*, said sup- 20
porting-frame having a longitudinal opening *a* therein at the foot of said bed, ways *b*, vertical gage-bars *d*, and transversely-reciprocal platform *c*, in combination with a drop-platform *e*, transversely-reciprocal bars *g*, having 25
their ends *K* upturned, and transverse tracks *L L*, as set forth.

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