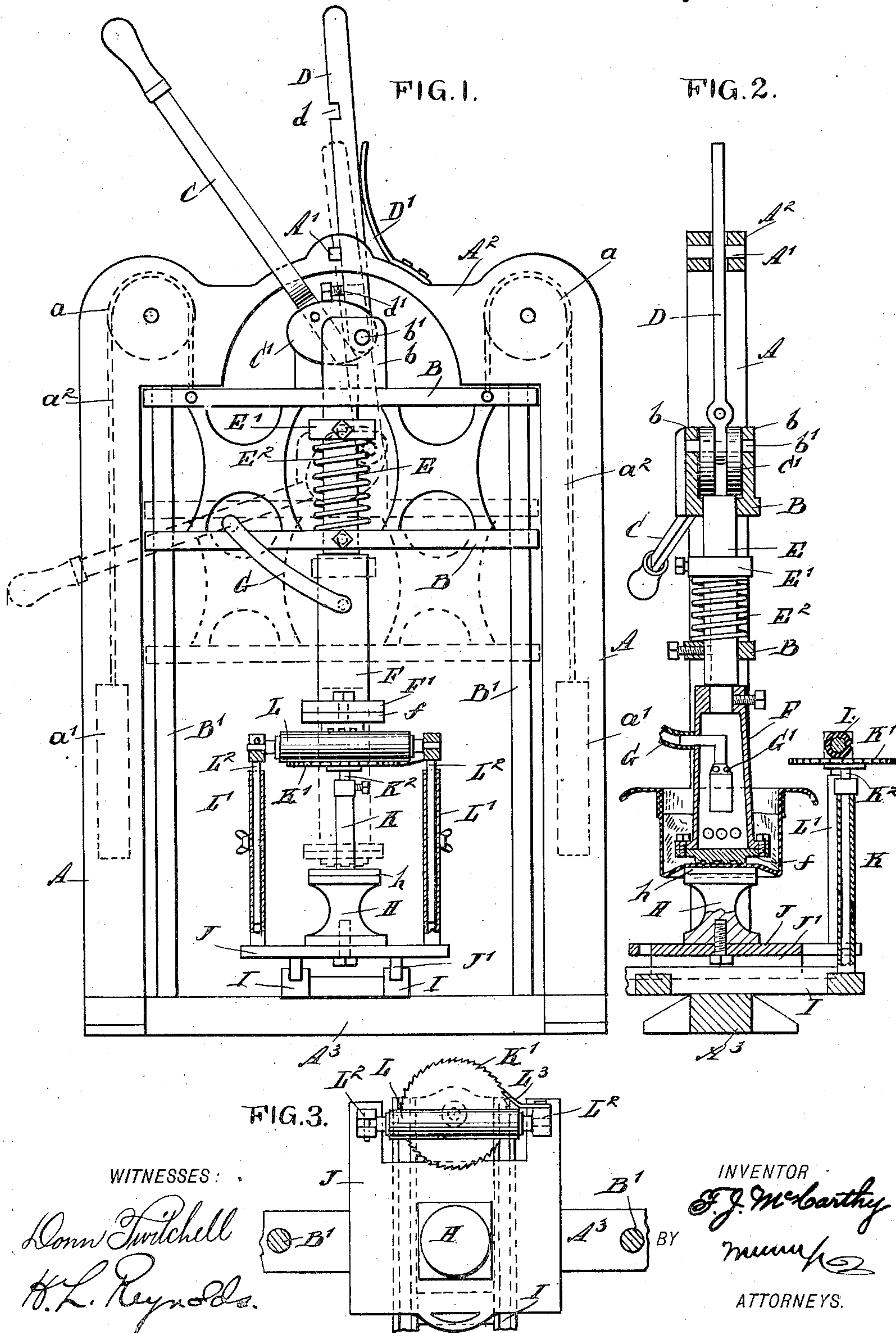


(No Model.)

T. J. McCARTHY.
HAT PRINTING MACHINE.

No. 604,778.

Patented May 31, 1898.



UNITED STATES PATENT OFFICE.

THOMAS J. MCCARTHY, OF ORANGE VALLEY, NEW JERSEY.

HAT-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 604,778, dated May 31, 1898.

Application filed July 21, 1897. Serial No. 645,326. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. MCCARTHY, of Orange Valley, in the county of Essex and State of New Jersey, have invented a new and
5 Improved Hat-Printing Machine, of which the following is a full, clear, and exact description.

My invention relates to an improvement in devices for printing labels, firm-names, and ornamental designs of similar character with-
10 in a hat, and comprises certain improvements having for their object to facilitate the working of the device and to increase its capacity, at the same time rendering it capable of doing work which is not done on ordinary machines
15 of this character.

The invention consists of certain details of construction, which will be specifically pointed out hereinafter.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my device. Fig. 2 is a sectional side elevation thereof, and
25 Fig. 3 is a plan view of the printing-bed and inking device.

My device is mounted upon a frame comprising the base A^1 , two side members or posts A , and the top cross-piece A^2 . Within this
30 frame and forming a part thereof are the vertical posts B' , which form guides upon which the sliding frame B travels. The frame B is provided with top and bottom bars embracing the posts B' , and also with a plunger E , mounted
35 to have a limited reciprocation at the center of the frame. The plunger E is normally supported by a spiral spring E^2 , which bears against the lower one of the cross-bars of the frame B and a collar E' , fastened to the
40 plunger.

The upper end of the plunger is engaged by the cam-surface C' upon the pivoted end of a cam-lever C , and by means of the lever C the plunger may be depressed when the
45 impress of the printing device is made. The frame B , carrying the plunger, is counterweighted by means of weights a' , attached to cords a^2 , which pass over pulleys a , the shafts of which are journaled in the upper end of the main frame. By this means the frame B
50 may be readily raised and lowered to its inoperative and operative positions.

The lower end F of the plunger is made hollow and has the printing-die f secured to the base F' thereof. The printing-die is heated
55 by means of a gas-burner G' , placed within the hollow of the lower section F and supplied with gas by means of a tube G .

An arm D is pivoted to the frame B and is provided near its upper end with a side notch
60 d , so placed as to engage a pin A' , mounted upon the main frame, when the frame B is in its lowermost position. This locks the frame B and prevents its return until the bar D has been released from engagement with the pin
65 A' . The bar D is normally held in engagement with the pin by means of a spring D' , pressing against its side. The arm D also has an adjustable pin d' , engageable by the lever C ,
70 so as to free the lever D from the pin A' when the lever C is thrown up by the spring E^2 after the impression by the printing device has been made.

Upon the base of the machine are fixed two cross-rails I , engaged by guides J' upon the
75 bottom of the transverse slide J . Mounted upon this transverse slide is the impression-bed or anvil H , to the upper portion of which is secured a plate h , forming an impression-bed. This impression-bed or anvil is so placed
80 upon the slide that when it is pushed back it will be in line with the plunger F . Mounted upon the rear end of the slide J are the posts L' , which are preferably made as tubes having
85 bars or rods L^2 sliding within the same and secured at any position desired by means of set-screws. (See Fig. 1.)

The upper ends of the rods L^2 support the ends of the inking-roller L , which roller is
90 adjusted at such a height that when the frame B is in its uppermost position and the slide J is pulled outward the roller L will engage the lower surface of the printing-die F , thus inking the same. The roller L is supplied
95 with ink by means of a revolving plate K' , adjustably supported upon a central post consisting of the tube K and bar K^2 , sliding
within the same, said bar being held as adjusted by means of a set-screw. This plate
100 K' corresponds in its operation with the inking-plate ordinarily used in printing-presses. The plate is rotated by forming ratchet-teeth in its edge, as clearly shown in Fig. 3, and providing the upper end of one of the bars L^2

with a spring-pawl L^3 , which will engage the teeth of the plate K' to revolve the plate a slight degree at each reciprocation of the slide J .

5 In using my device the parts are placed in the position shown by full lines in Fig. 1. The inking roller and plate having been supplied with the ink, the slide J is drawn out, so as to ink the under surface of the printing-die. The slide is then pushed back until
10 the printing-bed or anvil H is in line with the plunger F and the printing-die f . The lever D is then released from the pin A' and the frame B is drawn down. This will bring the
15 frame B to the position shown by dotted lines in Fig. 1, in which the die will be raised a slight distance above the impression-bed. Before drawing down the frame B the hat to be printed is placed in position upon the im-
20 pression-bed. When the frame has been drawn down to its lower position, the notch d in the arm D engages the pin A' , locking the frame in position. The lever C' is then pulled down, engaging the cam-surface C'
25 with the other end of the plunger and forcing the same firmly down upon the impression-bed and the hat resting thereon. Upon releasing the lever C the spring E^2 will raise the plunger a slight degree, at the same time
30 throwing up the lever C and automatically releasing the arm D by contact of the lever with the pin d' . This permits the frame B to rise under the influence of the counterweights a' , thus permitting the hat to be re-
35 moved.

The raised anvil or impression-bed shown in my device enables the hat to be printed either upon the band or in the crown. The detachable plate h of the printing-bed and
40 the printing-die f may be made with curved surfaces, if desired, in order to accommodate the same to the curves of hats.

The slide J being movable transversely of the machine enables the die to be freshly
45 inked after each impression and also enables the hat to be put into position without difficulty. The upward movement of the frame B as a whole also facilitates this operation, said movement raising the plunger entirely
50 above the impression-bed and enabling the hat to be readily put in place.

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

55 1. A hat-printing machine, comprising a frame having guideways thereon, a frame mounted to slide on said guides, a lock for

holding the frame in its lower position, a plunger mounted in said sliding frame and carrying a printing-die, means for normally
60 retracting the plunger, a lever mounted on the sliding frame and connected to said plunger to project it, and an impression-bed in line with said plunger, substantially as described.

2. A hat-printing machine, comprising a frame having vertical guides, a frame mounted to slide on said guides and provided with counterbalances, a lock for holding the frame
70 in its lower position, a plunger mounted in said frame and carrying the printing-die, a spring normally supporting the plunger, a lever connected to said plunger to depress it, and an impression-bed beneath said plunger, substantially as described.

3. A hat-printing machine, comprising a frame having vertical guides, a frame mounted to slide on said guides and having counterbalances attached, a lock for holding said
80 frame in its lower position, a plunger, hollow in its lower portion, mounted in said frame and carrying the printing-die, a gas heating apparatus within said plunger for heating the die, a spring normally supporting the plunger, a lever connected to said plunger to de-
85 press it, and an impression-bed beneath said plunger, substantially as described.

4. A hat-printing machine, comprising a vertically-movable frame having therein a reciprocable plunger carrying a printing-die, a
90 lock engaging said frame in its lower position, a lever for depressing the plunger, a transversely-movable slide, an impression-bed mounted thereon, and an inking-roller mounted upon said slide and engaging the surface
95 of the printing-die when the latter is in its upper position, substantially as described.

5. A hat-printing machine, comprising a vertically-movable plunger carrying a printing-die, a counterweighted frame supporting
100 said plunger and mounted to slide vertically, a spring normally supporting the plunger in said frame, a lever for depressing the plunger, a transversely-movable slide, an impression-bed mounted thereon, and an inking-
105 roller mounted upon the slide and engaging the surface of the printing-die when the latter is in its upper position, substantially as described.

THOMAS J. MCCARTHY.

Witnesses:

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LEWIS F. KIRSTEN.