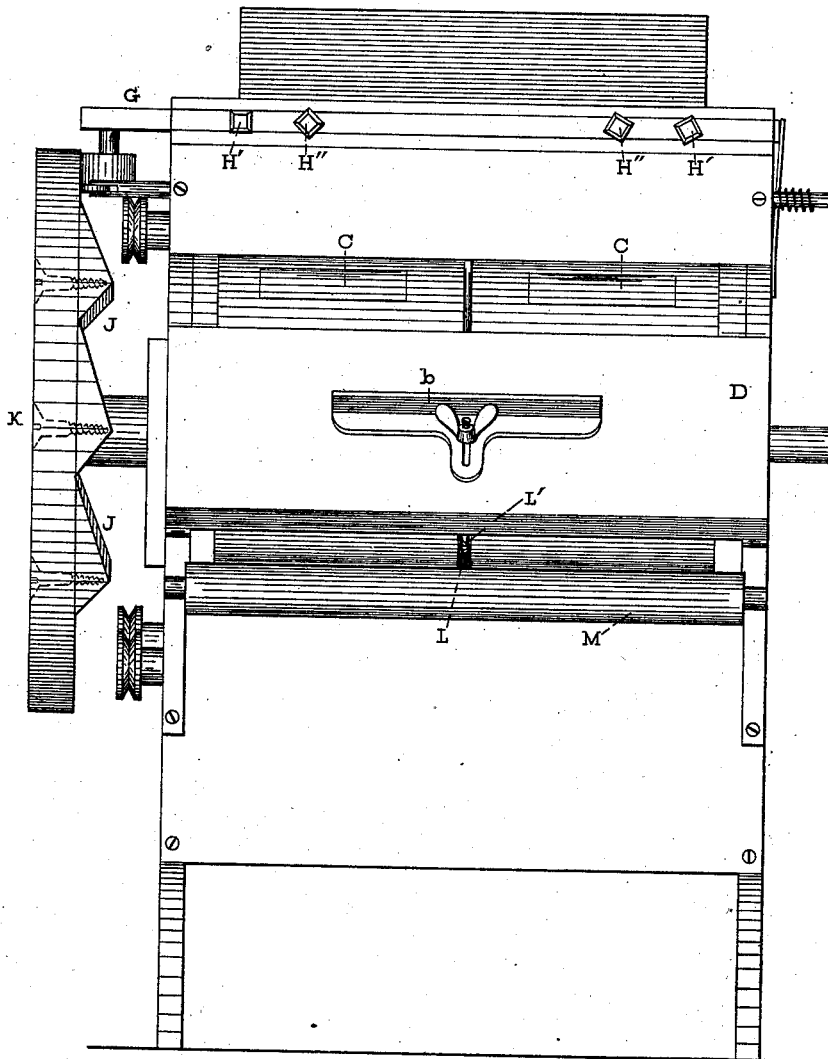


D. HESTON.  
Bronzing-Machines.

No. 219,094.

Patented Sept. 2, 1879.

Fig. 1.



Witnesses:

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*W. P. Kichen*

Inventor:

*David Heston,*

by *John A. Diederichsen*

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Fig. 2.

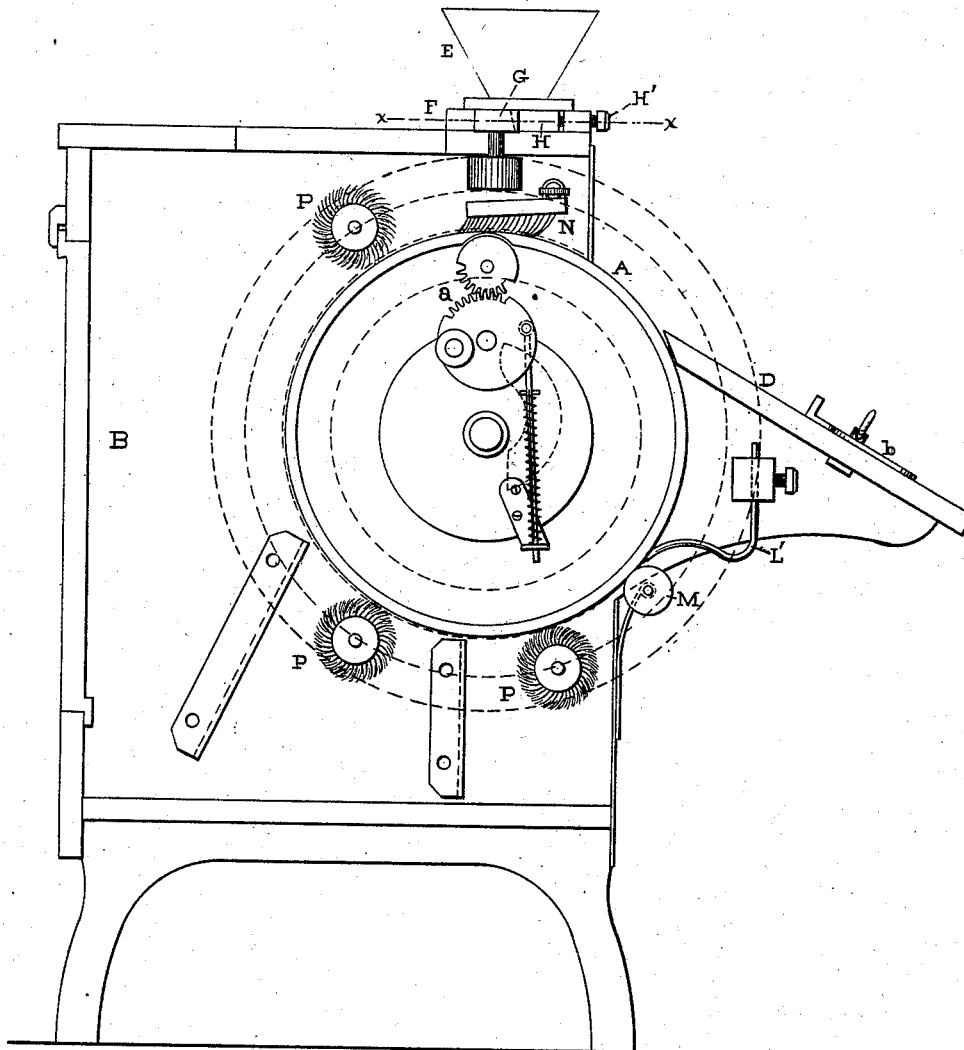
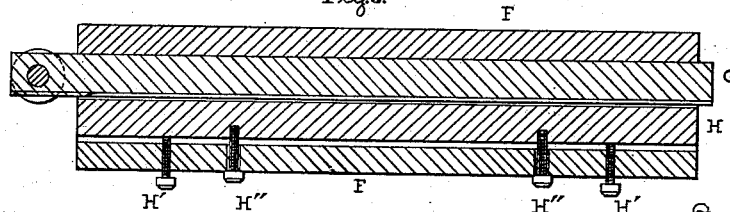


Fig. 3.



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# UNITED STATES PATENT OFFICE.

DAVID HESTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO ROBERT S. MENAMIN, OF SAME PLACE.

## IMPROVEMENT IN BRONZING-MACHINES.

Specification forming part of Letters Patent No. **219,094**, dated September 2, 1879; application filed May 17, 1879.

*To all whom it may concern:*

Be it known that I, DAVID HESTON, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Bronzing-Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front elevation of the bronzing-machine embodying my invention. Fig. 2 is a side elevation, showing the interior thereof. Fig. 3 is a horizontal section of the base or bed plate and feed-bars of the fountain.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of an improved fountain for supplying the bronze to the sheets of paper to be bronzed.

It also consists of a throw-off for the bronzed sheet.

It also consists of a wheel having removable jogs for adjusting the flow and spreading of the bronze.

It also consists of an adjustable back-guide on a stationary table.

Referring to the drawings, A represents a cylinder, which is properly mounted upon the sides of the box B. C represents two or more grippers, which are let into the face of the cylinder A, so that when they are closed the cylinder has an unbroken surface. The number of the grippers is in accordance with the size of the machine, and they are thrown back and closed by suitable means, the ordinary appliances, *a*, employed for operating the nippers of a printing-machine being adaptable therefor.

To the front of the box B is secured a stationary feed-table, D, on which is fitted an adjustable feed-guide, *b*. In feeding the sheets to the machine they are placed on the table D, with the back end of each sheet rested against the guide *b*, instead of against a front guide, as heretofore practiced.

E represents a hopper or fountain for the bronze, and to the base or bed plate F thereof are fitted two transverse bars, G H, the bar or slide G having reciprocating motions imparted to it by means of a spring suitably applied, and cams or jogs J, which are removably connected to a wheel, K, which is secured to the driving-

shaft. The bar H is adapted to be moved toward and from the slide G, and it is adjustably held in position by means of screws H' H'', the screws H'' passing loosely through one side of the bed-plate and screwing into the bar H, and the screws H' engagingly fitted to the bed-plate, and having their points in contact with said bar. A transverse aperture exists in the bed-plate underneath the inner edges of the slide and bar G H, and the side of the slide G adjacent to the bar H is beveled, so as to make a wedge-shaped throat between them, the widest part being above.

When it is desired to increase or decrease the width of said throat, the screws H' H'' are properly turned, so as to accomplish the adjustment and hold the bar H in position.

By the movement of the slide G the bronze is caused to drop through the throat above stated to the sheet below, the quantity being regulated by the adjustment of the throat. The flow of bronze ceases at intervals when the slide is not in motion, and the number of jogs or cams J is to be increased or decreased, so as to suit the length of the sheet being bronzed, whereby the flow of bronze is readily controlled, and made to cease entirely after the sheet being bronzed has fully passed under the fountain.

In the periphery of the cylinder A, between the grippers C, is a groove, L, into which projects and bears lightly the point of a wire, L', whose other end is secured to the table D or box B.

The grippers which hold the sheet as it passes through the machine are made to open as the end of the sheet emerges from the machine, and the point of the wire L', resting in the groove L, raises the sheet from the face of the cylinder, and causes it to pass out over the roller M upon an ordinary fly or a table placed to receive it. As the sheet enters the machine it passes under a reciprocating pad or pads, N, and cleaning-brushes P.

The pad N spreads the bronze on the sheet, and its motion is derived in one direction from the jogs or cams J on the wheel K, and in the other direction by means of springs suitably applied.

As it is undesirable for the pad or

have reciprocating motions, excepting when the sheet passes thereunder, the number of jogs or cams J requires to be increased or decreased in order to produce the relative motions and stoppage of said pad or pads.

The operation of the slide G and shaft or arm from which the pad N is hung is eased by means of rollers, which, connected to said slide and shaft, are in contact with the jogs J.

In my Letters Patent No. 174,526, for improvement in bronzing-machines, granted on the 7th day of March, 1876, provision is made for the vertical adjustment of the scraper above the bottom of the feed-trough; but there is no adjustment of the feed-slide by means of two sets of screws operating as in the present invention. Said patent has neither the throw-off wire and grooved cylinder, the removable and adjustable jogs or cams, nor the stationary table of the present case, wherefore I have shown new and valuable features and made an improvement in the art.

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

1. In a bronzing-machine, the transversely-operated feed-slide G and adjustable bar H, in combination with the screws H' and H'', the screws H' fitted to the bed plate and bearing against the bar H, and the screws H'' passing loosely through the bed-plate and screwing into said bar, substantially as and for the purpose set forth.

2. The cylinder with groove L, in combination with the throw-off wire L', substantially as and for the purpose set forth.

3. The combination, with the feed-slide and pad N, one or both, of the wheel K, provided with removable and adjustable jogs or cams J, substantially as and for the purpose set forth.

4. In a bronzing-machine, the cylinder A, with grippers C, in combination with the stationary table D, provided with an adjustable back-guide, b, substantially as and for the purpose set forth.

DAVID HESTON.

Witnesses:

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