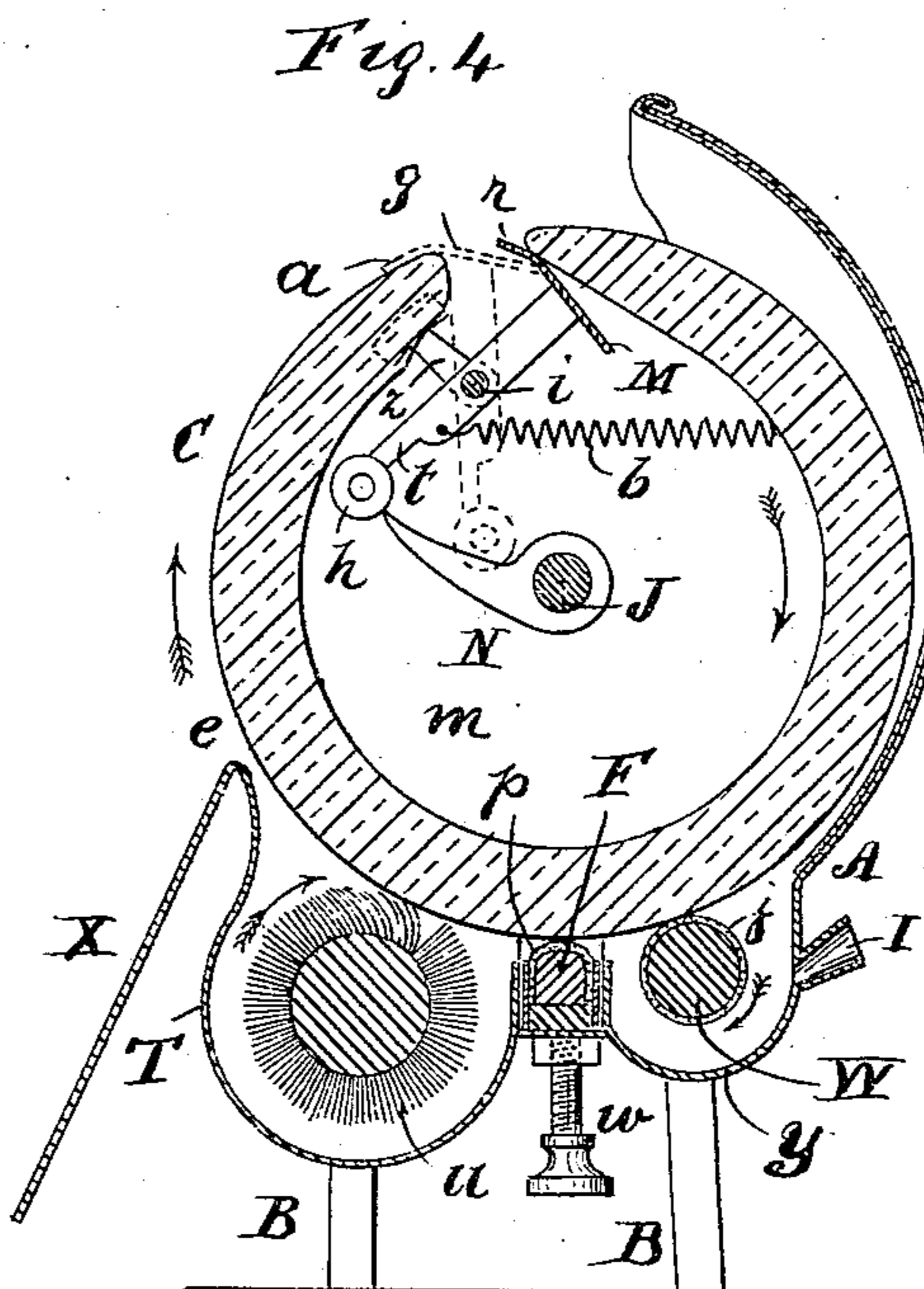
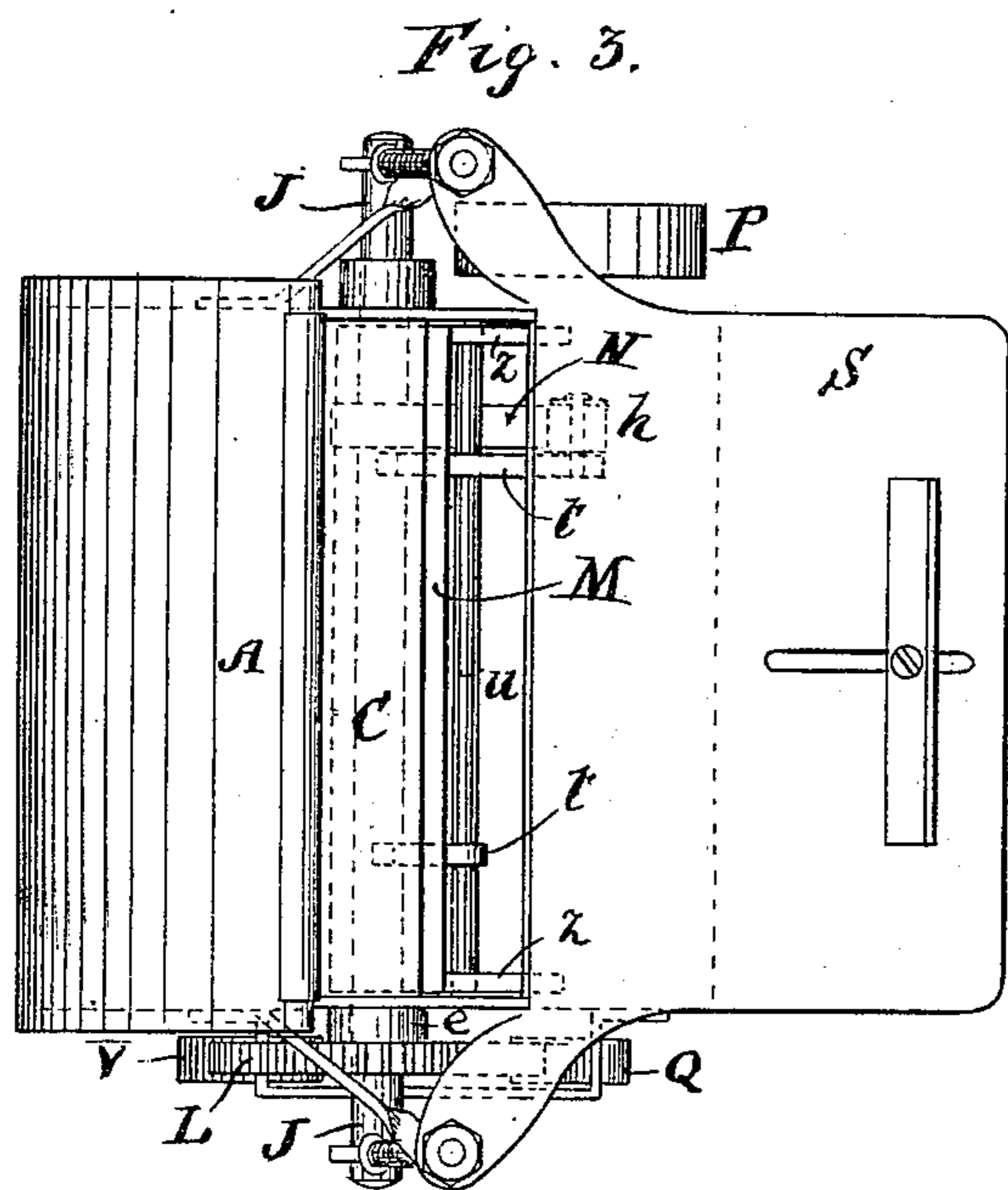
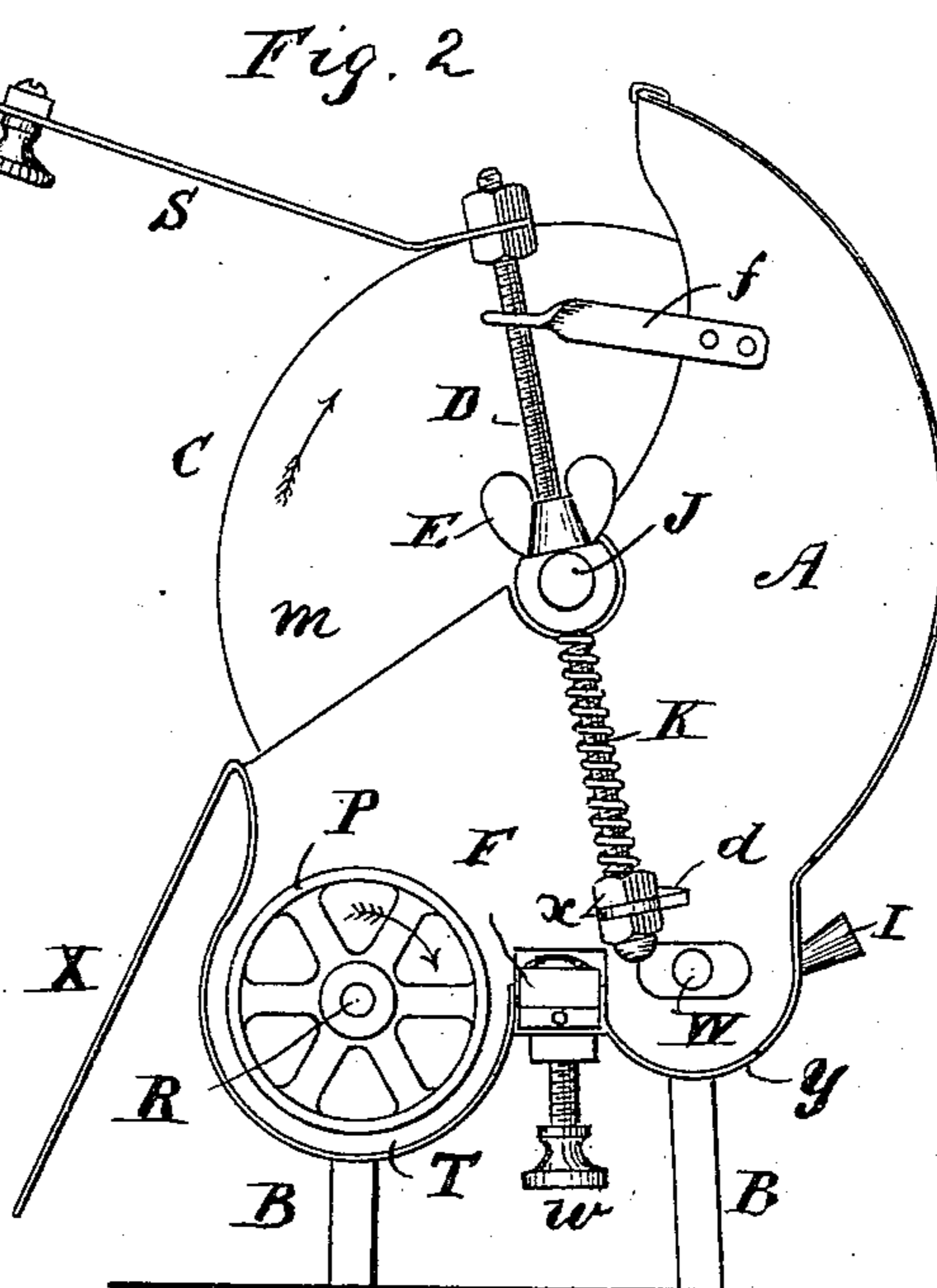
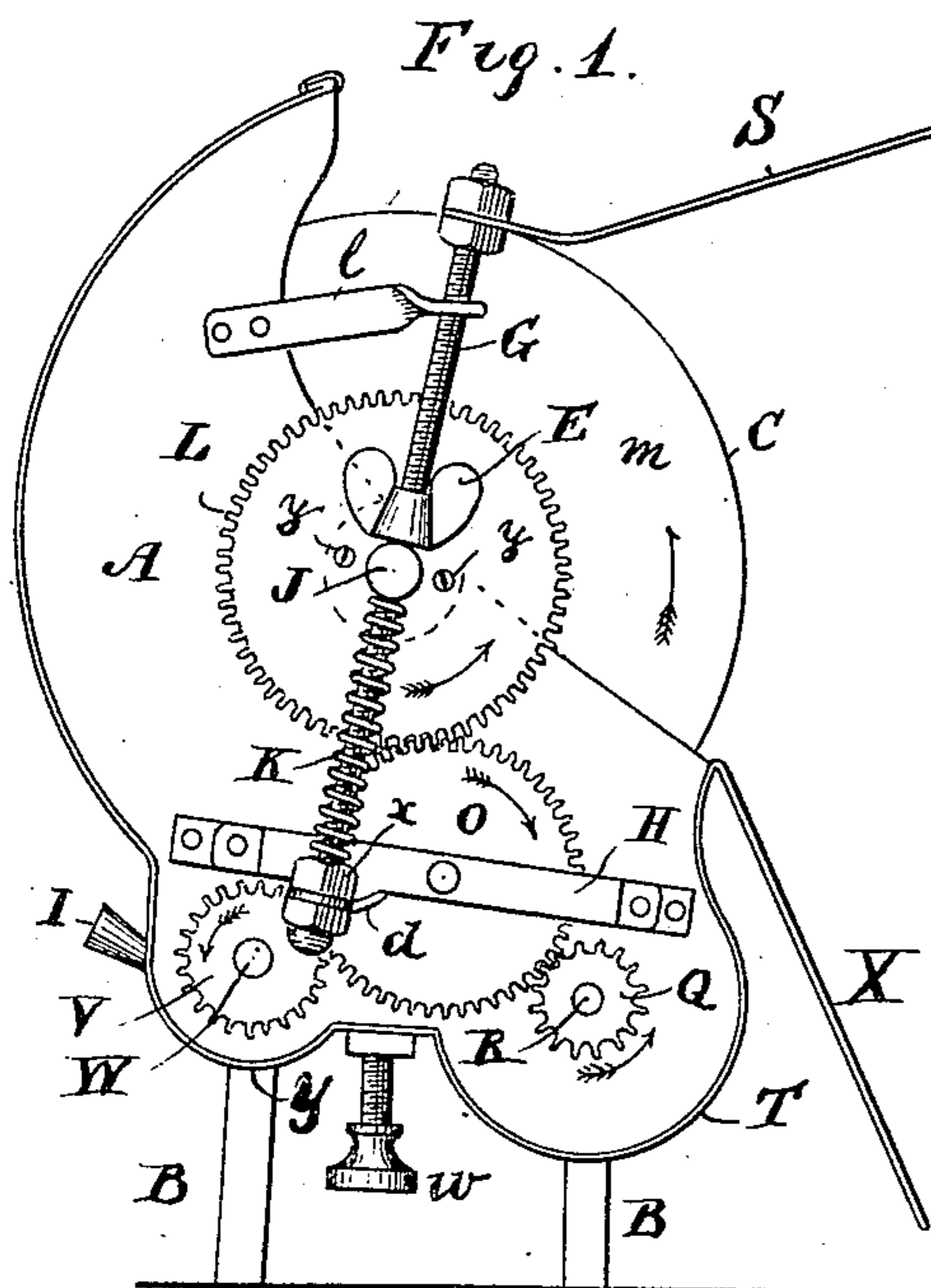


(No Model.)

J. J. FLOYD.
BRONZING MACHINE.

No. 316,351.

Patented Apr. 21, 1885.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN J. FLOYD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND
MICHAEL MORRISON, OF SAME PLACE.

BRONZING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 316,351, dated April 21, 1885.

Application filed January 7, 1885. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. FLOYD, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful
5 Improvement in Bronzing-Machines, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings,
10 forming part of this specification, in which—

Figures 1 and 2 are respectively elevations showing the opposite ends of my improved bronzing-machine; Fig. 3, a top plan view,
15 and Fig. 4 a vertical transverse section.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention relates to that class of bronzing-machines which are employed by printers
20 in applying bronze to labels, circulars, bills, and other printed matter; and it consists in a novel construction and arrangement of the parts, as hereinafter more fully set forth and
25 claimed, by which a more effective device of this character is produced than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following
30 explanation.

In the drawings, A represents the case or body of the machine, B the legs, and C the cylinder. The body may be composed of cast
35 or sheet metal, and is of suitable form and size to receive and support the cylinder and other working parts.

Projecting from one end of the body there are two brackets or arms, *f d*, and disposed
40 in these there is a rod, D, (see Fig. 2,) having its lower end secured permanently by set-nuts *x* in the bracket *d*, and its upper end threaded to receive a nut, E. A corresponding rod, G, is disposed at the opposite end of the machine and supported in brackets *l d*, the
45 bracket *d* projecting from a truss, H, as shown in Fig. 1.

A horizontally-arranged shaft, J, is disposed centrally in the body of the machine,
50 this shaft being mounted on and prevented

from revolving by the rods D G, which pass through holes in its ends.

Disposed on the rods D G, beneath the shaft J, and resting on the nuts *x*, there are coiled
springs K, which act expansively to force the
55 shaft in an upward direction.

The cylinder C, which is hollow and provided with ends *m*, is mounted to revolve freely on the shaft J, and provided with a
slot, *g*, extending nearly its entire length. 60

An arm or bracket, *z*, projects inwardly from the shell of the cylinder at either end, near the slot *g*, and pivoted at *i* on a rod, *u*, disposed in these arms there are levers *t*, one of which is provided with a friction-roller, *h*,
65 at its lower end, said levers carrying a clamping-plate, M, at their upper ends. This plate is bent or curved, as shown at *r*, near its outer edge, to adapt it to grasp the paper or work as it is fed to the cylinder. 70

Mounted on the shaft J, within the body of the cylinder C, there is a dog or fixed arm, N, adapted to engage the lower end of the lever *t*, having the friction-roller *h*, as the cylinder is revolved. 75

A shaft, W, carrying a pinion, *v*, at one of its ends, is mounted horizontally in a trough, Y, at the bottom of the case A, said shaft being covered within said trough with felt or
other suitable material, *j*, for taking up and
80 applying the bronze or bronzing-powder as the work passes through the machine between the cylinder C and shaft W.

Mounted horizontally in a trough, T, at the lower portion of the body A, and provided
85 with a pulley, P, at one of its ends and a pinion, Q, at its other, there is a shaft, R, carrying a brush, U, within said trough, said brush being adapted to sweep or brush off any loose particles of bronze which are left adhering to
90 the paper after it has passed the bronze roller and wiper.

A wiper-bar, F, is disposed horizontally in the lower part of the case A, midway between the shaft W and brush U, said bar being covered with chamois-skin, plush, felt, or other
95 suitable material, *p*, for wiping the surplus bronzing powder or material from the work after it has been applied by the bronzing-roller in the trough Y, screws *w* being provided for 100

adjusting the wiper vertically with respect to the cylinder C.

Mounted to revolve on the shaft J, and provided with an inwardly-projecting hub, *c*, there is a gear, L, which is firmly secured to the end *m* of the cylinder C by means of screws *y*, but may be secured in any other suitable manner.

An intermediate gear, O, is journaled in the truss H and end of the case A, said last-named gear intermeshing with the pinions Q *v* and gear L, as best seen in Fig. 1.

A feed-table or platen, S, is provided at the front of the machine, being supported on the rods D G.

A chute, X, is secured to the side of the case A, beneath the feed-table S, for receiving the work and conducting it into a proper receptacle after it is bronzed.

A coiled spring, *b*, has one of its ends attached to the lever *t*, between its pivot *i* and roller *h*, and the other to the cylinder C, said spring acting contractively to keep said roller against the dog or arm N.

In the use of my improvement the printed sheets to be bronzed are placed on the table or platen S, and power applied to the pulley P to revolve it in the direction indicated by the arrow thereon. As the cylinder revolves on the fixed shaft J, the friction-roller *h* on the lever *t*, being kept against the arm N by the spring *b*, rides over the lower side and end of said arm and opens the clamping-plate M, as shown in Fig. 4. The sheet to be bronzed is now pushed forward on the table S until its edge projects slightly over the front edge, *a*, of the cylinder C at the slot *g*, and as said cylinder continues to revolve the rollers *h* pass the outer end of the dog or arm N, permitting the spring *b* to close the clamping-plate M, thereby causing the forward or inner edge of the paper to be grasped between said plate and the edge *a* of the cylinder. The cylinder continuing to revolve, the sheet is now carried down into the trough Y, where it is passed between the bronzing-roller W and said cylinder and receives a coating of the bronzing powder or material, after which it passes forward over the wiper F, by which the surplus

bronze is removed, and thence into contact with the brush U, which brushes off any loose particles of the powder left adhering to the sheet, and is discharged at *e* onto the chute X, in a manner which will be readily obvious without a more explicit description.

A feed-tube, I, is connected with the trough Y, through which the bronze or powder is introduced to said trough.

The surplus bronzing material or powder removed from the sheet by the wiper F returns to the trough Y, and may be again used.

The springs K and nuts E are used to adjust the shaft J and cylinder C in respect to the bronzing roller or shaft W and brush U; but instead of adjusting the cylinder with respect to these parts the roller may be made adjustable by any suitable appliances for that purpose, if desired.

I do not confine myself to using the machine for bronzing printed sheets of paper only, as it is well adapted to bronzing sheets of paper which are not printed, provided their surfaces are inked, gummed, or suitably prepared to receive and retain the bronzing powder or material, and hence the entire surface of the sheet may be covered with bronze, if desired.

Having thus explained my invention, what I claim is—

1. In a paper-bronzing machine, the rods D G, provided with the springs K and nuts E, in combination with the shaft J, cylinder C, and case A, substantially as set forth.

2. In a paper-bronzing machine, the shaft J, provided with the fixed arm N, and the cylinder C, having the slot *g*, and provided with the brackets *z*, levers *t*, plate M, and spring *b*, combined and arranged to operate substantially as set forth.

3. In a paper-bronzing machine, the wiper F, provided with the adjusting-screws *w*, in combination with the bronzing roller or shaft W, brush U, and cylinder C, substantially as described.

JOHN J. FLOYD.

Witnesses:

C. A. SHAW,
L. J. WHITE.