

(No Model.)

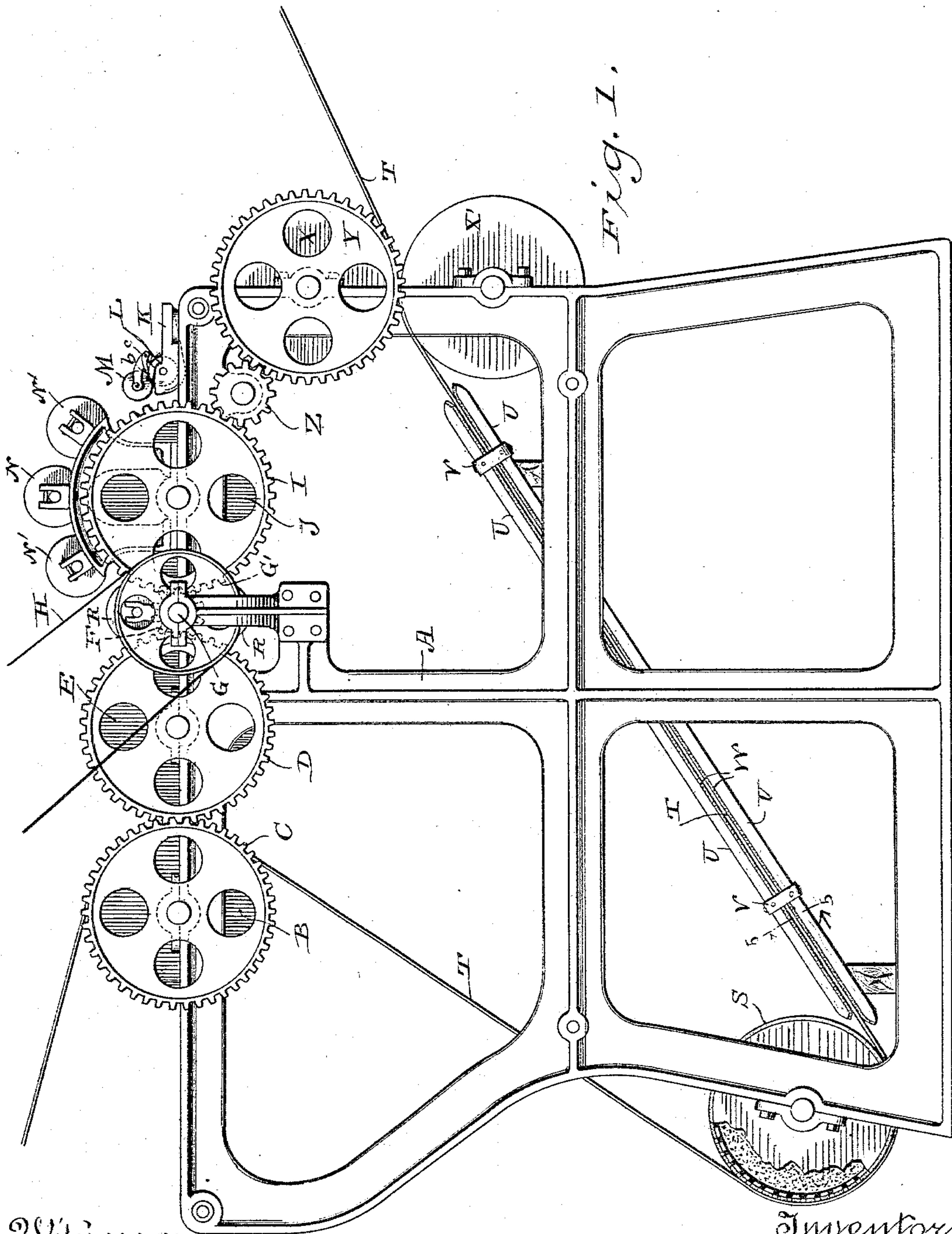
2 Sheets—Sheet 1.

T. H. BOWES.

MACHINE FOR PRINTING AND BRONZING RIBBONS.

No. 412,014.

Patented Oct. 1, 1889.



Witnesses

Geo. W. Young,

Wm. G. Hug

Inventor

Thos. H. Bowes

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Attorneys

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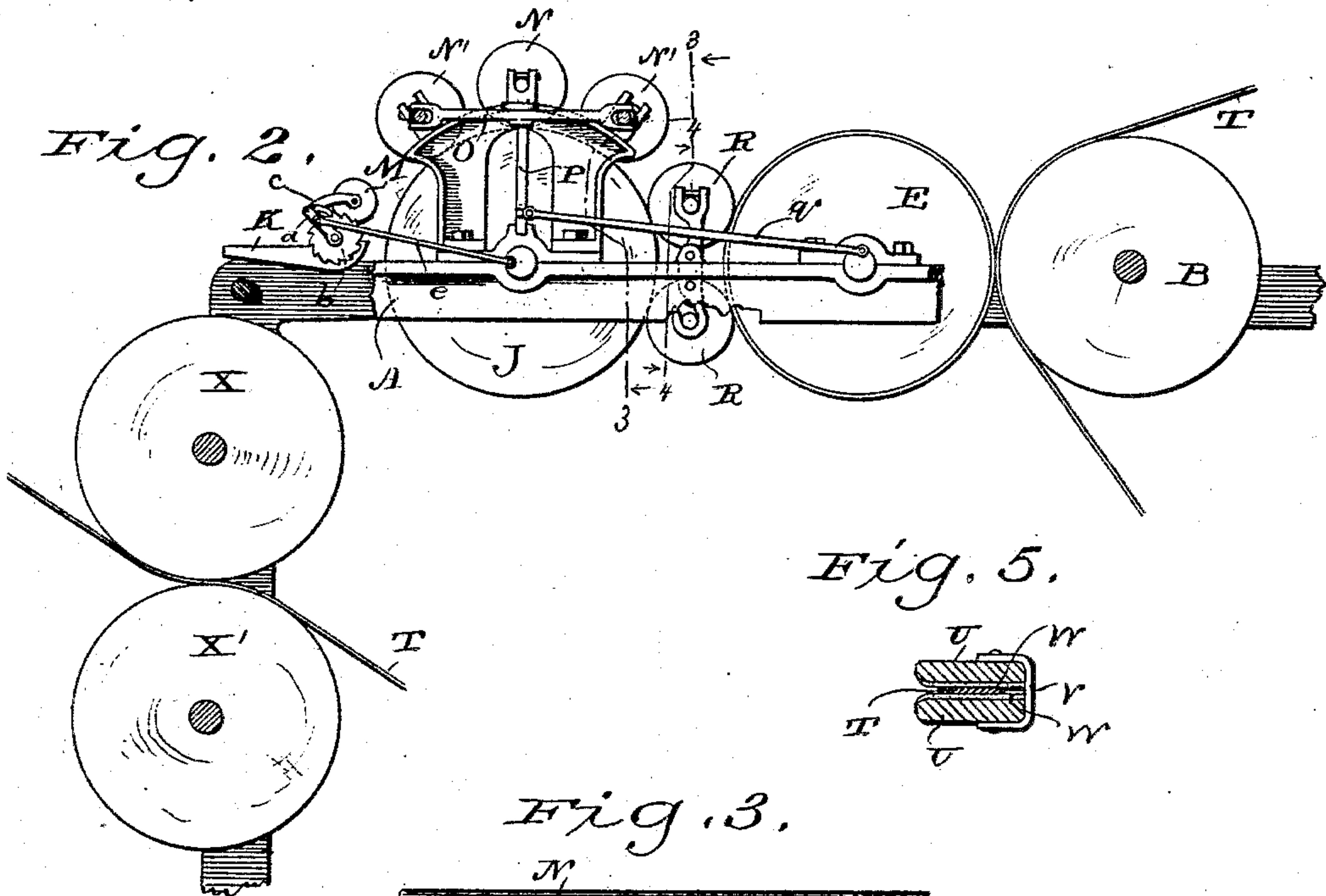


Fig. 5.

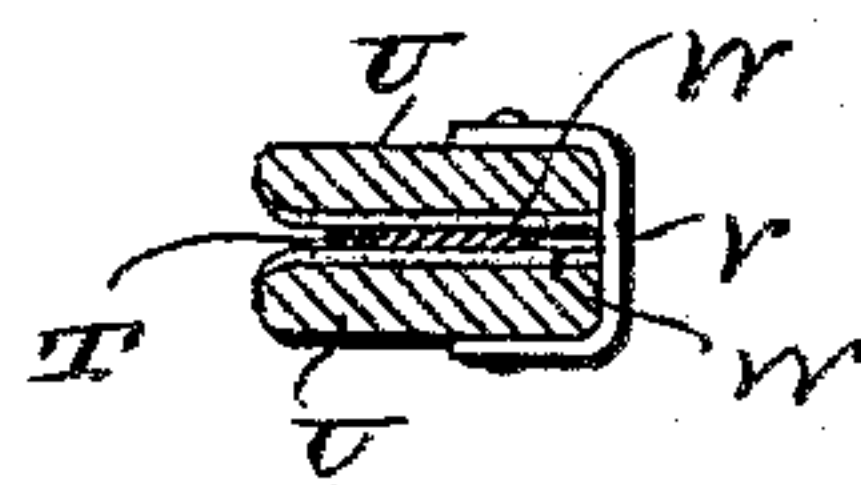


Fig. 3.

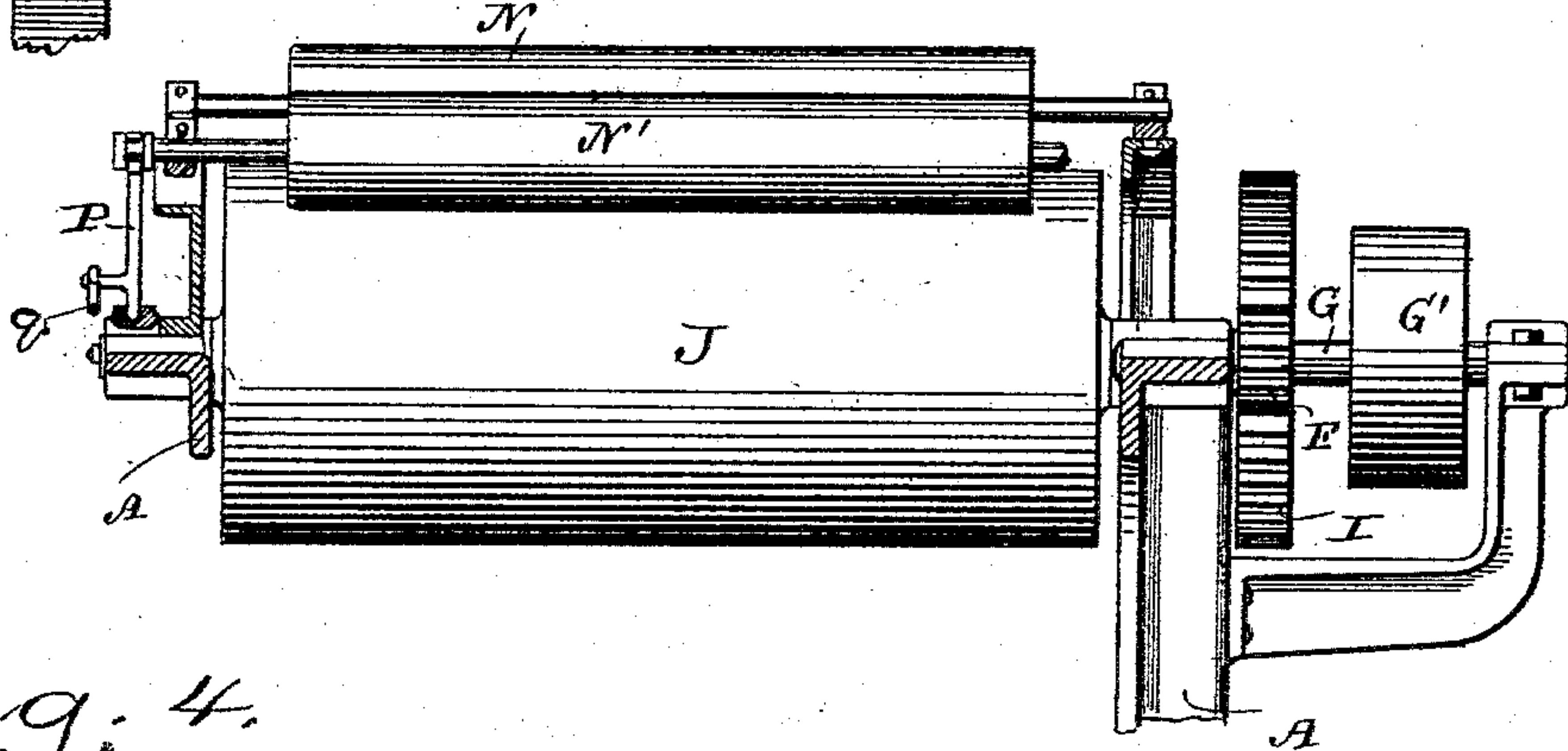
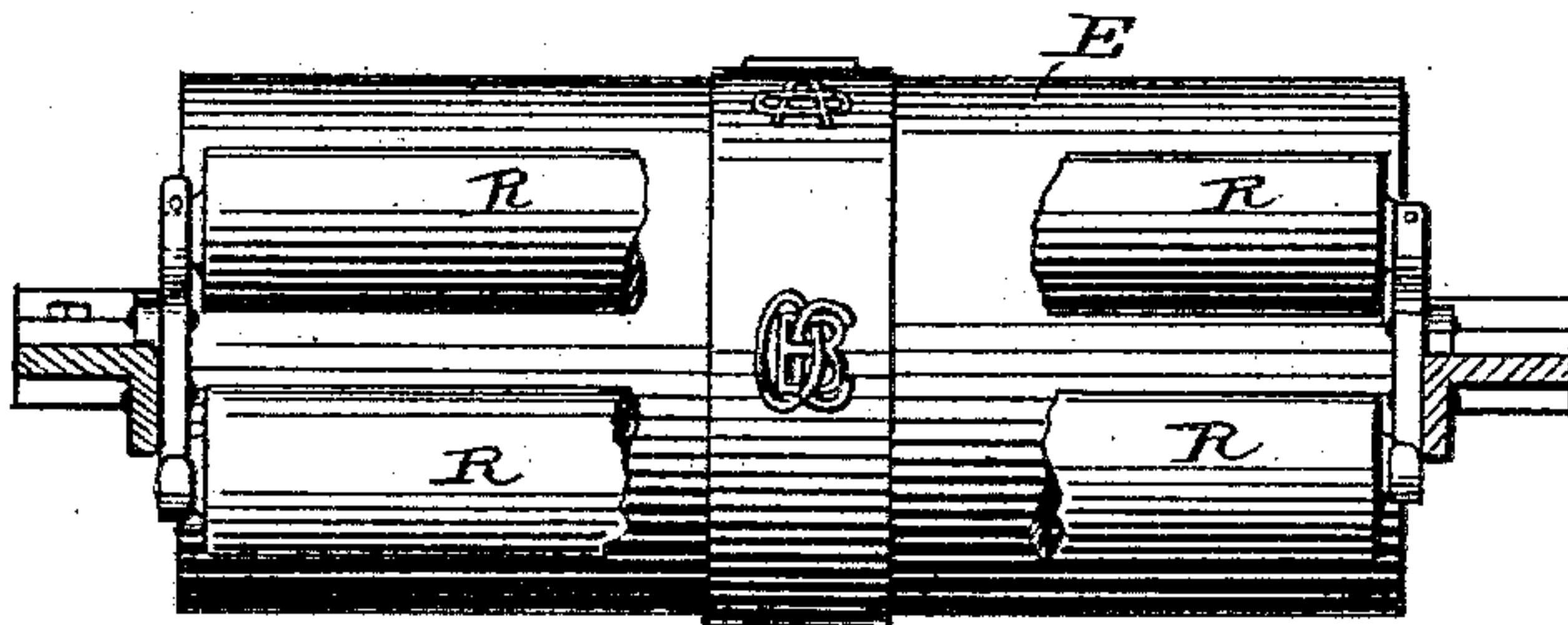


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS H. BOWES, OF MILWAUKEE, WISCONSIN.

MACHINE FOR PRINTING AND BRONZING RIBBONS.

SPECIFICATION forming part of Letters Patent No. 412,014, dated October 1, 1889.

Application filed June 25, 1888. Serial No. 278,071. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. BOWES, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Machines for Printing and Bronzing Ribbon; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to a machine for printing on ribbon; and it consists in certain peculiarities of construction and combination of parts to be hereinafter described, with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 represents a side elevation of a machine constructed according to my invention; Fig. 2, a partial elevation of the opposite side of the machine; Fig. 3, a section on line 3 3, Fig. 2; Fig. 4, a section on line 4 4, Fig. 2; and Fig. 5, a section on line 5 5, Fig. 1.

Referring by letter to the drawings, A represents the frame of a printing-machine constructed according to my invention. Supported in bearings on the frame A is an impression-roller B, provided at one end with a gear-wheel C, that meshes with another gear-wheel D on the adjacent end of a cylinder E, the latter gear-wheel being also in mesh with a pinion F on a main shaft G, that has its bearings on said frame and is provided with a pulley G' for a driving-belt H.

The pinion F meshes with a gear-wheel I on a cylinder J, that has its bearings on the frame A and is supplied with ink from a fountain K by means of rollers L M. The roller L is arranged to depend into the fountain, and is provided with a ratchet-wheel *b*, that is engaged by a pawl *c*, pivoted to an arm *d*, the latter being connected to a rod *e*, that is wristed to the adjacent journal of said cylinder. The roller M takes the ink from roller L and deposits it on the cylinder J, said roller M being so positioned and connected to the pawl-arm *d* as to have the necessary reciprocative movement at predetermined intervals.

The ink on the cylinder J is distributed by means of rollers N' N' N', that have their bearings on the frame A above said cylinder, and in order that I may obtain a more even distribution of the ink the spindles of the

rollers N' N' are connected at one end by a yoke O, that is fast on a vertical rock-shaft P, attached to a rod Q, the latter having a wrist-connection with the adjacent journal of the cylinder E. By the arrangement of parts just described the rollers N' N' are moved back and forth on the cylinder J to accomplish the desired result.

The cylinder E carries the forms of the matter to be printed on the ribbon, and ink from the cylinder J is communicated to said forms by means of interposed rollers R. (Best illustrated in Fig. 2.)

The parts thus far described are similar in their general construction, arrangement, and operation to like parts on an ordinary web-press, and therefore I do not wish to be understood as making any broad claim to the same; but as they all co-operate with other parts that go to make up a machine for special work in the art of printing they have been illustrated in the drawings and pointed out in the above description.

Journalled in bearings at the bottom of the rear end of the frame A is a hollow cylinder S, provided at intervals with a series of perforations, and preferably covered with plush or other soft furry material, also provided with perforations that register with those in said cylinder. This cylinder is designed to contain the fine powder used by printers for bronzing.

A ribbon T from a reel (not shown) is passed down between the roller B and printing-cylinder E, then passed around under the bronzing-cylinder S and up through an inclined way composed of two strips U U, united at intervals by clamps V, and having their opposing faces covered by felt or other soft material W. After the ribbon T leaves the upper end of the inclined way it passes between a pair of friction-rollers X X', that are journalled in bearings on the front end of the frame A and constitute a feeding mechanism, as will be hereinafter more fully described. The roller X is provided with a gear-wheel Y in mesh with a pinion Z, arranged to be in mesh with the gear-wheel I on the ink-cylinder J, the latter gear-wheel being also in mesh with the pinion F, as above described.

In the operation of my machine the ribbon

T is drawn off its reel by the rotation of the friction-rollers X X', and as the printing-cylinder E is being constantly rotated the characters thereon are impressed in ink upon said ribbon at such intervals as may have been predetermined. The hollow cylinder S being rotated by the travel of the ribbon, the bronze powder in said cylinder falls out through the perforations therein onto said ribbon and is absorbed by the freshly-printed characters on the latter, and as this ribbon passes on up between the felted strips U U the bronze is evenly graded and rubbed in, thus completing the operation for which my machine is designed.

By the construction above described I am enabled to print upon a continuous ribbon without any hand labor, and the result of the operation is a better job at a very considerable saving in time and expense over the ordinary methods employed in printing characters on ribbon, and by my machine I am enabled to turn out ribbon labels at such a low price as to popularize the same and thus create a demand therefor.

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

1. A machine for printing and bronzing on a continuous ribbon, that comprises an impression-roller, a printing-cylinder, an inking mechanism for the cylinder, a feeding mechanism for the ribbon, and a perforated hollow cylinder arranged in the path of said

ribbon beyond the impression-roller and printing-cylinder, substantially as set forth.

2. A machine for printing and bronzing on a continuous ribbon, that comprises an impression-roller, a printing-cylinder, an inking mechanism for the cylinder, a feeding mechanism for the ribbon, a perforated hollow cylinder arranged in the path of said ribbon beyond the impression-roller and printing-cylinder, and two parallel strips arranged to form a passage for the ribbon and having their opposing faces provided with a covering of felt or analogous material, substantially as set forth.

3. A machine for printing and bronzing on a continuous ribbon, that comprises an impression-roller, a printing-cylinder, an inking mechanism for the cylinder, a perforated hollow cylinder arranged in the path of the ribbon beyond the impression-roller and printing-cylinder, an inclined way composed of two parallel strips having their opposing faces covered with felt or analogous material, and a pair of friction-rollers arranged adjacent to the upper end of the inclined way, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

THOMAS H. BOWES.

Witnesses:

N. E. OLIPHANT,
WILLIAM KLUG.