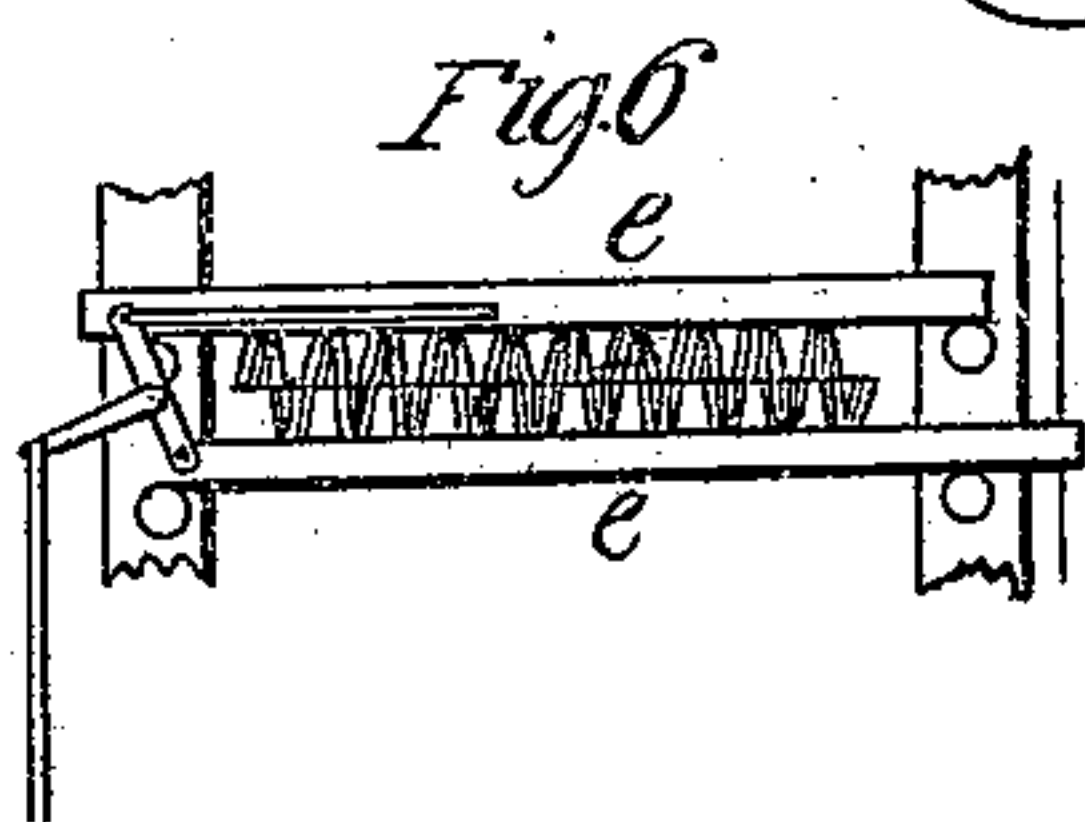
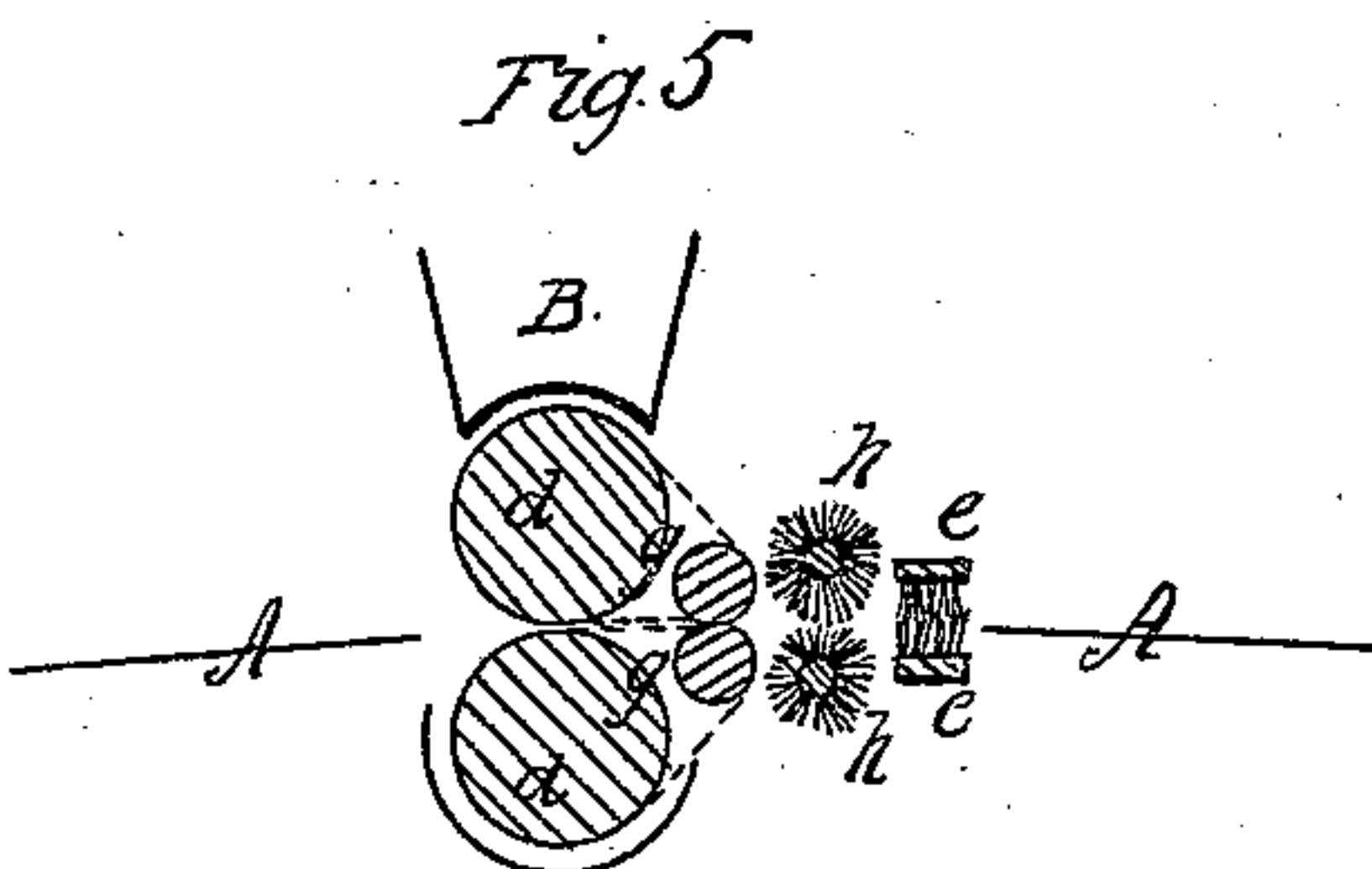
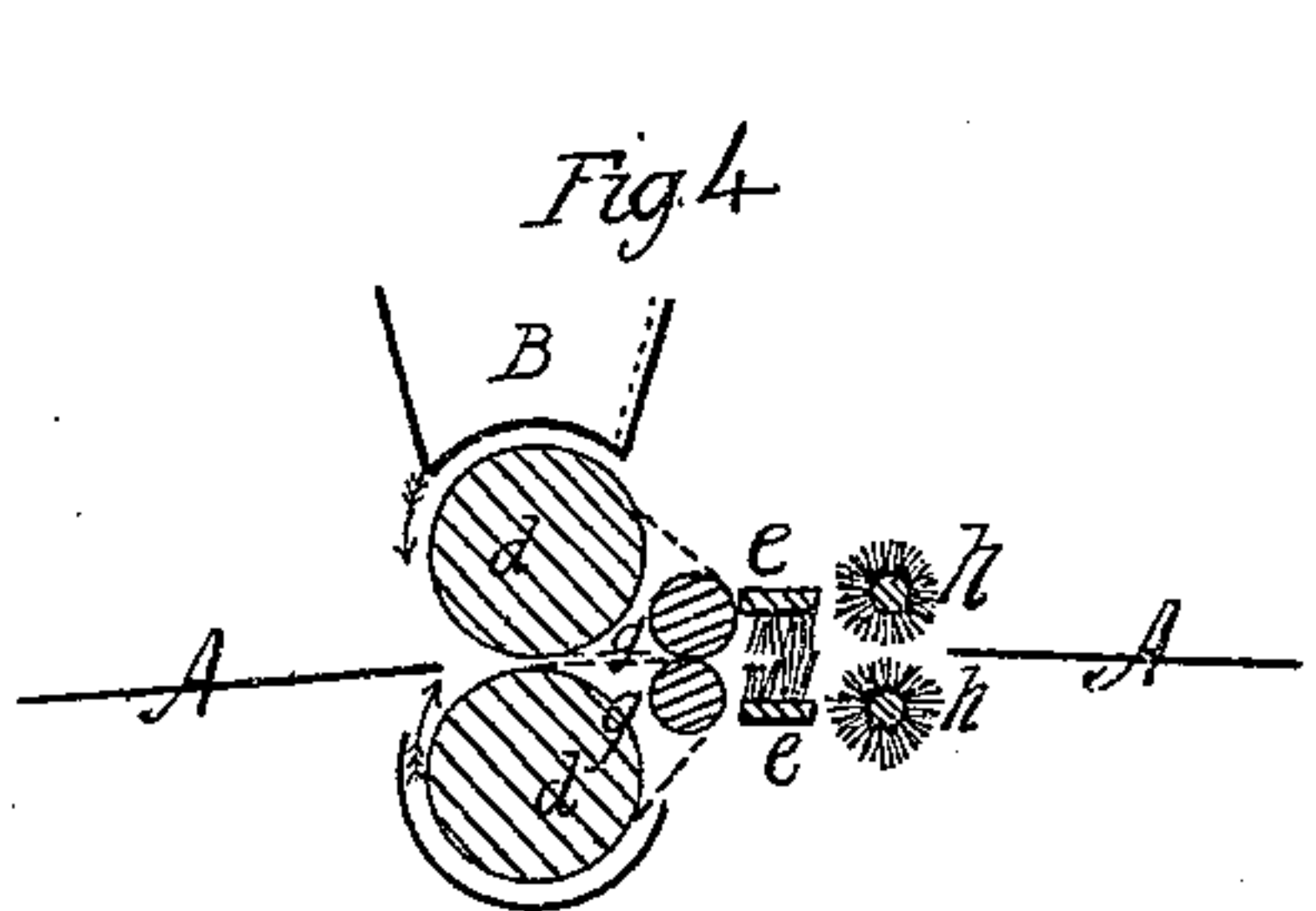
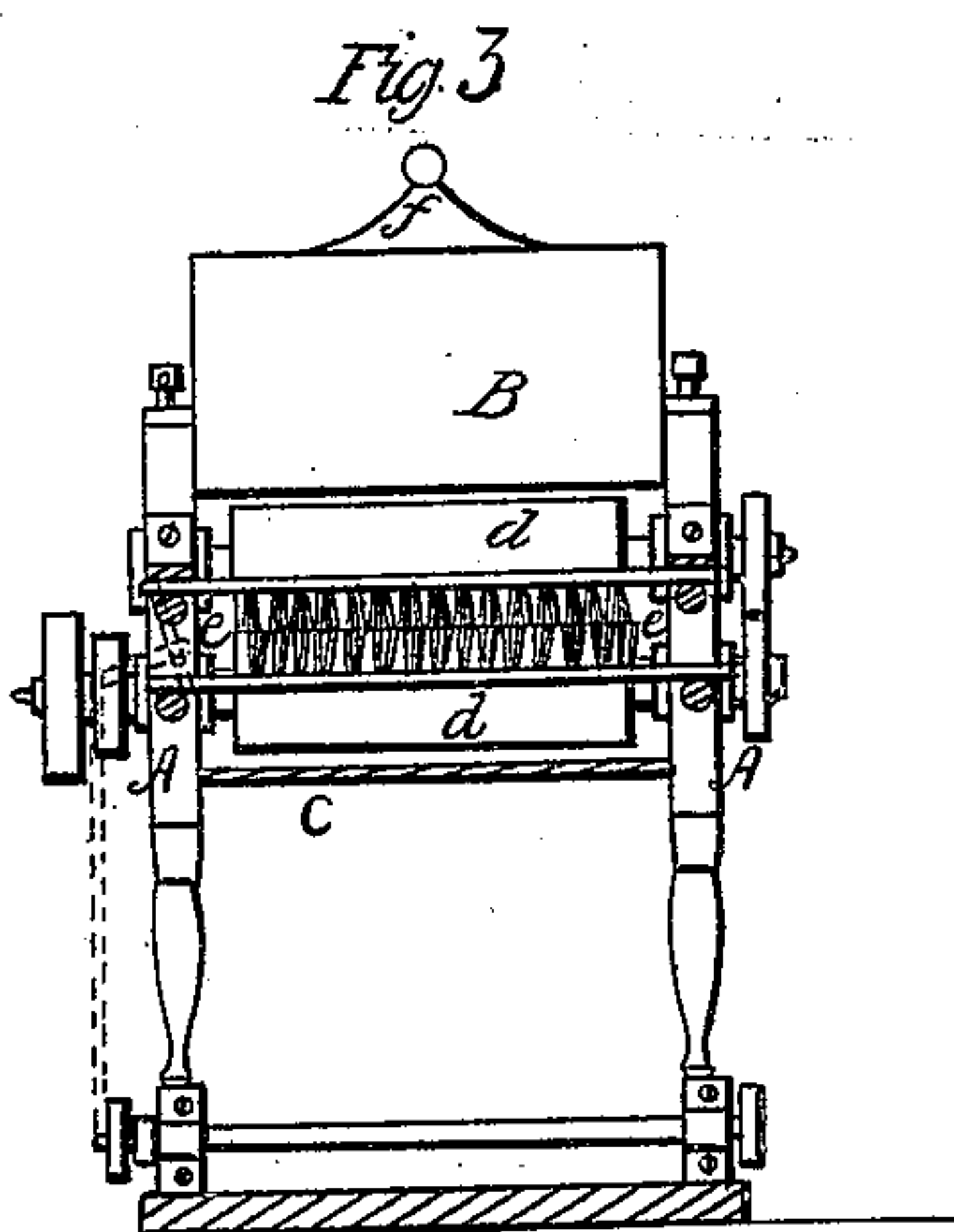
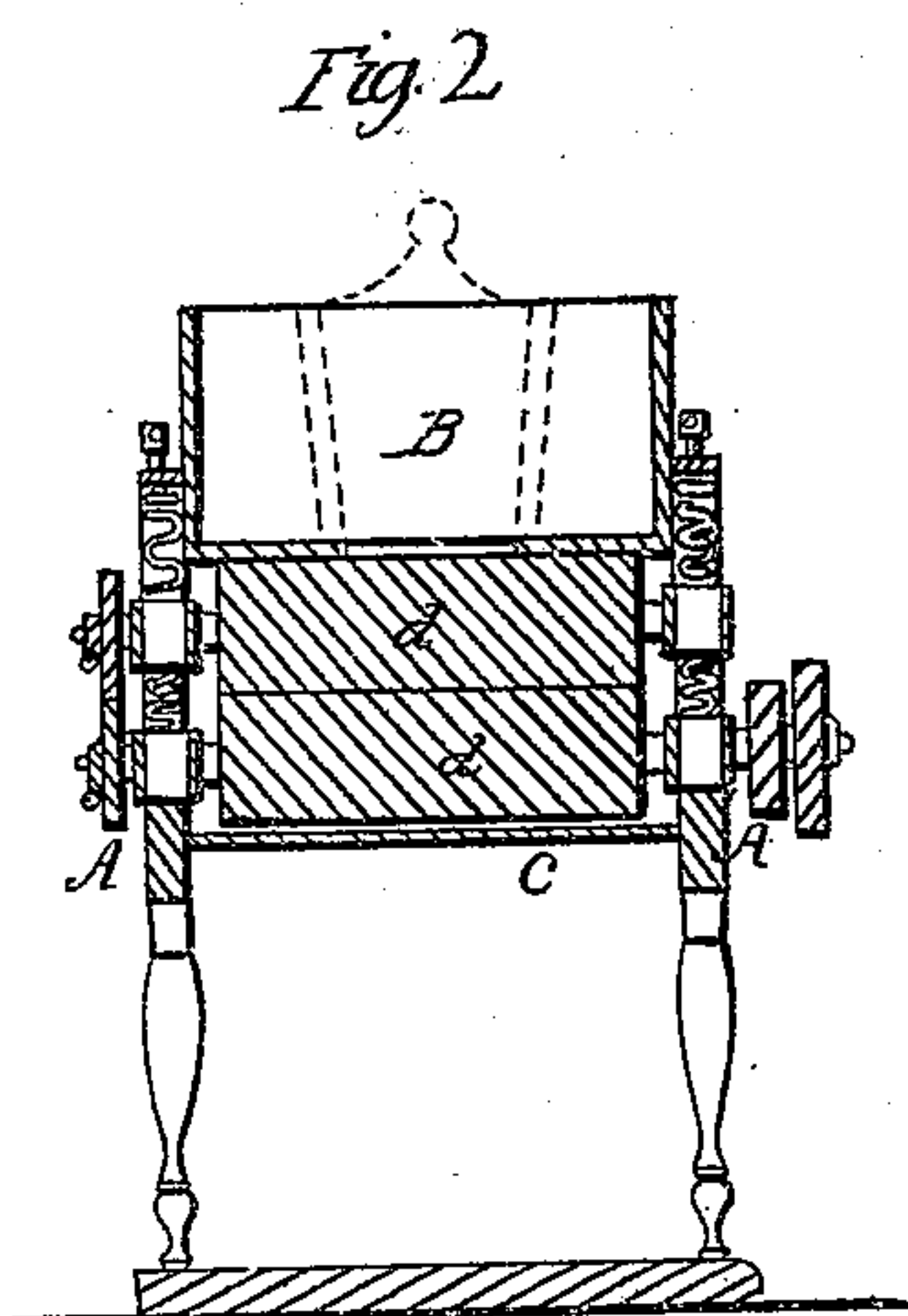
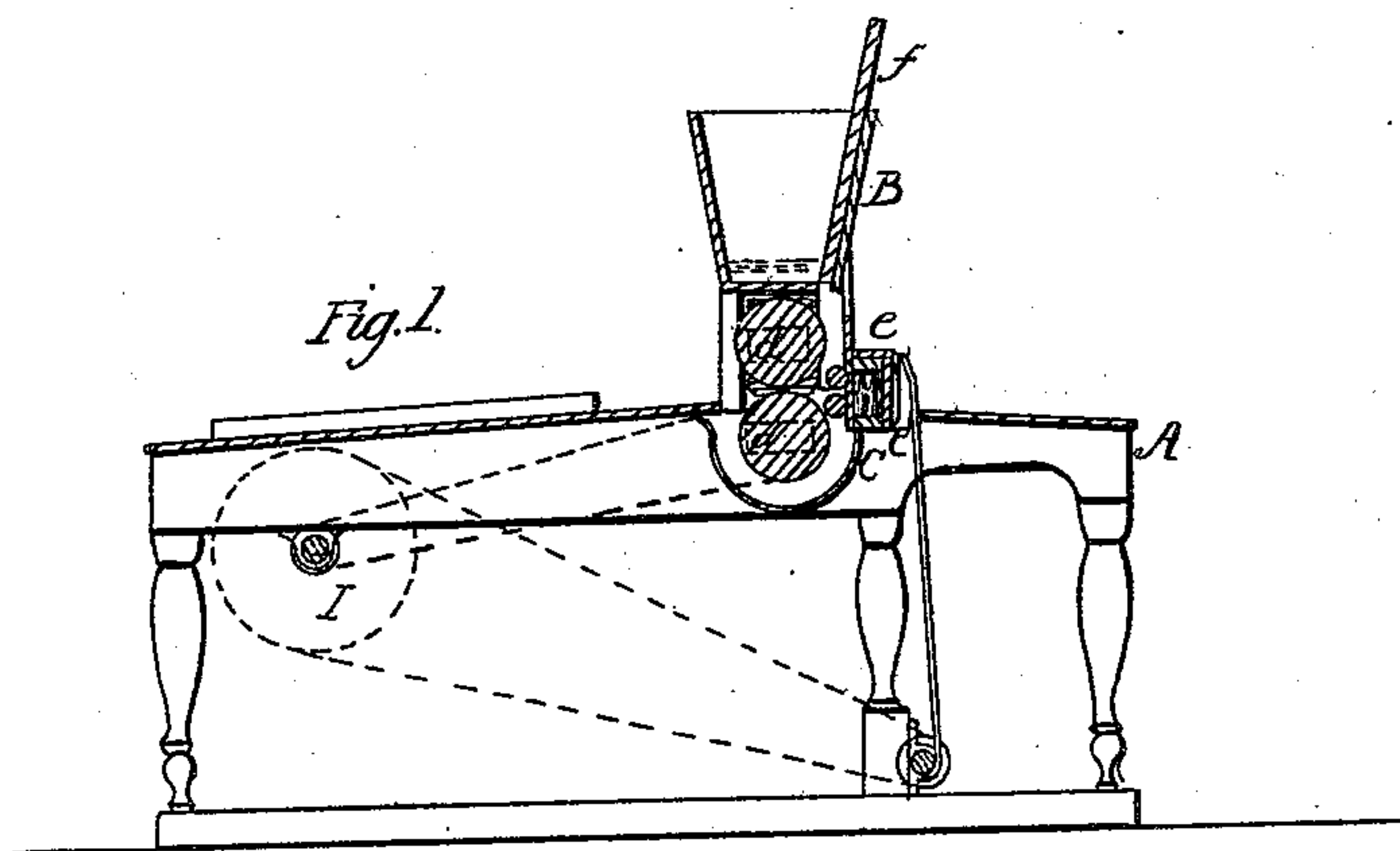
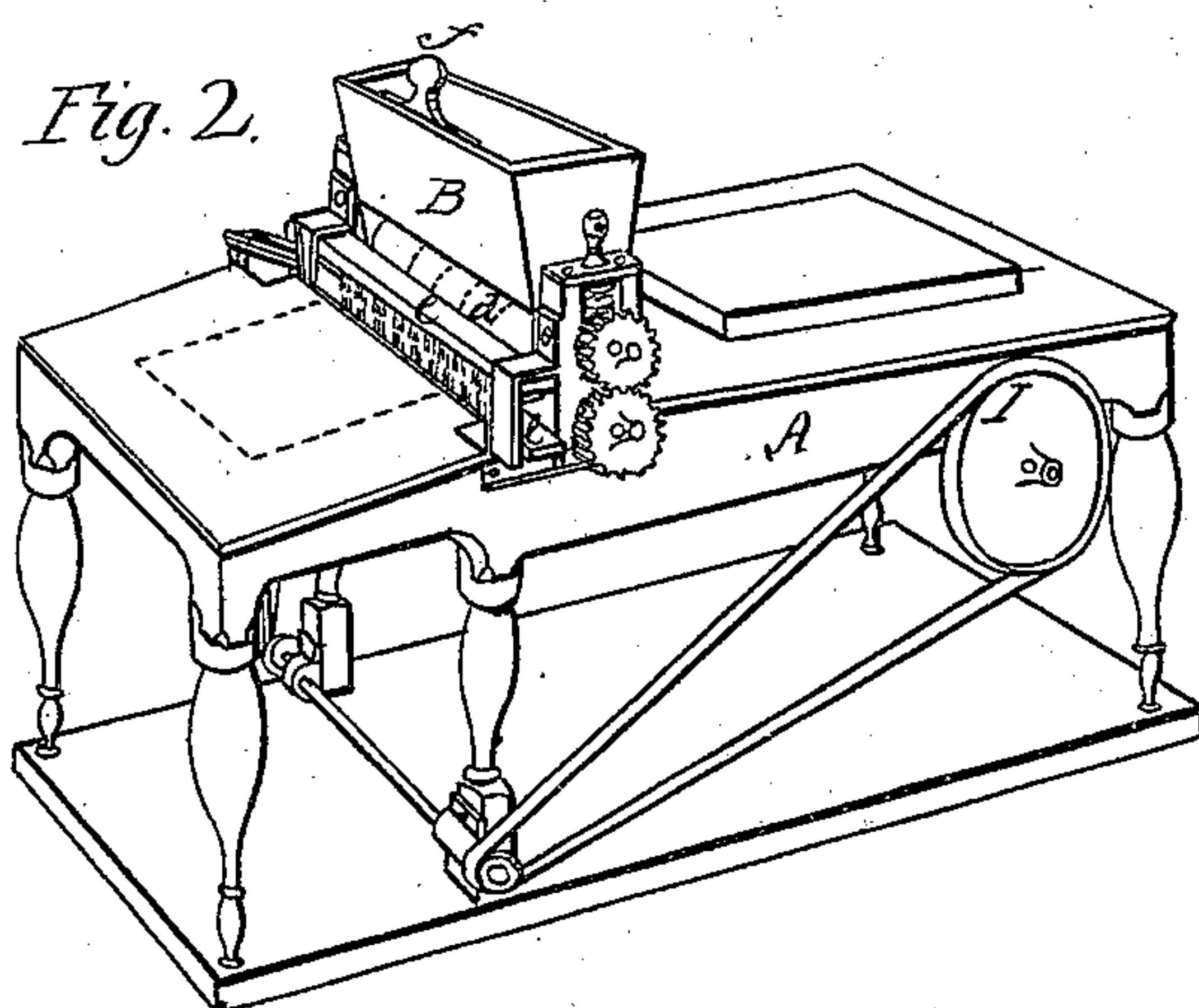
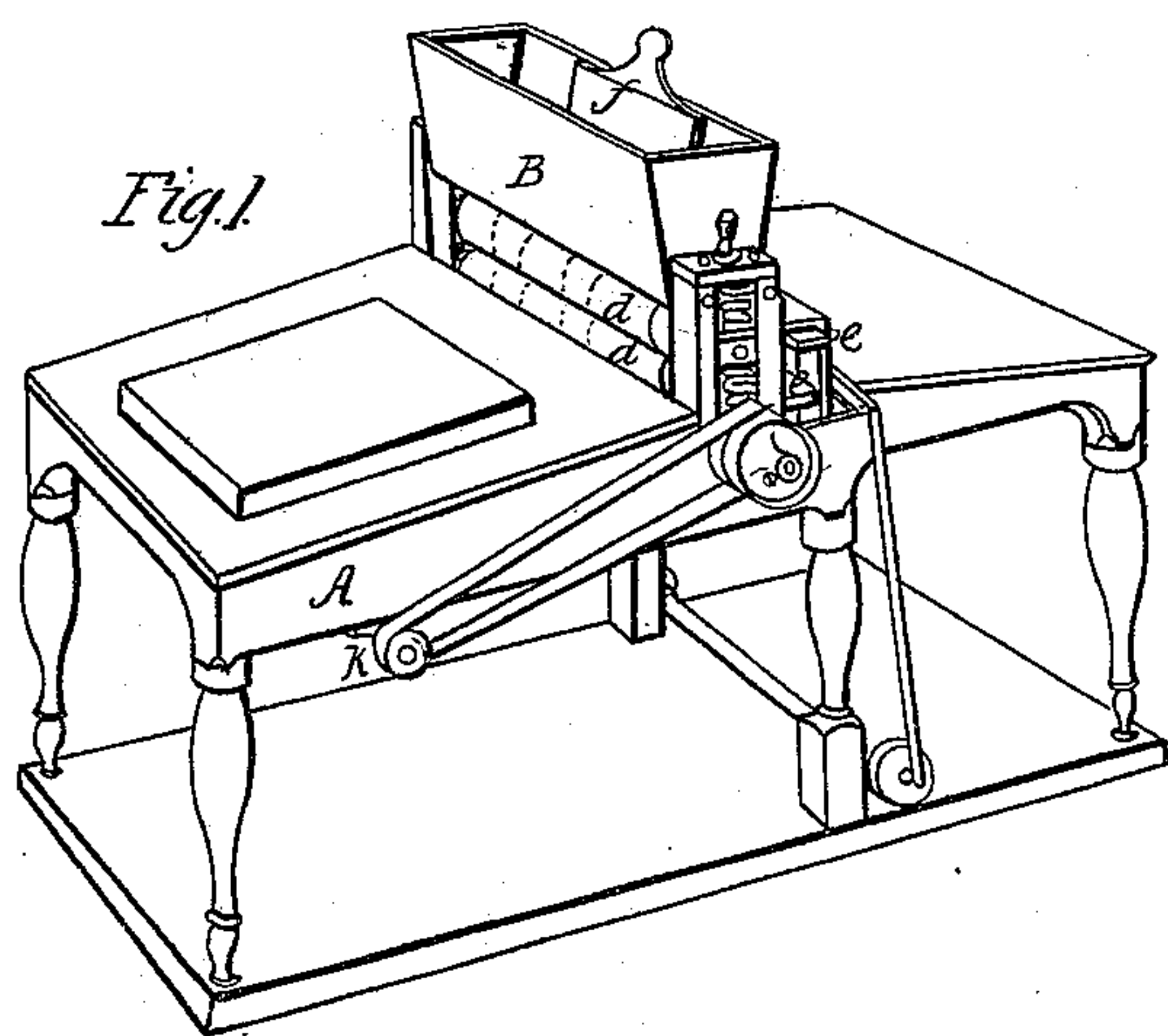


C. K. Brown. Sheet 1. of 5 Sheets.
Coloring Paper.
No. 85,426. Patented Dec. 29, 1868.



C. K. Brown. Sheet 2. 2. Sheets.
Coloring Paper.
N^o 85,426. Patented Dec. 29, 1868.



UNITED STATES PATENT OFFICE.

CHARLES K. BROWN, OF TROY, NEW YORK, ASSIGNOR TO HIMSELF,
CHARLES A. BROWN, AND F. FIELD, OF SAME PLACE.

IMPROVED MACHINE FOR COLORING PAPER.

Specification forming part of Letters Patent No. 85,426, dated December 29, 1868.

To all whom it may concern:

Be it known that I, CHARLES K. BROWN, of the city of Troy, in the county of Rensselaer and State of New York, having invented a new and useful Machine for Coloring Paper; and that the following is a true and full description of my said invention, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, Sheet 1, is a perspective view of my said machine; Fig. 1, Sheet 1, another perspective view, showing the other side thereof; Fig. 1, Sheet 2, is a transverse section of my said machine; Fig. 2, Sheet 2, is a longitudinal section through the rollers. Fig. 3 is a longitudinal section through the brushes. Figs. 4 and 5 show certain modifications of my said invention; and Fig. 6 represents the flat brushes.

Heretofore the coloring-matter has been applied to the paper by hand, or a device has been used for applying it to any side of an endless sheet of paper by means of a roller revolving in a reservoir of coloring-matter, which is taken from the roller and applied to one side of the paper by a circular brush.

The object of my invention is to rapidly apply the coloring-matter to both sides of a sheet of paper, or to one side of each of two sheets placed together for that purpose.

The nature of my said invention consists in the employment of rollers placed under a hopper or reservoir containing the coloring-matter, through which rollers the paper is passed, as hereafter described and set forth.

It also consists in the employment of a reservoir or trough under the said rollers, as hereinafter specified and set forth.

It also consists in the use of a pair of brushes for spreading the said coloring-matter, between which said sheets are passed, as and for the purposes hereinafter specified.

The construction and operation of my said machine are as follows: A represents a table, upon which the sheets of paper are laid before feeding them through the rollers. B is a hopper, with a slide, *f*, to regulate the flow of the coloring-material from the same. *d d* are a pair of rollers, placed beneath the hopper B, so that the coloring-matter from the hopper will fall upon the upper roller. C is a reser-

voir or trough, fixed beneath the lower roller in such a manner that about one-third of the upper portion of said lower roller is above the top of the trough.

Just in front of the said rollers is placed a pair of brushes, *e e*, to which is imparted a to-and-fro motion against each other by means of the device shown in Fig. 6.

The rollers and brushes are put in motion by bands passing over the wheels J and K, which are on opposite ends of the same shaft, which may be turned by steam-power or otherwise.

The mode of operation is as follows: The hopper B is filled with the coloring-matter, and the machine set in motion. The slide *f* is raised, so as to permit a quantity of coloring to fall upon the upper roller. A portion of this is received by the lower as it revolves, and the surplus falls into the trough C, and is again taken up by the lower roller. The sheets of paper are laid upon the table and passed singly through the rollers, from which the sheet receives, upon each side, a coating of coloring-matter, which is evenly spread by the brushes *e e*.

When it is desired to color the sheets only on one side, two of them are put together and passed through the rollers double.

In running very thin paper through the rollers it will sometimes adhere to the rollers, and to obviate that, when such paper is used, I employ the small rollers *g g*.

It is evident that, instead of flat brushes, circular brushes, revolving in front of the rollers, may be employed without altering the principle of my invention; or, where great evenness is required, circular brushes may be used in addition to the flat ones, as shown at *h h*, Figs. 4 and 5.

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

1. The rollers *d d*, in combination with the hopper B and brushes *e e*, substantially as described and specified.

2. The said rollers *d d*, in combination with the trough C and brushes *e e*, substantially as herein specified and set forth.

3. The hopper B, rollers *d d*, trough C, and

brushes *e e*, all arranged and combined substantially in the manner and for the purposes herein described and set forth.

4. Distributing the coloring-matter over the surface of both sides of a sheet of paper at one operation by passing said sheet through a pair of brushes, *e e*, substantially as specified.

In witness whereof I have hereunto set my hand this 10th day of October, 1868.

CHARLES K. BROWN.

Witnesses:

E. COWEN,
FRANCIS A. WOODS.