

**No. 639,382.**

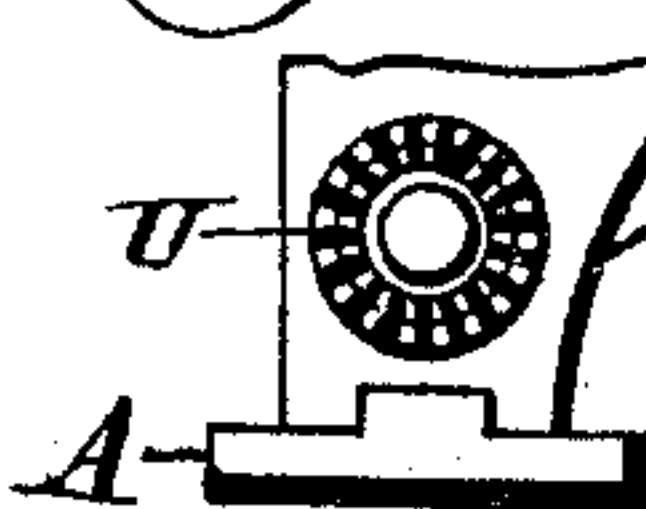
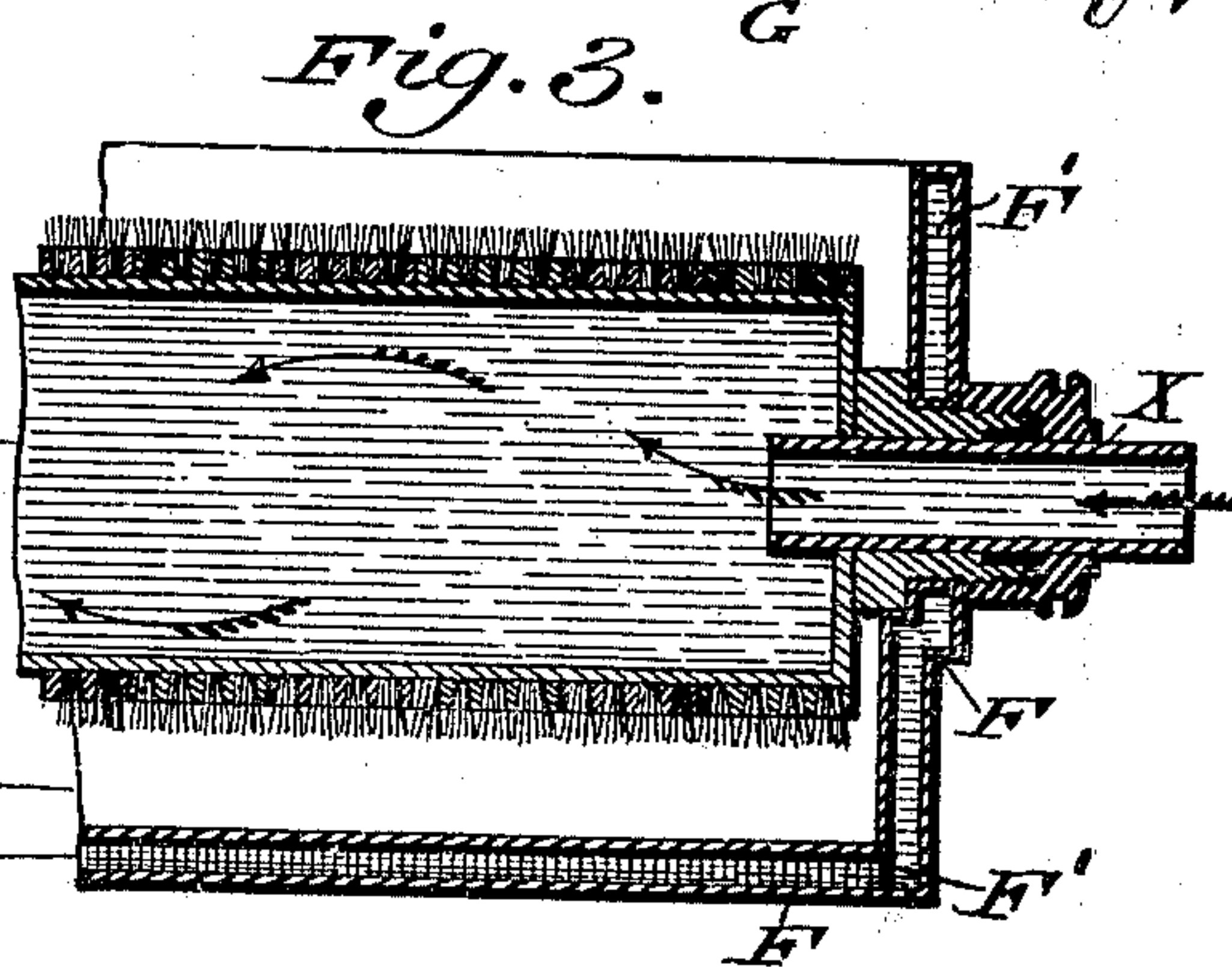
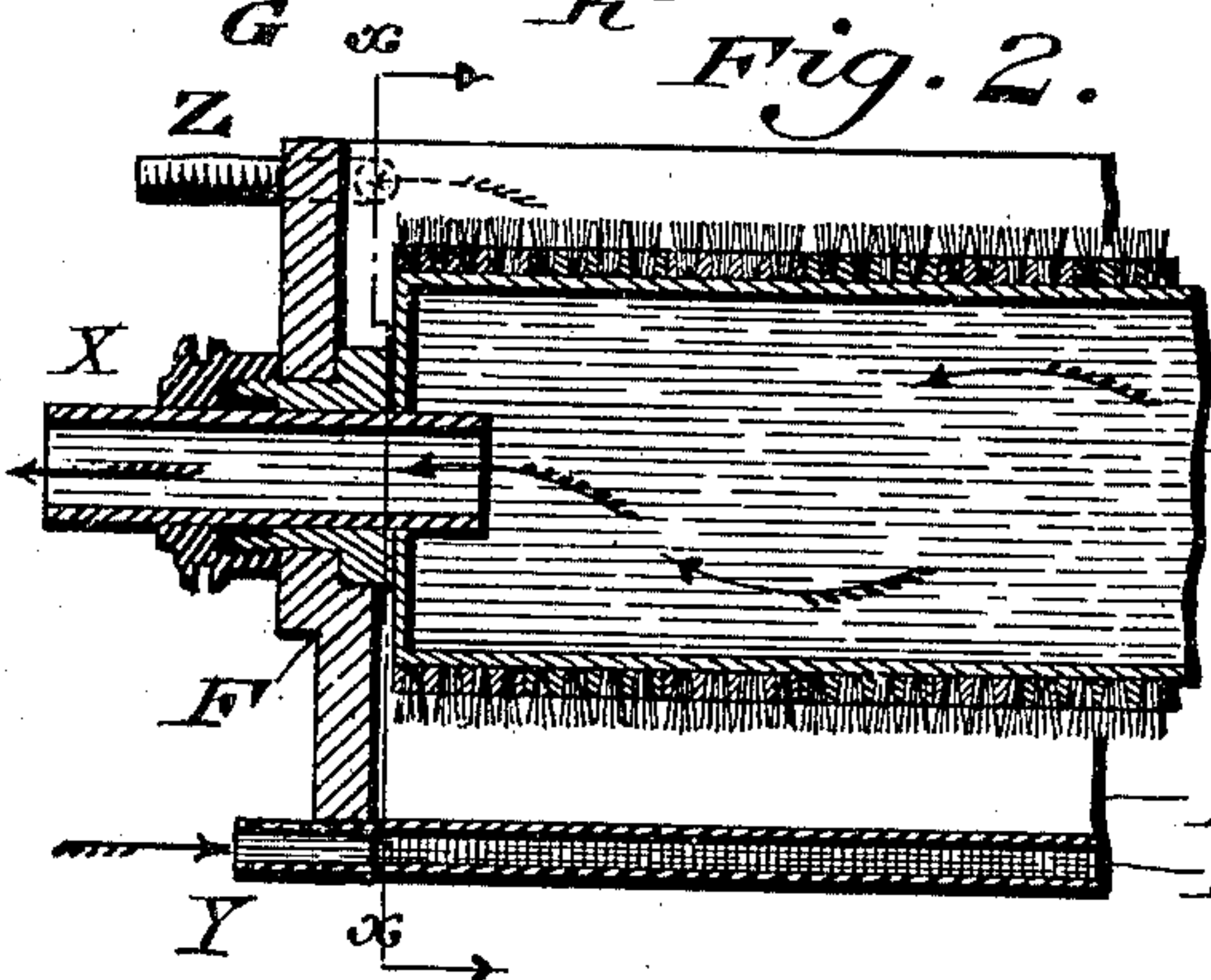
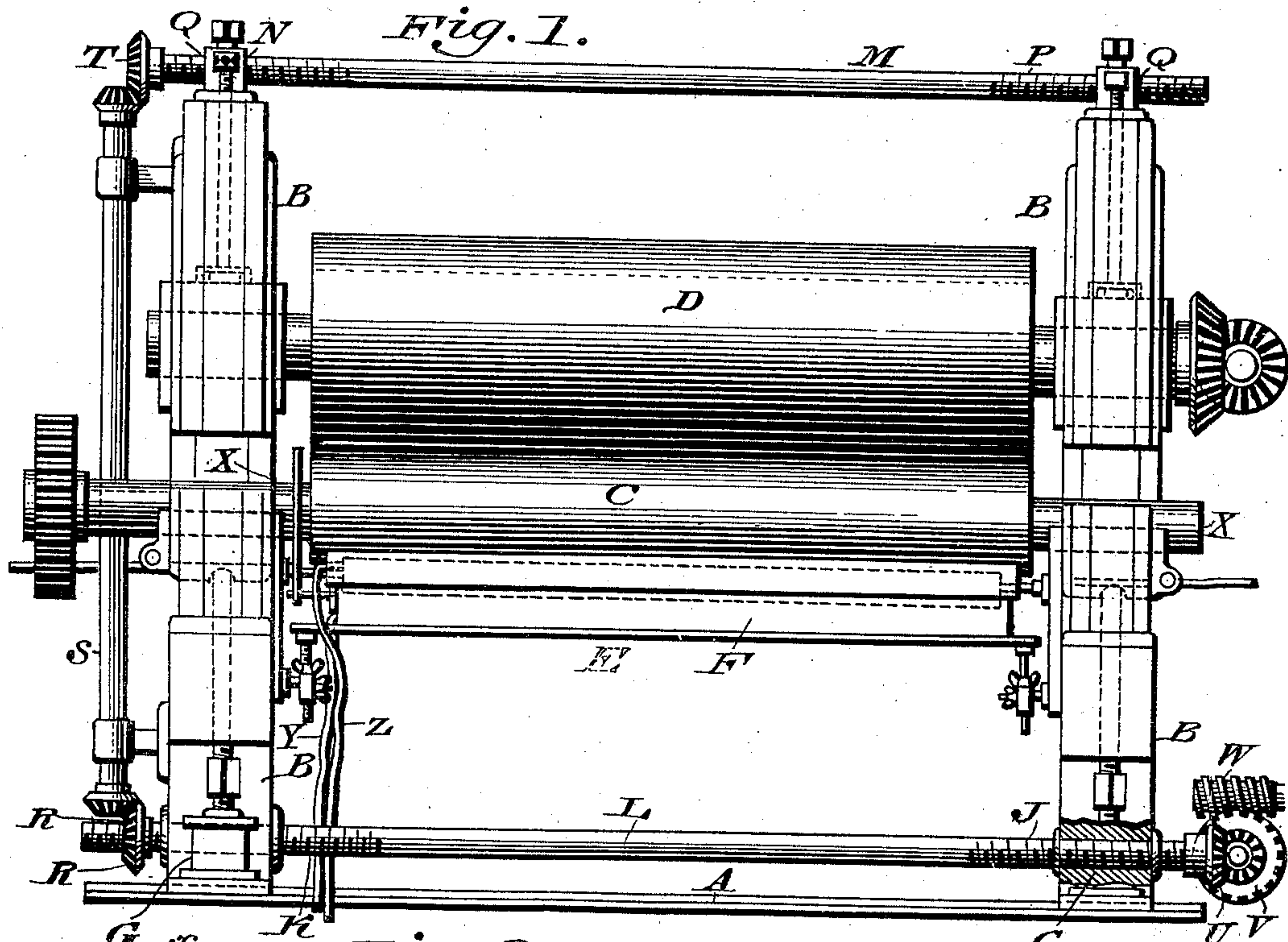
**Patented Dec. 19, 1899.**

**H. M. HARLEY.**

**FABRIC PRINTING MACHINE.**

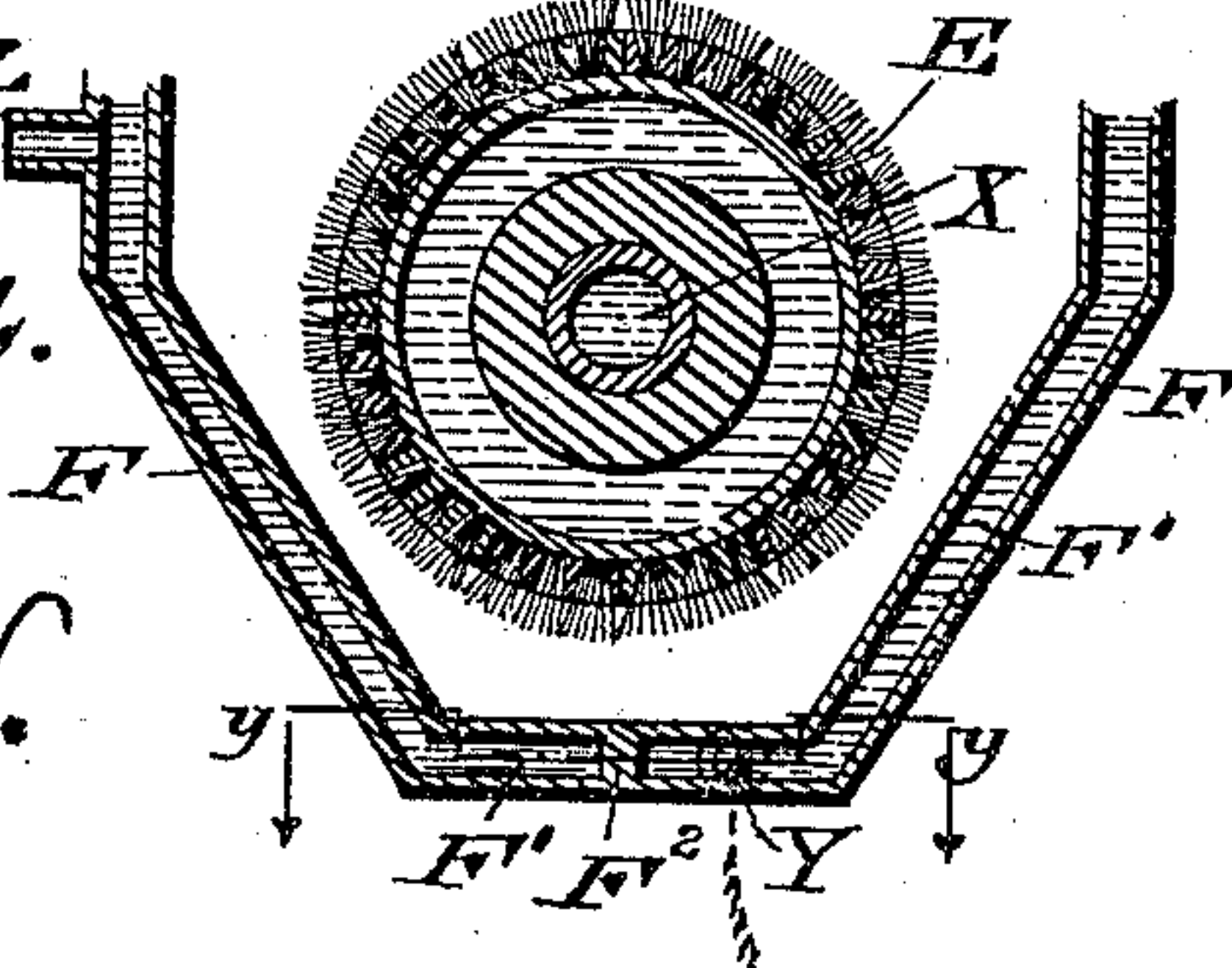
(Application filed June 21, 1898.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY M. HARLEY, OF GLOUCESTER CITY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO GEORGE A. HEYL, OF PHILADELPHIA, PENNSYLVANIA.

## FABRIC-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 639,382, dated December 19, 1899.

Application filed June 21, 1898. Serial No. 684,040. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY M. HARLEY, a citizen of the United States, residing in Gloucester City, in the county of Camden, State of New Jersey, have invented a new and useful Improvement in Calico or Fabric Printing Machines, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in calico or other printing machines; and it consists in providing the furnishing or color-applying roll and the color box or trough therefor with means for keeping the same at a low temperature for purposes where the color requires to be applied in cold condition to the fabric to be printed.

Figure 1 represents a front elevation of a calico-printing machine embodying my invention. Figs. 2 and 3 represent vertical sections of portions of the furnishing or color-applying roll thereof and a color box or trough on an enlarged scale. Fig. 4 represents a vertical section on line *xx*, Fig. 2. Fig. 5 represents a section on line *yy*, Fig. 4, on a reduced scale. Fig. 6 represents a side elevation of a portion of one of the housings of the machine on the track or bed to which the same is movably supported.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates the bed or base of the machine, which is of the form of a track, from which rise the housings B and on which they are laterally movable, said housings forming the bearings for the printing-rolls C, the impression-roll D, and the furnishing or color roll or brush E, said housings also adjustably supporting the color box or trough F, below the roll E, and into which the latter dips. In the lower ends of the housings B are threaded openings G, as nuts, in which are fitted the right and left screw-threaded portions J and K of the horizontally-arranged shaft L.

M designates a horizontally-arranged shaft having right and left screw-threaded portions N and P, which are fitted in the threaded ears or nuts Q on the upper ends of the housings B.

The shafts L and M are geared together by means of the beveled pinions R, the vertical

shaft S, and the bevel-pinions T, whose shaft L has connected with it the beveled pinion U, which meshes with a pinion on the shaft of the worm-wheel V, which is engaged by the worm W, it being evident that by operating said worm motion is imparted to the shafts L and M, whereby the housings may be separated or brought closer together, by which provision the rolls C and D may be removed and substituted by others of different lengths, according to requirements, it being also evident that color boxes or troughs of different widths may also be applied to the housings and the latter readily adjusted relatively to the supports of said boxes or troughs. The shafts M and L also serve to steady the upper and lower ends of the housings in the motions and brace the same in their adjustment.

The furnishing roller or brush E is hollow, as are also its shafts X, which latter are mounted on the walls of the color box or trough F, which walls are also hollow or jacketed, as at F'. A suitable cooling fluid is passed through the jacketed trough, entering through a pipe Y near the bottom and at one side and leaving by a pipe Z near the top and at the other side thereof, both of said pipes being situated at one end of the trough.

The bottom of the jacket F<sup>2</sup> is provided with a longitudinal partition F<sup>2</sup>, extending between its ends and dividing the jacket into two chambers. With an end of each the pipes Y and Z, respectively, communicate, while these chambers communicate only at the opposite ends. This causes the cooling medium entering through pipe Y to pass to the opposite end of one chamber and then back through the other chamber and out through the pipe Z, whereby the trough is subjected throughout to an even and equable cooling influence.

It will be seen that water or other fluid at a sufficiently low temperature will be directed into the roller E through either of its hollow journals X and discharge through the opposite journal, by which provision the roll or brush E will be kept in cool condition. Similar fluid may be admitted into the jacket F' of the trough F, and thus keep the color in said trough in cool condition or at the low temperature desired.

In the bottom of the jacket F' is the parti-



tion F<sup>2</sup>, which prevents the direct escape of the cooling fluid from the inlet Y to the exit Z and causes the fluid to fill said jacket before reaching said exit.

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

1. In a calico or fabric printing machine, a furnishing roll or brush, a color-trough there-  
10 for, the same consisting of a longitudinally-divided jacketed trough, the divisions of said trough communicating at one end thereof, and inlet and outlet pipes communicating with the divisions of said trough at the other  
15 end thereof.

2. In a calico or fabric printing machine, a hollow furnishing-roll provided with hollow journals forming ports, whereby a cooling me-

dium can be passed through said roll from end to end, a color-trough therefor, the same  
20 consisting of a longitudinally-divided jacketed trough, the divisions of said trough communicating at one end thereof, and inlet and outlet pipes communicating with the divisions of said trough at the other end thereof. 25

3. In a calico or fabric printing machine, a furnishing roll or brush, a color-trough there-  
for, the same consisting of a jacketed trough having a longitudinal partition at its bottom, and inlet and outlet pipes communicating  
30 with the jacket at one end of said trough and on opposite sides of said partition.

HENRY M. HARLEY.

Witnesses:

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