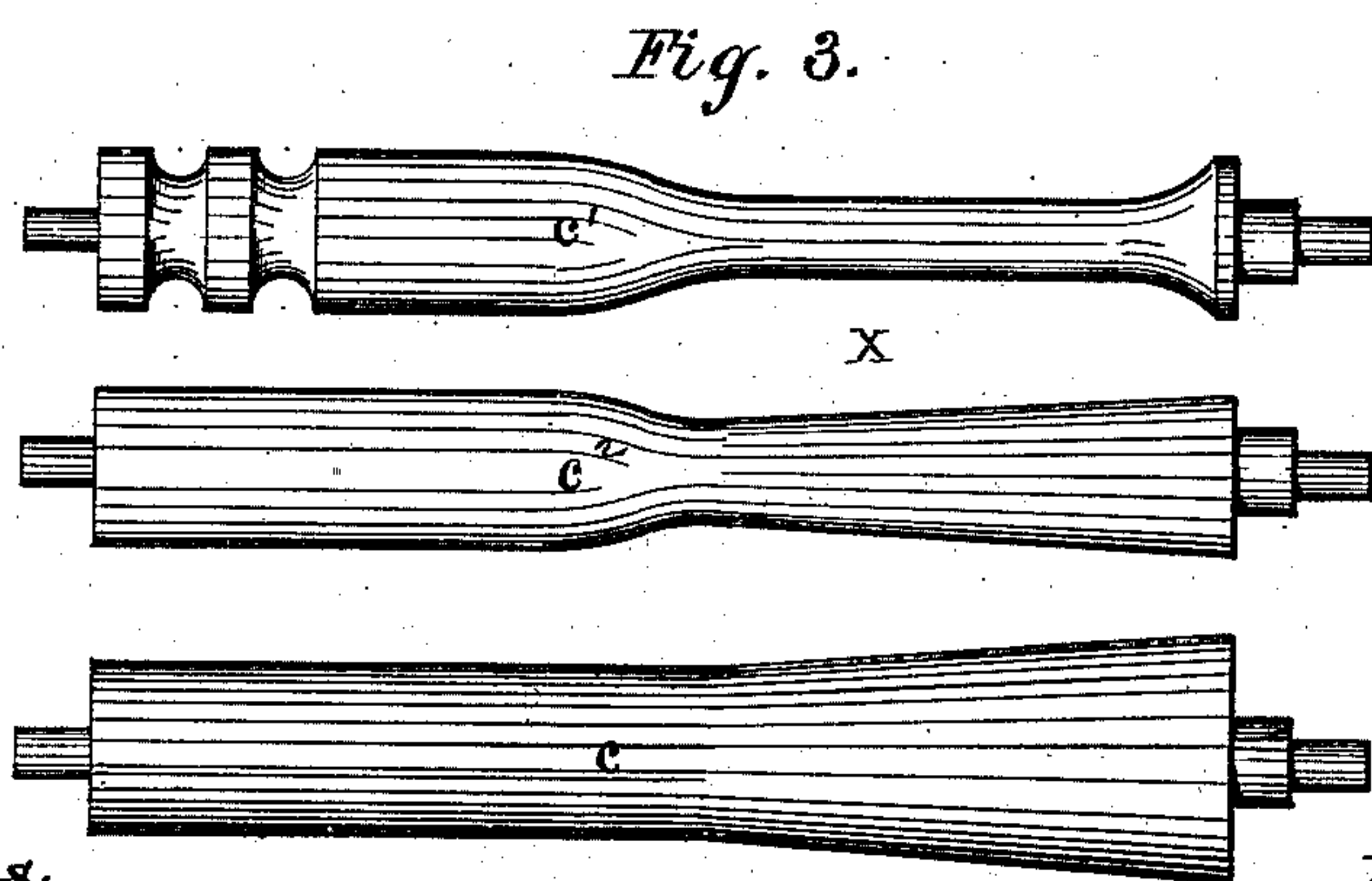
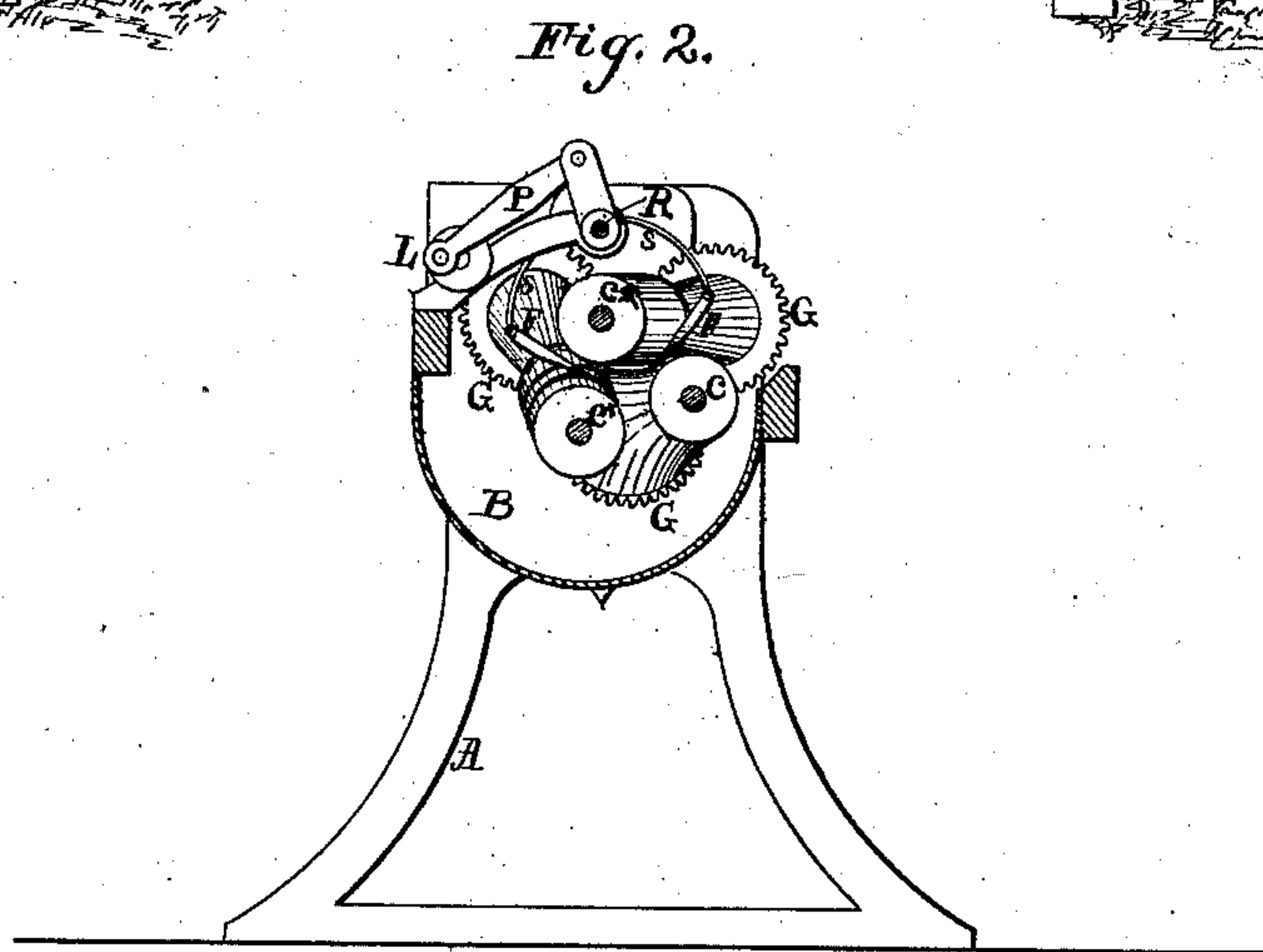
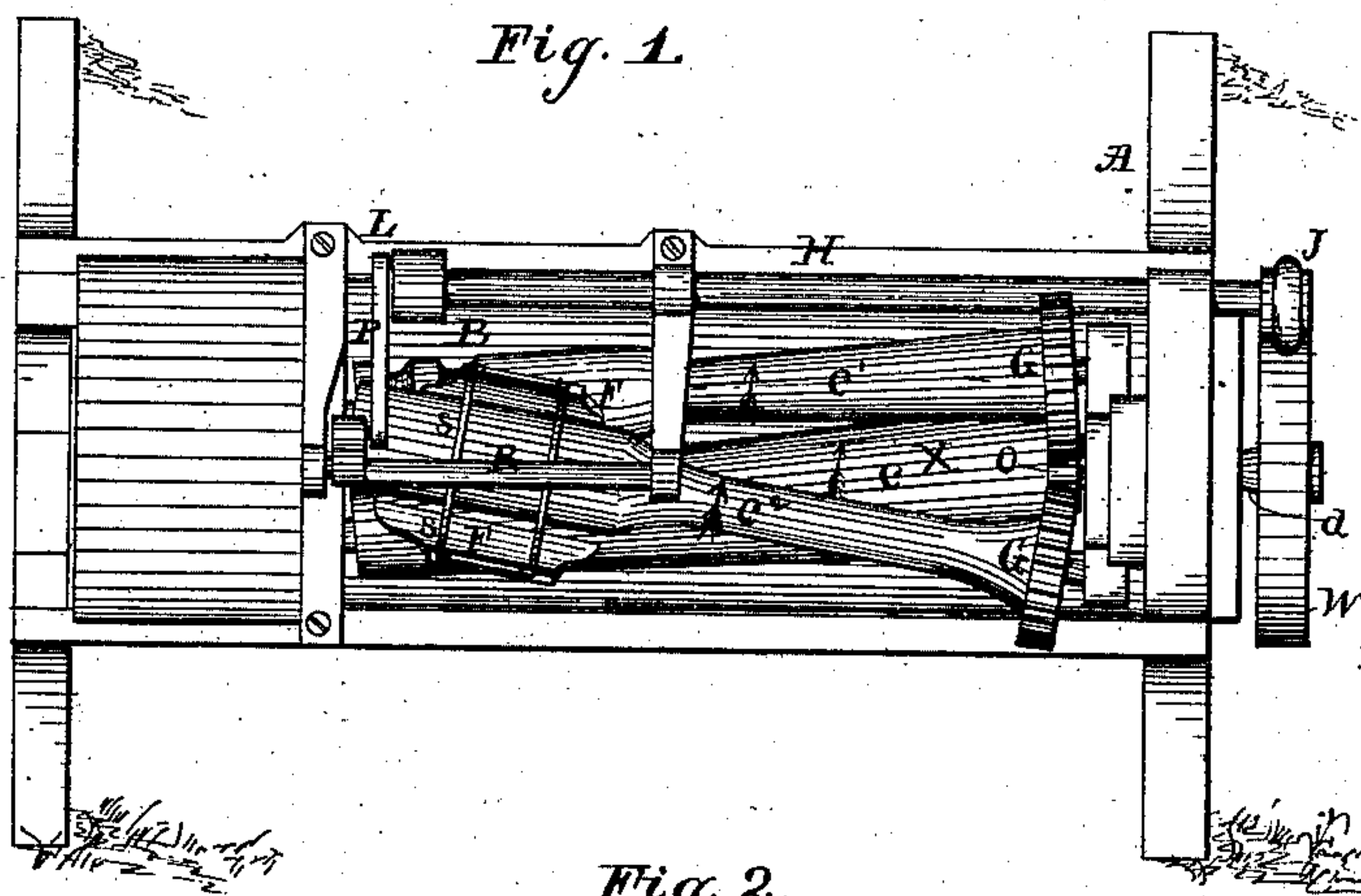


J. S. TAYLOR.
MACHINES FOR FELTING HAT-BODIES.

No. 194,566.

Patented Aug. 28, 1877.



Witnesses:

Howard B. Scott
Lyman Q. Brewster

Inventor:

James S. Taylor.

UNITED STATES PATENT OFFICE.

JAMES S. TAYLOR, OF DANBURY, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR FELTING HAT-BODIES.

Specification forming part of Letters Patent No. **194,566**, dated August 28, 1877; application filed February 17, 1877.

To all whom it may concern :

Be it known that I, JAMES S. TAYLOR, of Danbury, county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Machinery for Felting Hats, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a plan view of my machine. Fig. 2 is a cross-section of the same, and Fig. 3 is a view of the feed-rolls.

The object of my invention is to facilitate the process of felting hats and other fabrics.

In the drawings, A represents the frame of the machine; B, a vat or kettle for containing hot water. $c\ c^1\ c^2$ are three rollers with suitable bearings, and provided each with cog-wheels G G G, which are driven by a small cog-wheel, O, fastened to the shaft d , so connected as to revolve the rollers in the same direction, and driven by the wheel W. The rollers $c\ c^1\ c^2$ are so arranged with respect to each other that, viewed in either direction, their axes are diagonally crossing each other near the center. F F are two felters or workers passing between the rollers, and connected with the rocker-shaft R by means of the spring-arms s s.

Motion is communicated to the workers through the rocker-shaft by means of the pitman P, which connects the rocker-shaft to the crank L, attached to the rotating shaft H, which shaft is rotated by means of the friction-pulley J, as it is pressed against the face of the wheel or pulley W.

The rollers $c\ c^1\ c^2$ are suspended by means of their support partially below the upper surface of the vat B, so as to cause the material to be felted to be saturated or immersed in the liquid, which is necessary while undergoing the process of felting.

A chamber or receptacle, marked X, is formed for inserting the hats by causing the rollers $c^1\ c^2$ to be made smaller at the end next to the gears, and so arranged as to form a receptacle by the position of the rollers.

The vat is filled with water, which is raised to nearly or quite to a boiling-heat by means of steam, or other process for heating.

The operation of my invention is as follows: The hat-bodies or other fabrics are, in the first place, formed in the usual manner. A work-

man then rolls up one or more hat-bodies in a cloth about eighteen inches square, and places the roll into the machine at the chamber or receptacle X, formed by the peculiar construction and arrangement of the rolls at the right-hand end or gear end of the machine. The revolving motion of the rollers, being in the direction marked by the arrows, imparts to the roll of hats a revolving or rotary motion, and the diagonal position of the rollers gives the hats a longitudinal motion in the direction of the axes of the rollers. By this means the hats are carried through between the rollers under the felters or workers, and discharged on the receiver placed at the discharge end of the rollers. The action of the felters or workers imparted by their rapid positive motion against the material to be felted in connection with the hot water applied to the hats, causes the material to be firmly and rapidly felted together. The process is completed by passing the goods to be felted frequently through the machine.

By this improvement I am enabled to save a large amount of labor, and to produce a better and more uniform quality of goods.

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

1. The rocking felter or felters F, in combination with the rollers $c\ c^1\ c^2$ for the purpose of imparting to the material to be felted, a positive, rotatory, and felting motion in the process of felting, substantially as shown and described.

2. The combination of the felters F F, with the rollers $c\ c^1\ c^2$, arranged with their axes diagonally crossing each other, in the manner and for the purpose, as described.

3. The combination of the springs s s, felters F F, rollers $c\ c^1\ c^2$, in the manner and for the purpose as described.

4. The combination of the rollers $c\ c^1\ c^2$, constructed substantially as shown and described, and arranged with their axes diagonally crossing each other, forming the receiving-chamber X, for the purpose specified.

JAMES S. TAYLOR.

Witnesses:

HOWARD B. SCOTT,
LYMAN D. BREWSTER.