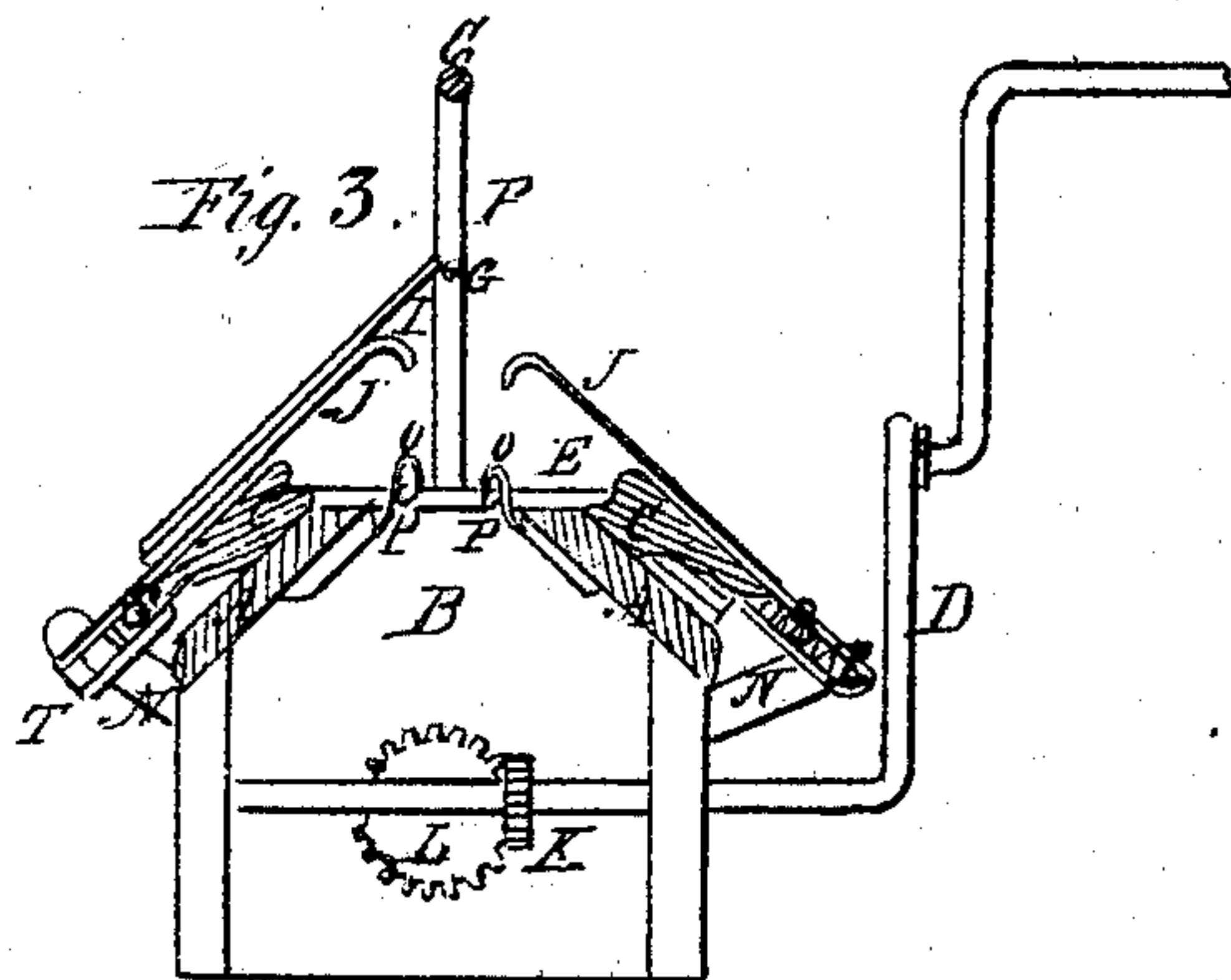
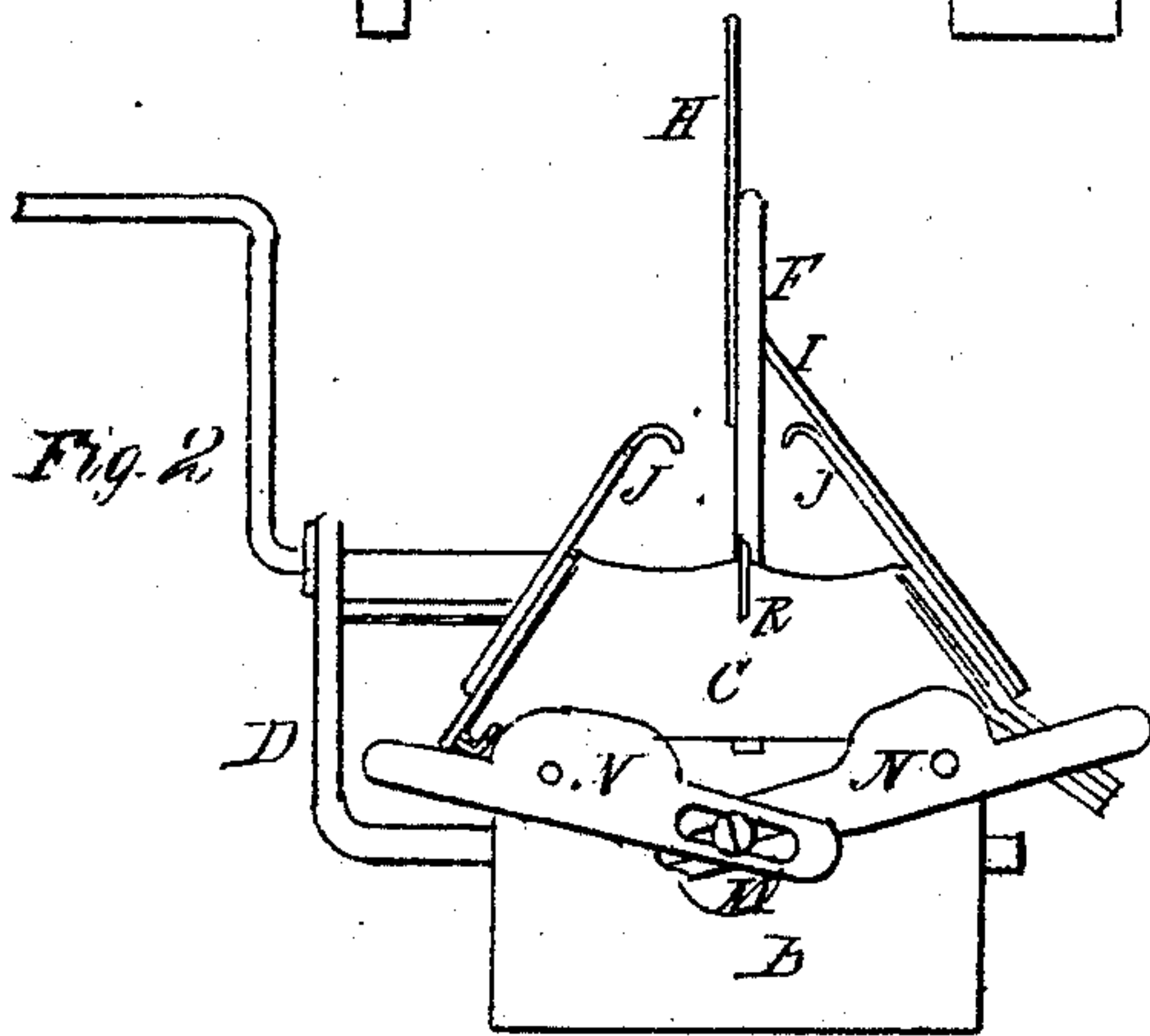
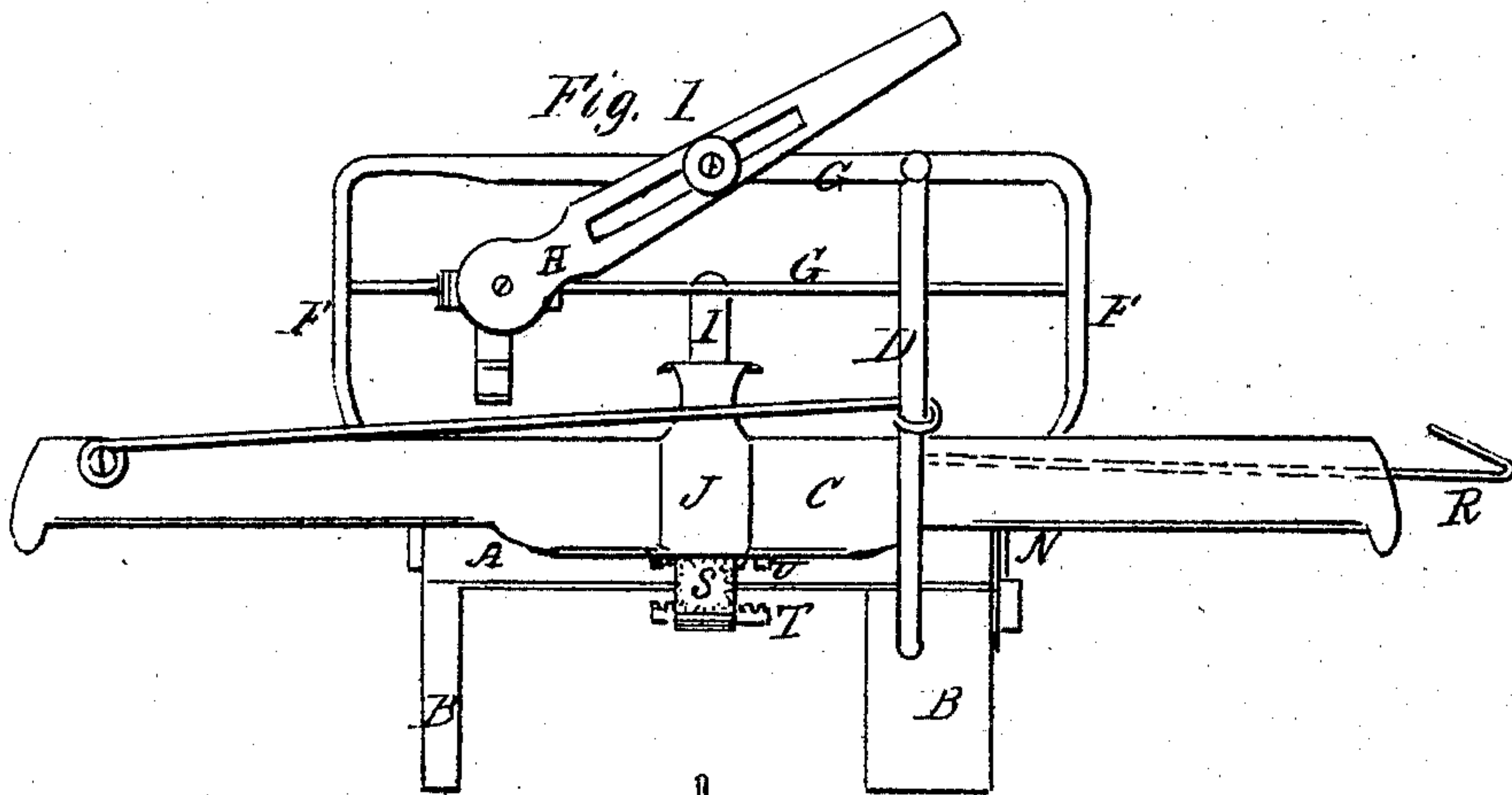


J. C. Welsch.

Knitting-Machine.

Nº 74460

Patented Feb. 11, 1868



Witnesses.

*Wm. Mason
& Son*

Inventor.

J. C. Welsch
per
Wm. Mason
att'y

UNITED STATES PATENT OFFICE.

JONATHAN C. WELSCH, OF EDGERTON, OHIO.

IMPROVEMENT IN KNITTING-MACHINES.

Specification forming part of Letters Patent No. 74,460, dated February 11, 1868.

To all whom it may concern:

Be it known that I, JONATHAN C. WELSCH, of Edgerton, in the county of Williams, and in the State of Ohio, have invented certain new and useful Improvements in Knitting-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents a side elevation of my machine. Fig. 2 is an end view of the same. Fig. 3 is a section view, showing the manner in which the stops are operated.

Letter A represents two inclined needle-plates, which extend far enough toward each other to allow the knitting process to be carried freely on and the fabric to hang down between them without interference from the plates. These plates are attached to a suitable bed, B, or they may be cast with the bed, so as to form one piece. Upon the top of the plates A is placed the sliding frame C, which is made to move backward and forward by means of the crank D. This frame is secured to the bed B by means of the gibs E in such a manner as to allow the frame a free lateral motion. Rising from each end of the bed B are the uprights F, which sustain the two supporting-rods G.

Letter H represents a yarn-supporter, which rests upon the two rods G, and which has an elongated slot running down its side, so as to allow the lower end to be moved backward and forward, for the purpose of feeding the yarn to the needles. To the side of the sliding frame C is attached the spring-dog I, which is made to catch in the lower end of the yarn-supporter, and as the sliding frame is moved backward and forward it carries the supporter with it.

Letter J represents ordinary latch-openers. Attached to the shaft of the crank D is a small cog-wheel, K, as seen in Fig. 3, which, in revolving, communicates motion to the second wheel, L. As the wheel L revolves once while the wheel K revolves twice, being twice as large, it in turn communicates motion to the third wheel, M, which operates the two stops N.

Letter N represents two eccentric stops, which are connected to the wheel M, as seen

in Fig. 2, in such a manner that when the wheel revolves the upper ends of the stops are alternately raised and lowered, the object of which will be hereinafter shown.

Attached to the lower sides of the needle-plates A are the two rows of bent wires O, which serve as jacks for the needles, and each wire is placed between the grooves in the needle-plate A. Running through the curved or bent ends of the wires are placed the rods P, which serve to support them. These wires should clasp the rods sufficiently only to retain them in their places, so that, should there be a knot in the yarn, or a strain come upon them from any other cause, they may have a free lateral play.

Letter R represents a rod, which is attached to one end of the sliding frame for the purpose of preventing the fabric from being raised with the needles. This rod should be long enough to extend the whole distance between the needle-plates when the frame is thrown forward, and when drawn back should be entirely free from the needles. The present method of attaching a weight to the work, varying from two to six pounds, is not only very inconvenient, but, as it tends to greatly increase the friction, makes the frame more difficult to be moved backward and forward, and thus causes unnecessary exertion.

Between the sliding frame C and needle-plate A is placed the ratchet-wheel S, as shown in Fig. 1, which plays between the two racks T and U. As the sliding frame C is thrown forward the lower rack T strikes against the eccentric stop N, and in moving moves the upper rack U, so that it will engage with the cam which moves the needles into their places. As the needles on each side work alternately, it is necessary that only one of these racks should strike against the stops N, and that on alternate sides, and for this purpose the ends of the stops have been made to move by the turning of the wheel M, so that while one end is raised, and does not interfere with the rack T on the same side, the other is just in the position to engage the rack on the opposite side.

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

1. The ratchet-wheel S, the racks T and U, arranged on the sliding frame C, in combination with the eccentric-stops for changing the needle-operating cams, as set forth.

2. The arrangement of the crank D, with its shaft-wheels K, L, and M and eccentric-stops N N, all constructed and operating in the manner and for the purpose set forth.

3. The combination and arrangement of the bed B, frame C, crank D, with its shaft, wheels, and cams N N, ratchet S, racks T and

U, latch-openers J J, dog I, and yarn-supporter H, all constructed and operating as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of May, 1867.

JONATH. C. WELSCH.

Witnesses:

LOUIS GEISSMANN,
ARTEM TOMMAS.