

J. PEPPER.

CIRCULAR KNITTING MACHINE.

No. 175,840.

Patented April 11, 1876.

Fig. 1.

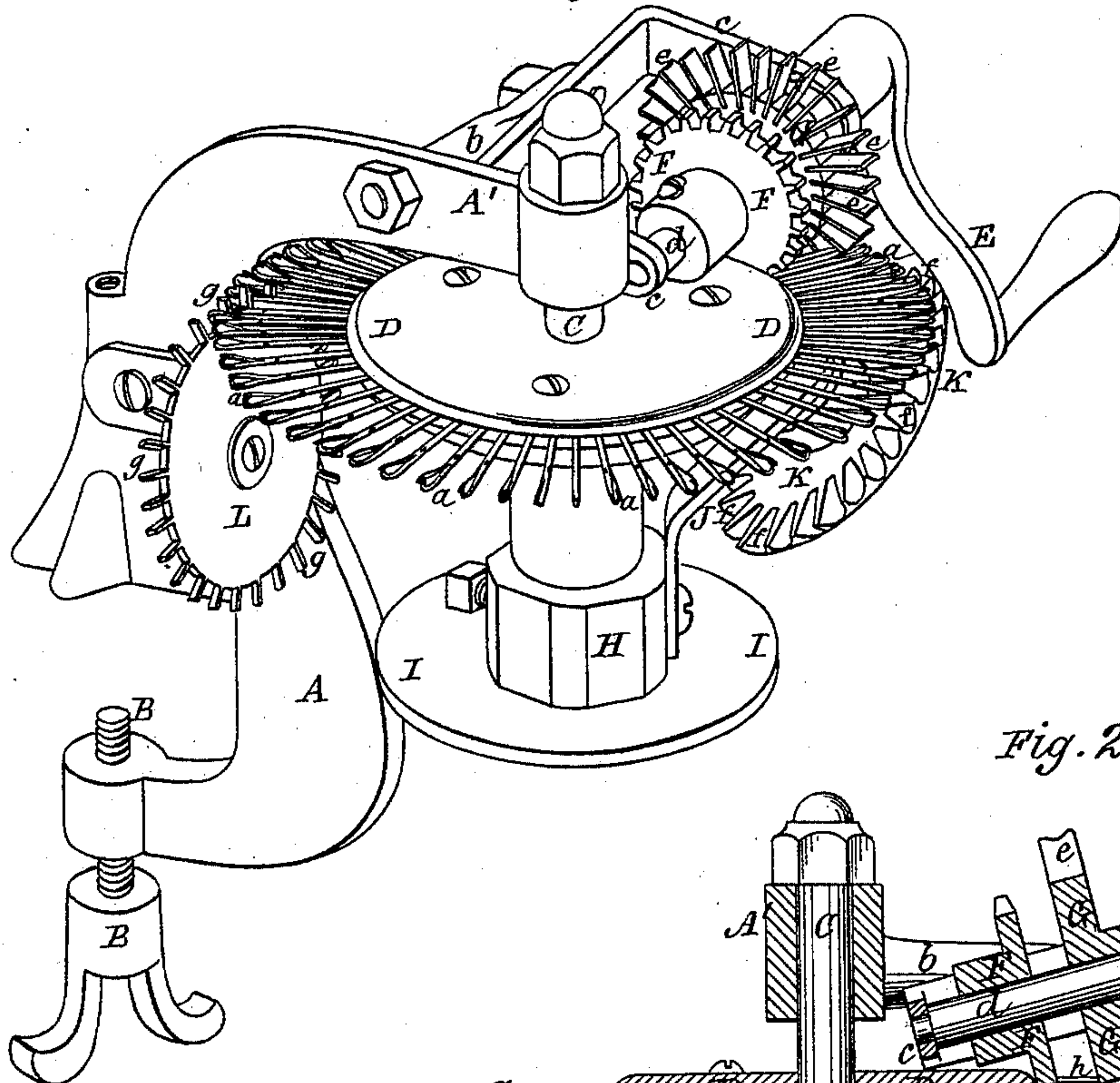


Fig. 2.

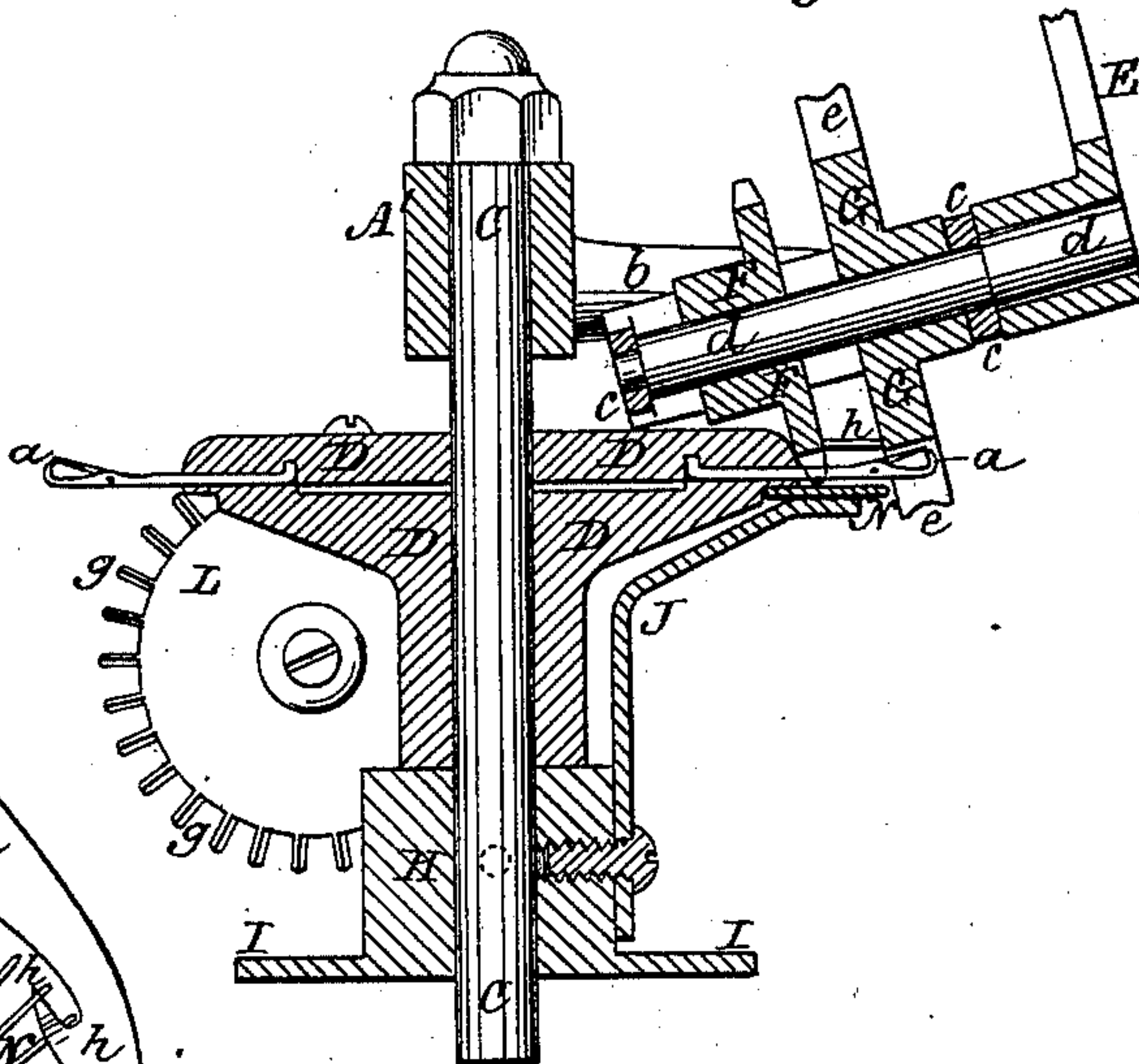
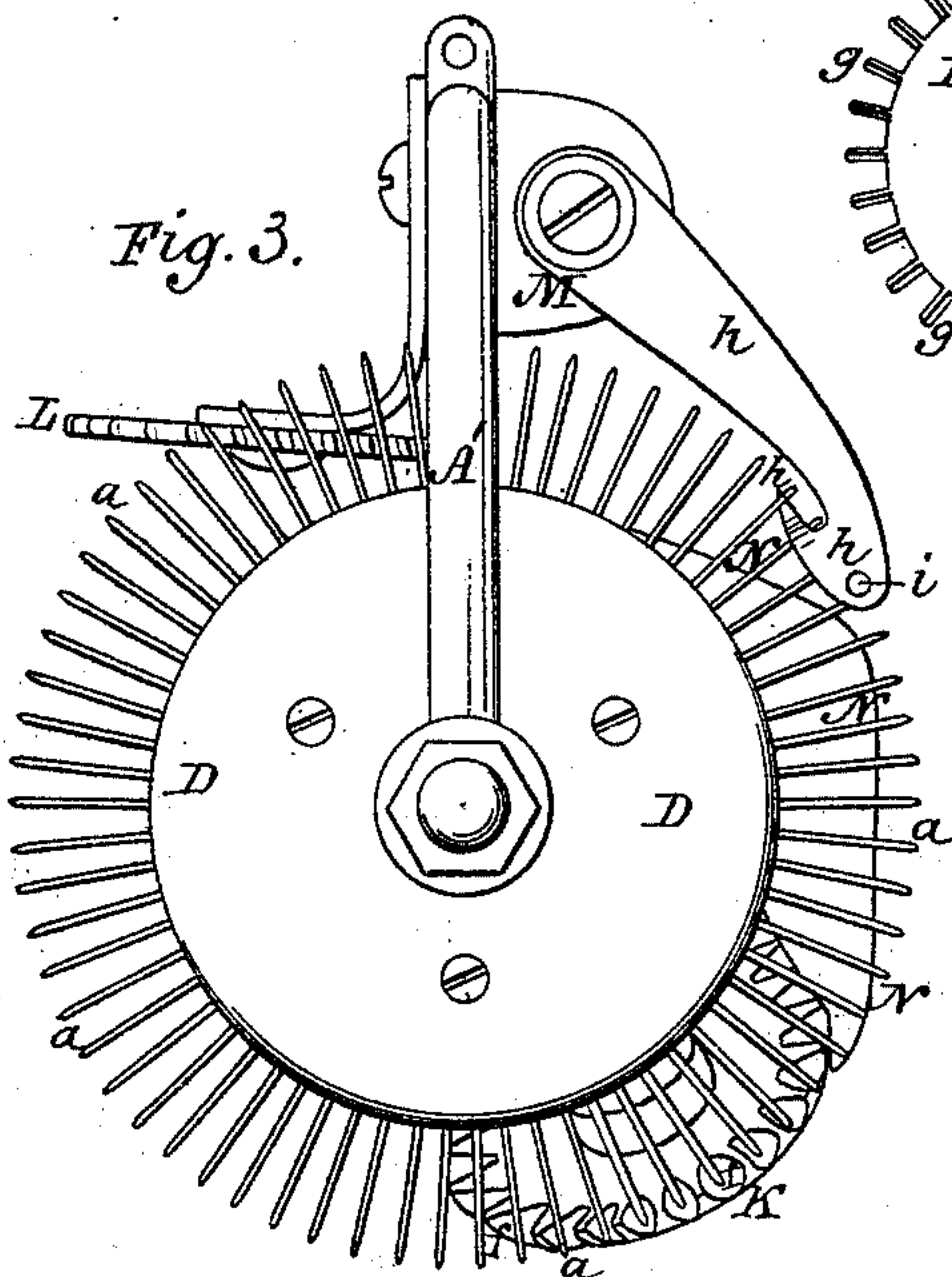


Fig. 3.



Witnesses.

D. R. Cowe
Edmund Masson.

Inventor.

John Pepper.
By atty A. B. Stoughton.

UNITED STATES PATENT OFFICE.

JOHN PEPPER, OF LAKE VILLAGE, NEW HAMPSHIRE.

IMPROVEMENT IN CIRCULAR-KNITTING MACHINES.

Specification forming part of Letters Patent No. 175,840, dated April 11, 1876; application filed May 12, 1875.

To all whom it may concern:

Be it known that I, JOHN PEPPER, of Lake Village, in the county of Belknap and State of New Hampshire, have invented certain new and useful Improvements in Knitting-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents, in perspective, the knitting-machine. Fig. 2 represents a vertical section through the same. Fig. 3 represents a plan of the dial or needle-plate, showing some of the parts coacting with the needles.

My invention relates to a circular-knitting machine in which non-sliding latch-needles are used; and it consists in the combination of certain mechanisms with such non-sliding latch-needles, as will be hereinafter more specifically stated, for looping and feeding the yarn for finishing the work; for pushing back the stitches or loops upon the needles; for pressing the loops forward upon the needles, and for opening and closing the latches of the needles at regulated periods.

To enable those skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The bracket, stand, or frame A may be clamped to a table by the clamping-screw B, to hold it while being operated. To a bent arm, A', which is a part of the frame, there is suspended a shaft, C, which sustains the dial or needle-holder D, and around which shaft said dial can freely turn. The needles *a a a*, &c., which are latch-needles, are held in the dial D, and can be removed and replaced when necessary. To the arm A' is secured an arm *b* and yoke *c*, for forming a support for the shaft *d*, upon the outer end of which is placed the crank E, by which the machine is driven. Upon the crank-shaft *d* there is a gear-wheel, F, the teeth or cogs of which take between the needles in the dial, and so turn said dial and needles. There is also upon the crank-shaft *d* a looper-wheel, G, the arms *e* of which press down the yarn between the needles, forming loops, which are afterward taken up by the needles, and interlocked or knit into the pre-

vious loops upon said needles. To the lower end of the shaft C there is attached a hub, H, having a flange, I, around it. To this hub H is fastened an arm, J, which has a journal or bearing in its upper end, upon which the finishing-wheel K revolves, said finishing-wheel being turned by the needles taking in between the teeth *f* of said wheel, and so rotating it. Underneath the needles, and below the looper-wheel G, there is a stationary ledge or cam, N, which, as the loops upon the needles come in contact with it, slides said loops outward upon the needles, so that they may be cast off or finished by the finishing-wheel K. The pusher-wheel L, which is also turned by the needles coming against its teeth *g*, stands in such relation of obliquity to the needles as to cause its projecting teeth to push back the loops upon the needles, and in so doing to throw back or open the latches, so that a new series of loops may be taken on the needles; and if from any cause any of the latches should not happen to remain open, a latch-opener, *h*, which takes in between the latch and the needle, throws it open. The latch-opener *h* is stationary, and fastened to the frame at M.

The operation is exceedingly simple, as it must be in a machine with so few parts or devices as that herein described. The loops being pushed back upon the needles, and the latches thereby thrown open by the wheel L, new loops are formed by the teeth of the wheel G, which are taken up by the hooks of the needles. The ledge N then slides the loops forward from the rear of the needles, which close the latches over the newly-taken-up loops, and the previous loops or stitches pass over the latches, and are taken off or finished by the wheel K. The latches are closed after the yarn is fed into the hooks of the needles by the sliding out of the needle-loop by the ledge, and before the needles pass into the loop-wheel G. The yarn-guide *i* is made in the end of the latch-regulator *h*.

I am aware that latch-needles arranged radially inward of a knitting-machine have been used in combination with a latch-regulator, and I do not claim this arrangement; but

What I claim is—

1. The combination of the latch-regulator *h* with the circular series of non-sliding latch-

needles, arranged radially outward from the dial or needle-holder D, as and for the purpose described and represented.

2. The combination, with a circular series of non-sliding latch-needles, projecting radially from the outside of the dial-plate or needle-holder D, of the finishing-wheel K, arranged beneath the needles, as and for the purpose set forth.

3. The combination, with the circular series of non-sliding latch-needles *a*, projecting radially from the outside of the dial-plate or needle-holder D, of the caster-back wheel L, arranged upon a horizontal stud, as described,

whereby the stitches or loops are carried back from the hooks of the needles and over their latches, as set forth.

4. The combination of the yarn-guide *i*, the ledge N, the circular series of non-sliding latch-needles *a*, and the loop-wheel G, as described, whereby the yarn shall be fed into the hooks of the needles, and the latches closed before the needles pass into or between the teeth of the looper-wheel, as described.

JOHN PEPPER.

Witnesses:

E. H. BLAISDELL,
A. D. PLUMMER.