

W. JOINT & E. NICHOLSON.
Means for Heating Wax on the Thread in Sewing
Machines.

No. 232,827.

Patented Oct. 5, 1880.

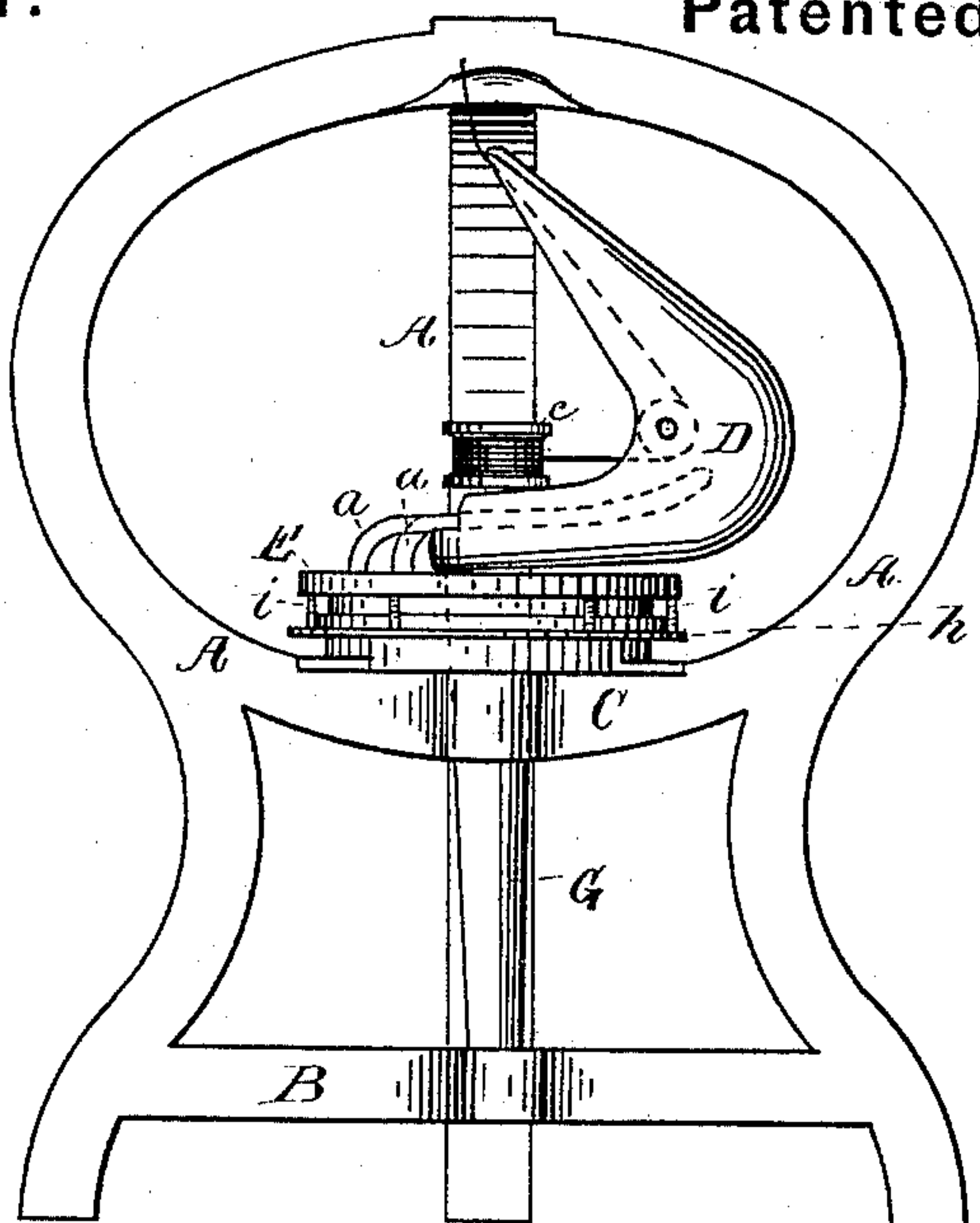


Fig. 1.

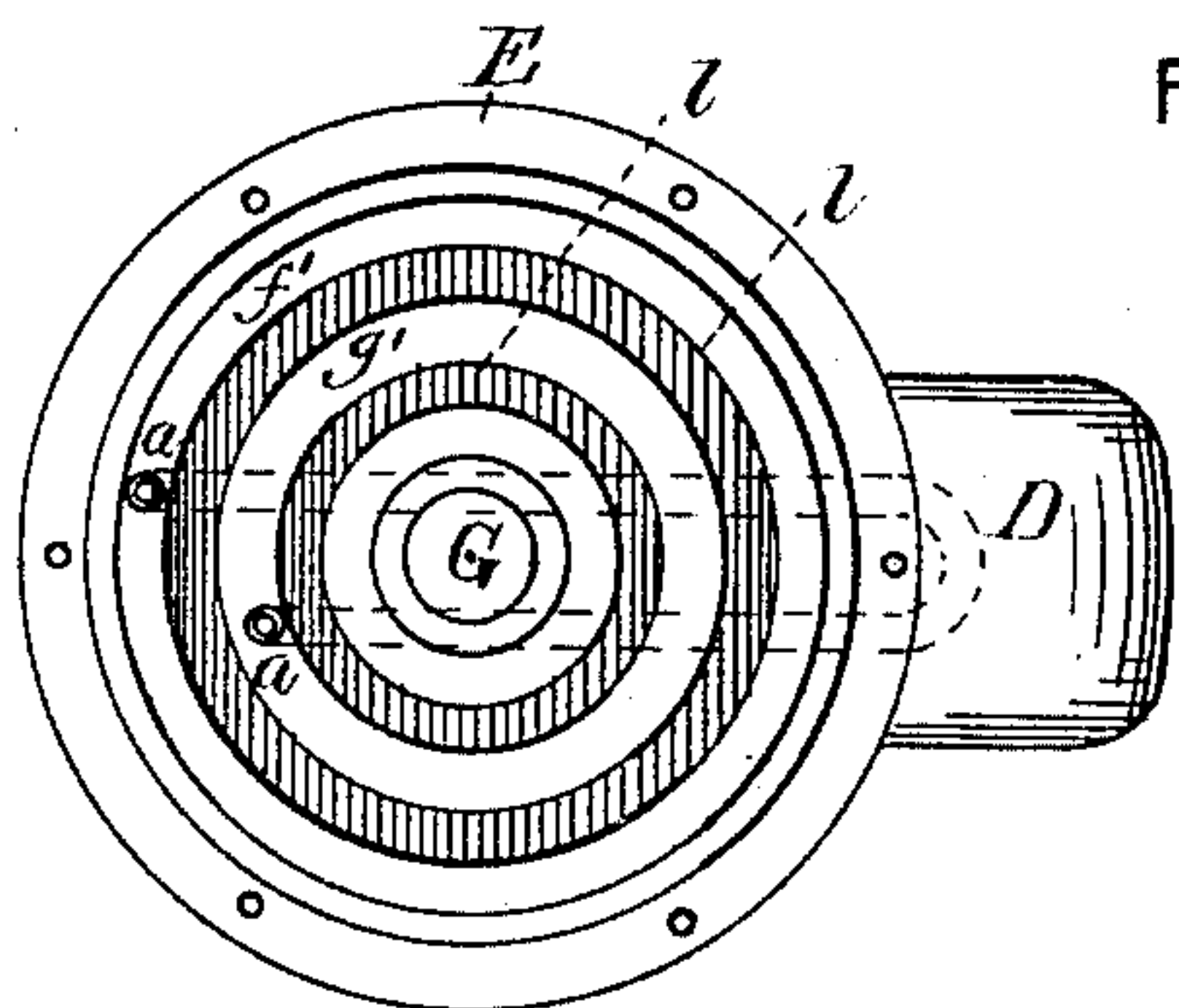


Fig. 3.

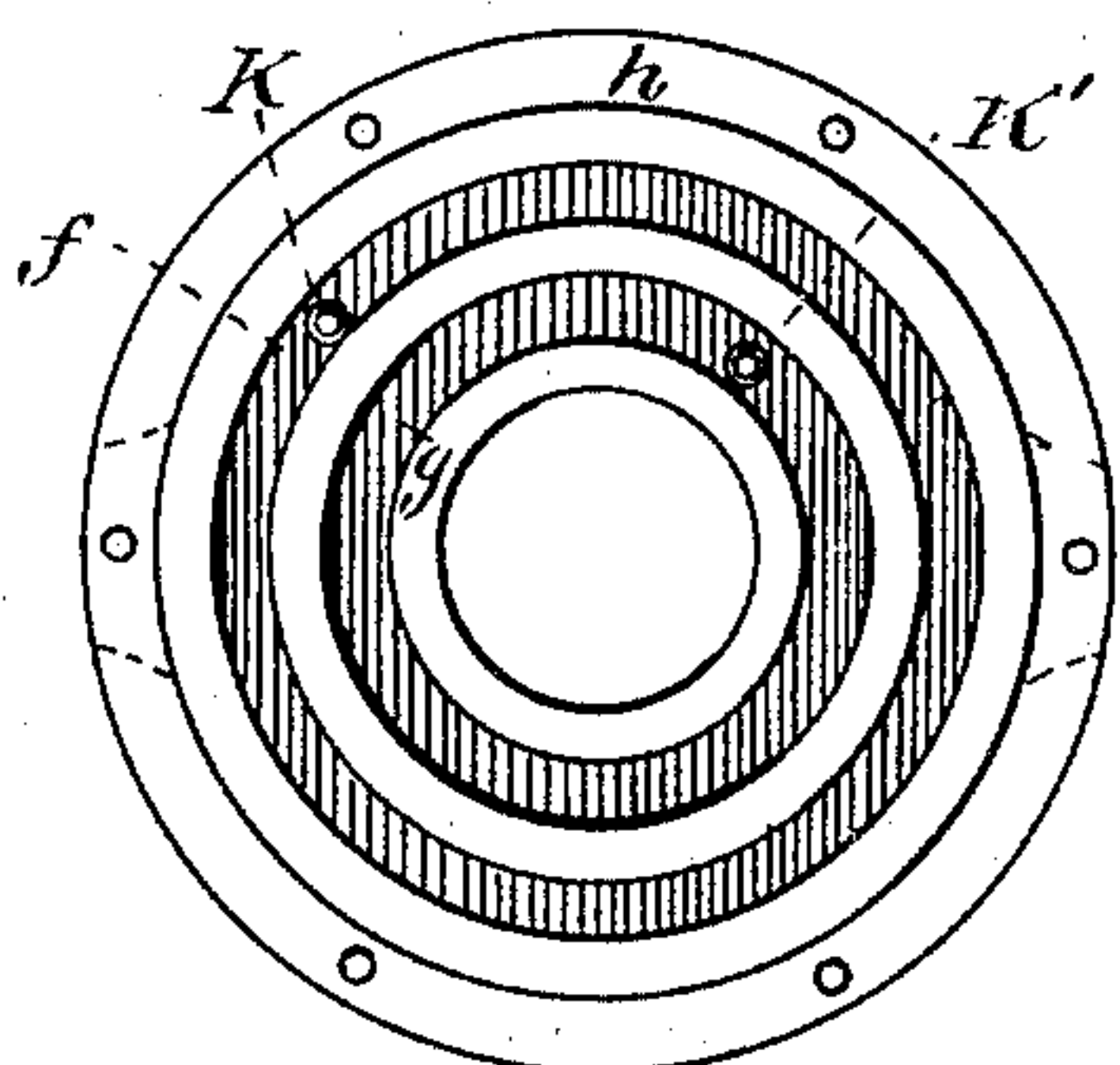


Fig. 4.

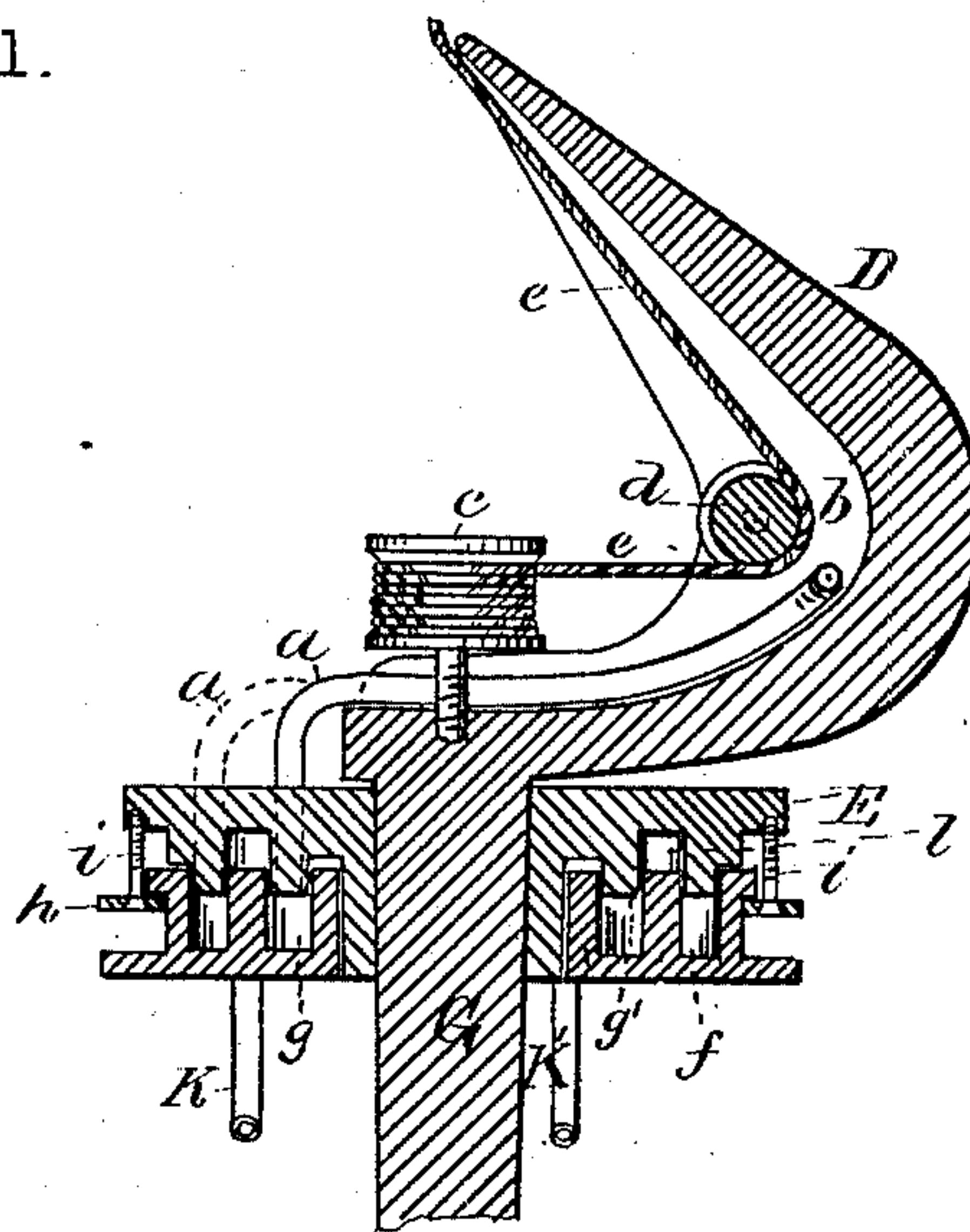


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM JOINT AND EZEKIEL NICHOLSON, OF LYNN, MASSACHUSETTS.

MEANS FOR HEATING WAX ON THE THREAD IN SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 232,827, dated October 5, 1880.

Application filed January 24, 1880.

To all whom it may concern:

Be it known that we, WM. JOINT and EZEKIEL NICHOLSON, both of Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Means for Heating Wax Used on Thread in Sewing or Stitching Machines for Boots and Shoes, of which the following is a specification.

Our invention consists in the devices herein described and claimed for the application of steam for the purpose of heating and softening, in a more economical way than heretofore practiced, the wax used on the thread in sewing and stitching machines for boots and shoes, and especially on the McKay and similar sewing-machines.

Heretofore waxed thread has been heated, softened, or prepared for stitching boots and shoes by the use of flame heat, either from burning oil or from a gas-burner, the latter being chiefly used at present. We have invented devices by means of which steam may be applied for said purposes, as being much more economical and convenient than either gas or oil, and also obviating the disagreeable smell arising from the use of gas or oil. To accomplish this purpose we have constructed two circular steam-chambers, both surrounding the supporting-shaft of the rotary horn of said machine, into one of which chambers steam is injected or flows. After filling this chamber it flows into a steam-tube which passes into the lower part of a groove or open chamber in the inner side of the horn, under the spool, and under the roller over which the waxed thread passes. Under this roller the tube is bent in a bow and returned through said groove under the thread and spool into the other circular chamber, having filled which the steam flows out of another tube into open space. These chambers or reservoirs are steam-tight. There is also a steam-tight cover to the chambers, which is fastened to the shaft supporting the horn, through which cover the steam-tube passes into the groove from one chamber and returns into the other chamber; and we do hereby declare that the following is a full, clear, and concise description of the improvements, which will enable others skilled in the mechanical art to which said improvements appertain to make and use the same.

Figure 1 in the accompanying drawings, which are made a part of this specification, is an elevation of that part of the machine to which the improvements relate. Fig. 2 is a vertical section of the same, with the standing frame removed. Fig. 3 is a plan of the under side of the cover of the steam-chambers, or a plan of the cover inverted; and Fig. 4 is a plan of the steam-chambers.

The letters A A A represent the standing frame of the machine; B, the lower brace and support of said frame; C, the upper brace and support of the steam chambers or reservoirs and the shaft supporting the horn; D, the horn; E, the cover of steam-chambers; G, the spindle or shaft supporting the horn; *a a*, steam-pipe; *b*, groove or open chamber in the horn; *c*, the spool; *d*, the roller; *e*, the waxed thread; *f*, the outer steam-chamber surrounding the shaft; *g*, the inner chamber surrounding the shaft; *f'*, a projection of the cover into the reservoir *f*; *g'*, a projection of the cover into the steam-reservoir *g*; *h*, a circular clamp, binding the cover upon the chambers by means of screws *i i*, &c.; *k*, the inflowing-steam tube; *k'*, the outflowing-steam tube, and *l l* grooves in the cover.

Having thus noted the parts of the machine, we will now explain in what way the application or use of steam, producing effects already known, but by a different device, will produce those effects so as to be more economical and beneficial to the public, and what parts of the machine are new, in combination with parts of a machine already well known and in use.

The general outline of the standing frame A A A and the horizontal supports B and C, the spindle or shaft G, and the horn D, and the mode of using them, we do not claim, since they are the same used, substantially, in what is known as the aforesaid "McKay sewing-machine." The steam-chambers *f* and *g*, the cover E, and the manner in which they are clamped together, and the steam-pipe *a a*, passing from one chamber, *f*, along through the groove *b* in the horn D, and returning through the same and entering the other steam-chamber, *g*, and the mode of the inletting and outflowing of the steam, in their combinations, are new as applied to this machine, and the mode of application of steam for the purpose of heating or soften-

ing the wax on the thread for the said purpose is new.

The circular steam-chambers *f* and *g* are fastened to the support *C*, and their cover *E* is secured to the rotary shaft *G*, so that when the horn and shaft are revolved the cover *E* is carried with them, its circular projections *f'* and *g'* moving along in the circular chambers *f* and *g*. The inflowing of the steam through the pipe *k* fills the circular chamber *f*, and the pipe *a*, passing from its opening in the projection *f'*, takes the steam through its interior along the groove *b*, under the spool *c*, and under the roller *d*, and returns the same into the chamber *g*, from which it passes through the pipe *k'*. In this way, then, the wax on the thread is heated and softened and prepared for use as heretofore used in sewing or stitching in the manufacture of boots and shoes.

We do not claim, broadly, the application of steam for heating wax on the thread in sewing and stitching machines for boots or shoes.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The described combination of the circular steam-chambers *f* and *g*, the inletting-tube *k*, and the outflowing-tube *k'*, the cover *E*, having

the projections *f'* and *g'*, provided with openings for the tube *a*, and the tube *a*, for the purpose of circulating steam through the same, substantially in the manner and for the purpose shown and described.

2. The combination of the steam-chambers *f* and *g*, the revolving cover *E*, the shaft *G*, the horn *D*, provided with a groove or open chamber, *b*, the steam-pipe *a*, the roller *d*, and the inlet and outlet pipes *k* and *k'*, substantially as shown and described.

3. The combination of the steam-chambers *f* and *g*, the inlet and outlet pipes *k* and *k'*, the shaft *G*, the cover *E*, fastened to shaft *G*, the horn *D*, provided with a groove, *b*, and the steam-pipe *a*, opening into said steam-chambers and arranged in said groove *b* under the waxed thread, substantially as described, whereby a constant flow of steam passes into one chamber and out of the other, thereby keeping the wax on the thread uniformly heated and softened, for the purpose shown and described.

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Witnesses:

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