

(No Model.)

2 Sheets—Sheet 1.

L. COTÉ.

MACHINE FOR FORMING BOOT OR SHOE COUNTERS.

No. 279,717.

Patented June 19, 1883.

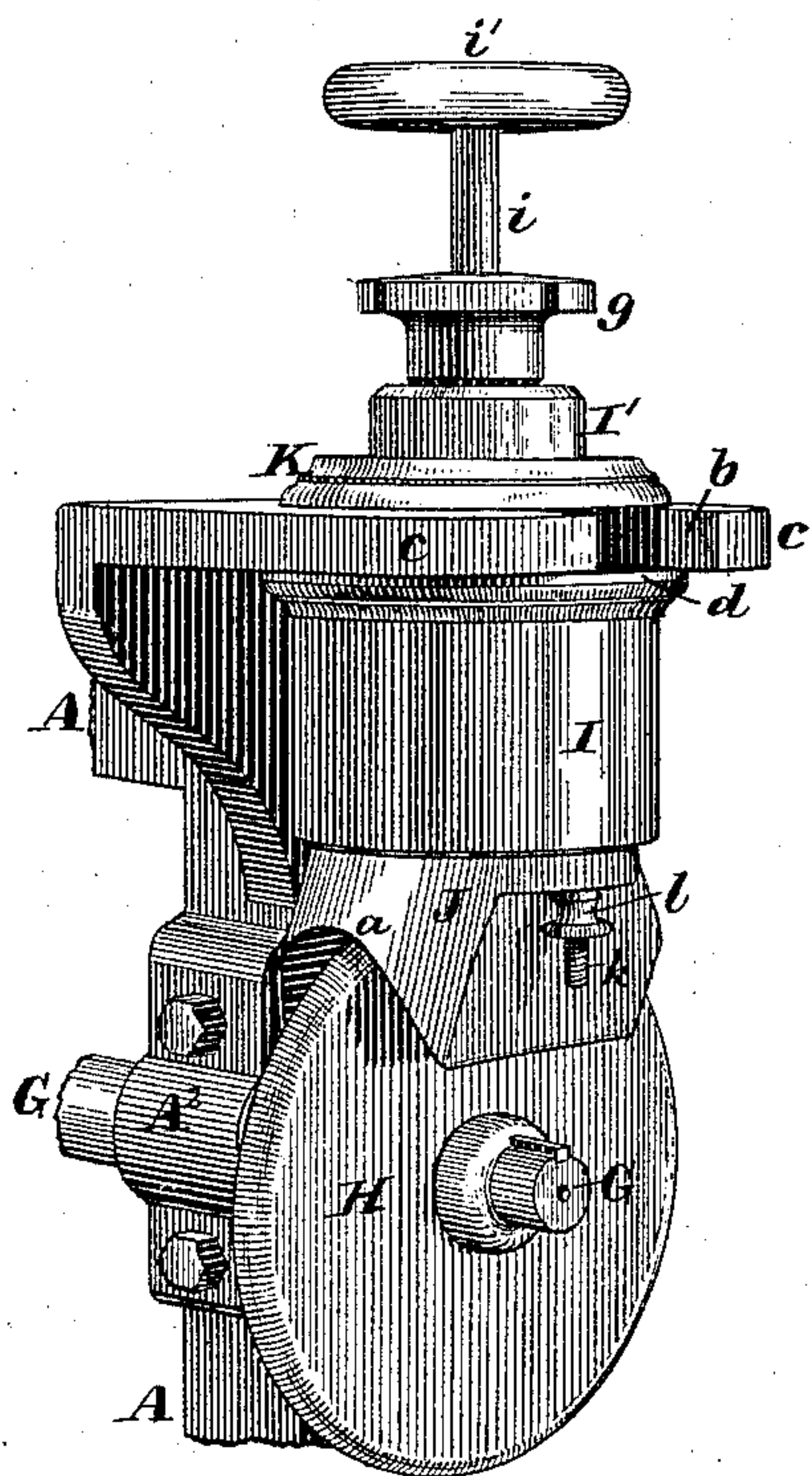


Fig. 2.

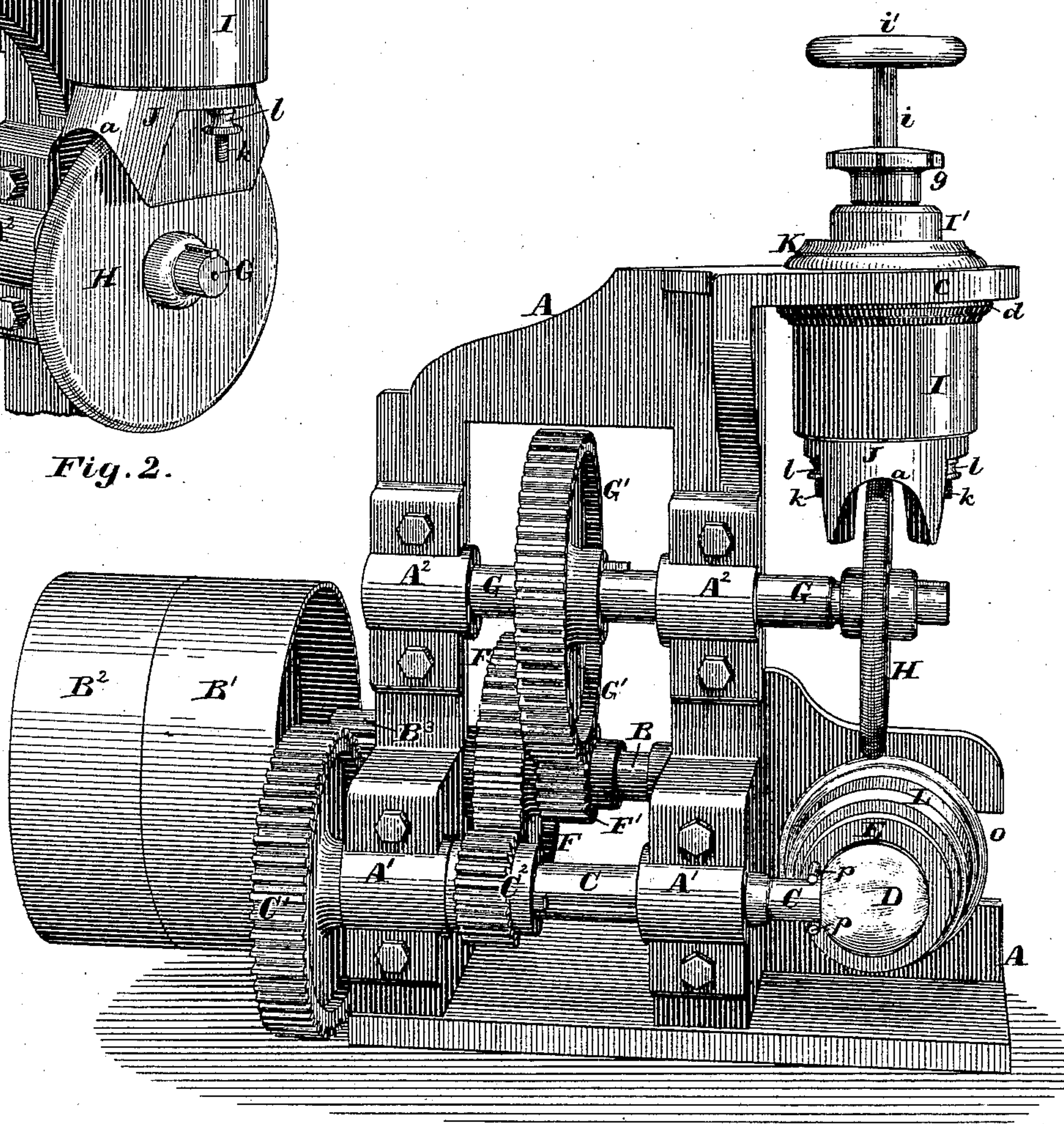


Fig. 1.

Witnesses:

E. A. Hemmenway,  
Walter E. Lombard

Inventor:

Louis Côté  
by N. C. Lombard  
Attorney.



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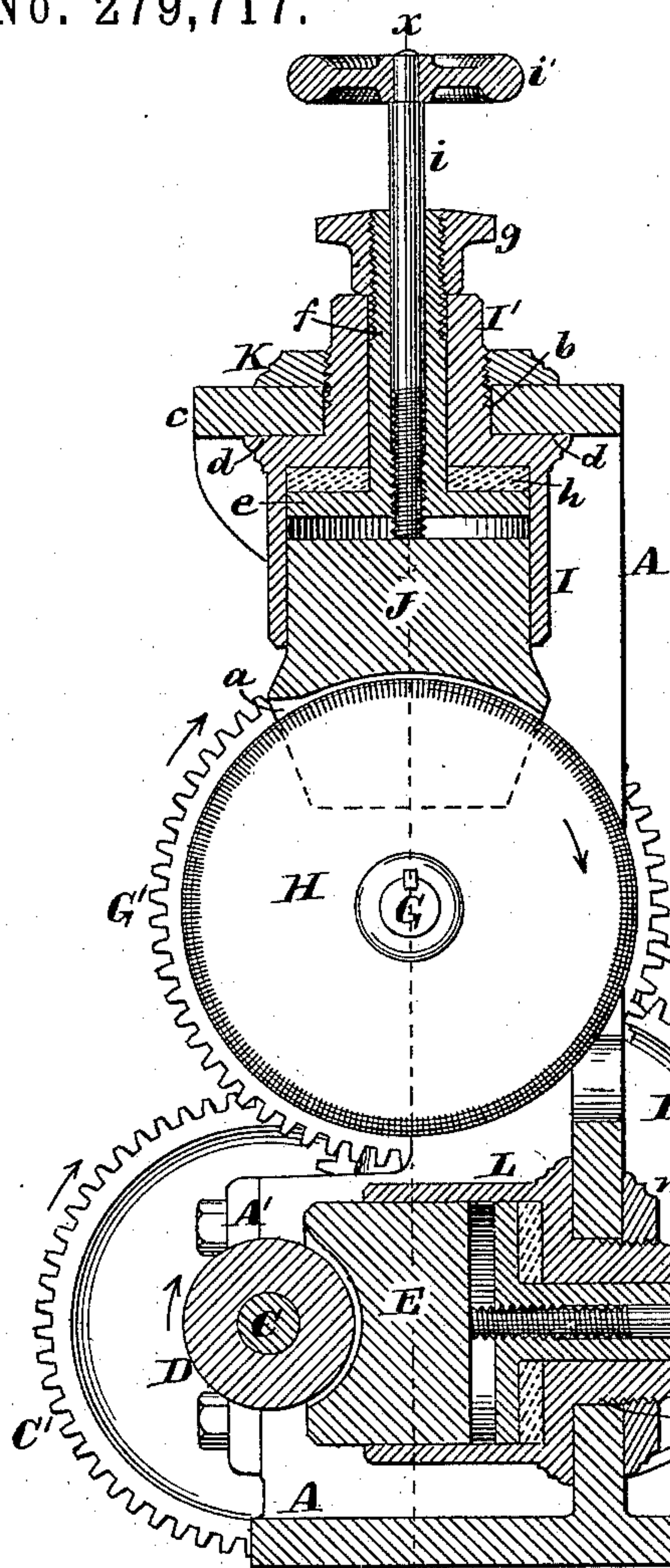


Fig. 3.

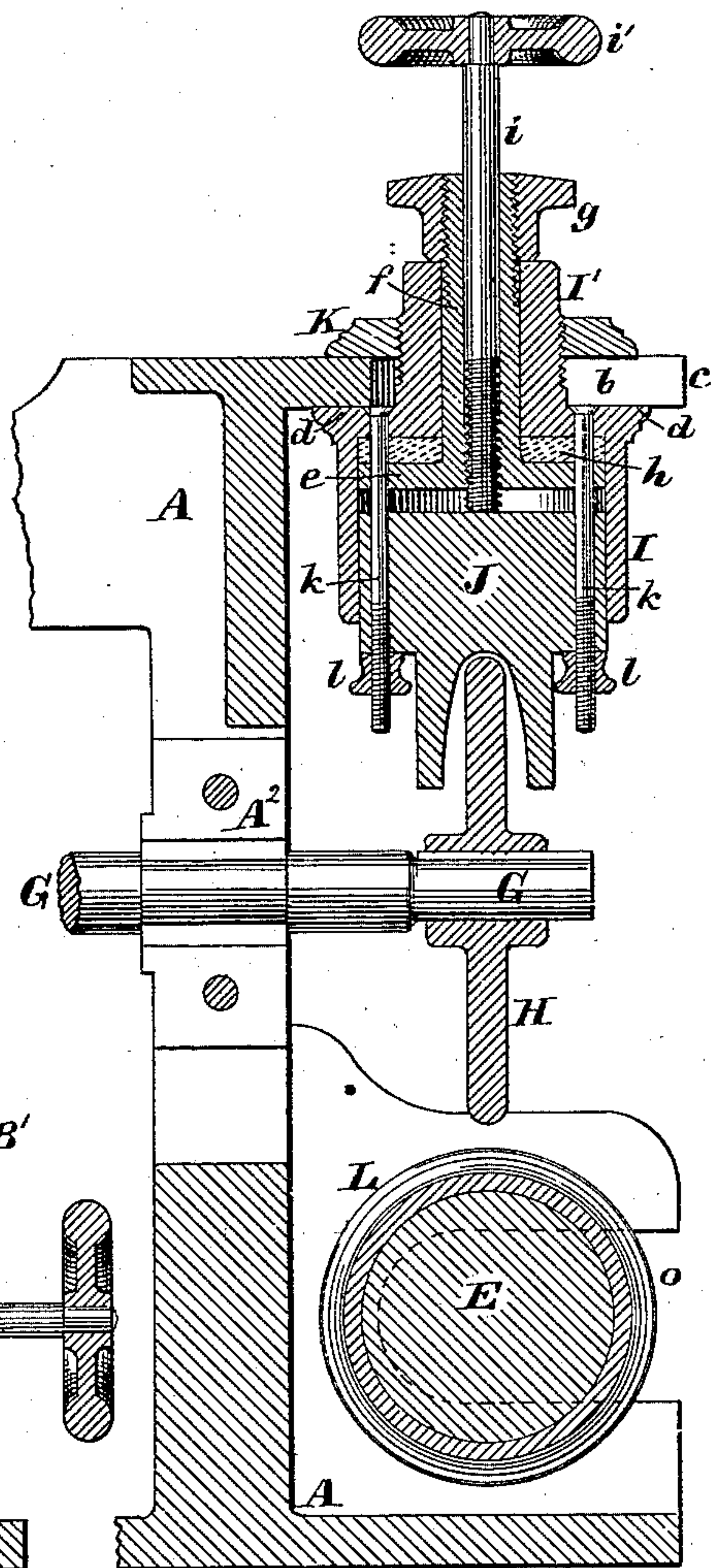


Fig. 4.

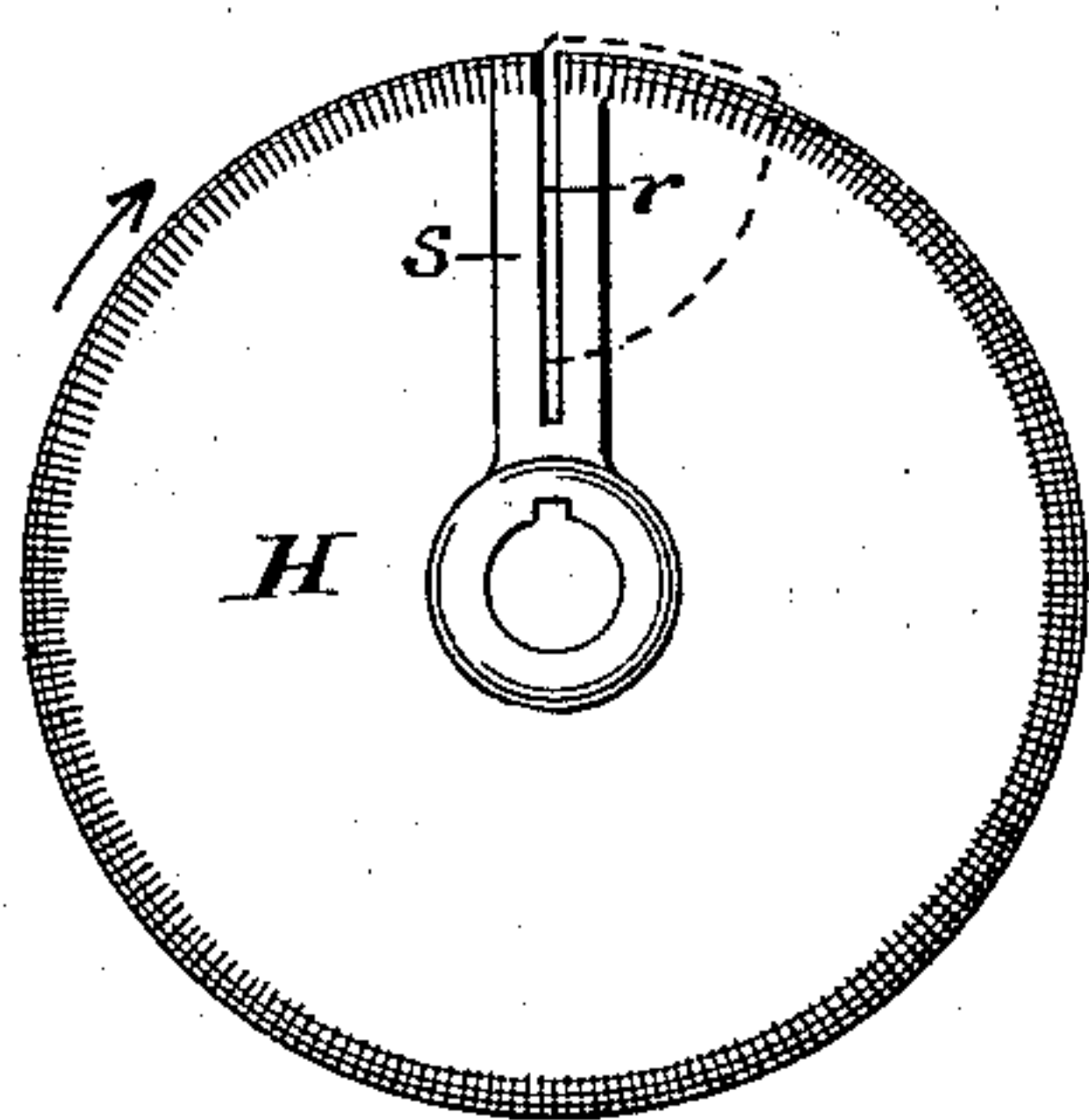


Fig. 5.

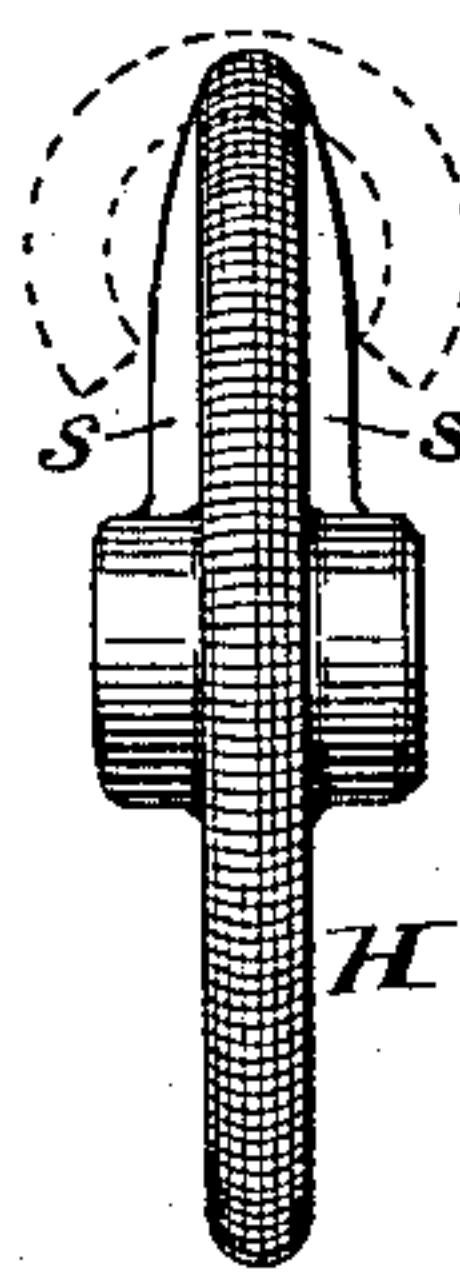


Fig. 6.

Witnesses:

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# UNITED STATES PATENT OFFICE.

LOUIS COTÉ, OF ST. HYACINTHE, QUEBEC, CANADA.

## MACHINE FOR FORMING BOOT OR SHOE COUNTERS.

SPECIFICATION forming part of Letters Patent No. 279,717, dated June 19, 1883.

Application filed April 2, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS COTÉ, of St. Hyacinthe, in the county of St. Hyacinthe and Province of Quebec, Canada, have invented  
5 certain new and useful Improvements in Machines for Shaping Boot and Shoe Counters, of which the following, taken in connection with the accompanying drawings, is a specification.

10 My invention relates to certain improvements in the process of and machinery for shaping counter-stiffeners or heel-stiffeners for boots and shoes; and it consists in a novel method of imparting to the counter-stiffener's  
15 blank the desired shape, and to certain novel constructions and arrangements of mechanical devices whereby the machine is adapted for reshaping a counter-stiffener, or, in other words, for completing the shaping of a counter  
20 which has already been subjected to the action of rolls or revolving dies whose transverse section is circular, and has been brought to a similar circular form, whether or not the flange has already been formed on said counter-stiffeners.  
25

It further consists in a novel arrangement for holding the stationary dies or molds, adjusting the same, and controlling the pressure given to the work, all of which will be best  
30 understood by reference to the following description of the drawings, and to the claims to be hereinafter given.

In the drawings, Figure 1 is a perspective view of a machine embodying my invention.  
35 Fig. 2 is a perspective view of a portion of the same, looking from a slightly-different direction. Fig. 3 is a vertical section taken through the center of both sets of dies. Fig. 4 is a partial vertical section on line *x x* on  
40 Fig. 3, and Figs. 5 and 6 are respectively an elevation and edge view of a disk or wheel adapted to receive and carry a flanged counter-stiffener.

Similar letters refer to similar parts in the  
45 different figures.

A is the frame of the machine, upon the rear side of which is a driving-shaft, B, mounted in suitable bearings, and carrying at its rear end the "fast" and "loose" pulleys B' and B",  
50 adapted to receive a suitable driving-belt.

C is a shaft mounted in bearings A' A' of

the frame A, and having secured upon its rear end the spur-gear wheel C', which engages with and receives motion from the pinion B", secured upon the driving-shaft B between the  
55 frame A and the pulley B'.

Upon the front end of the shaft C is secured the mandrel or former D, of spherical, spheroidal, or spherocylindrical form, which acts in conjunction with the stationary die or mold  
60 E to shape the counter-stiffeners from suitable blanks, the shape of the former D and mold E and the action thereof upon the blank being substantially the same as described in re-  
65 issued Letters Patent No. 7,356, granted to me October 24, 1876. The mold E is held and adjusted in an improved manner, as will hereinafter be described.

Upon the shaft C is secured the pinion C", which engages with and imparts motion to the  
70 gear-wheel F, mounted loosely upon the driving-shaft B, and revolving independent of the motion of said shaft. The gear-wheel F has secured thereto the pinion F', which revolves with it and engages with the gear-wheel G',  
75 secured firmly upon the shaft G, mounted in bearings A" A" in the frame A.

Upon the front end of the shaft G is secured the disk or wheel H, having a rounded edge  
80 roughened or serrated to secure a firmer hold upon the counter-stiffeners while being shaped.

J is an adjustable mold, partially surrounding and inclosing the upper portion of the wheel H, and provided with a flaring mouth at  
85 *a*, to facilitate the introduction of the counter-stiffeners between it and the wheel H. The concave surface of the mold J, against which the counter is pressed by the rotation of the wheel H, is made very smooth, its upper surface being brought into close proximity to the  
90 edge of said wheel, and curved so as to be concentric, or nearly so, therewith, except at the mouth *a*, as shown in Fig. 3. The side portions of said concave or working-surface of the mold J are made somewhat flaring, as shown  
95 in Fig. 4, admitting of a greater or less space between them and the side of the wheel H, according to the exact shape which it is desired to give to the counter-stiffeners. The mold J is fitted to the hollow cylindrical socket I, pro-  
100 vided with a hollow threaded shank, I', upon which is screwed the nut K. The shank I'



passes through a slot, *b*, Fig. 2, in the ear or shelf *b* of the frame *A*, the shoulder *d* of the socket *I* bearing against the under side of said shelf; and the nut *K*, being screwed down tight upon the upper side thereof, serves to hold the socket securely in position.

Within the socket *I* is a disk, *e*, provided with a tubular shank, *f*, which passes through the hole in the shank *I'* of the socket *I*, and has screwed upon its upper end the nut *g*. Above the disk *e* is a ring, *h*, of rubber or other suitable elastic material. Through the center of the tube *f* extends the rod *i*, having a screw-thread at its lower end, which engages with a corresponding female screw-thread in the lower end of the tube *f*. The lower end of the rod *i* bears upon the top of the mold *J*, and it is provided with a hand-wheel, *i'*, at its upper end, by which it may be turned. Two bolts, *k k*, are secured at their upper ends in the upper end of the cylindrical socket *I*, and, passing through holes in the rubber ring *h*, disk *e*, and mold *J*, are provided with nuts *l l* at their lower ends, the purpose of said bolts and nuts being to prevent the mold *J* from dropping down and resting upon the edge of the wheel *H*. The upward pressure of the mold *J*, taken upon the end of the screw *i*, is transmitted by the disk *e* to the rubber ring *h*, compressing it against the upper end of the socket *I*. The pressure of the mold *J* upon the work being formed may be regulated by the nut *g* by turning said nut so as to raise the disk *e* and compress the rubber *h* when greater pressure is wanted, or by turning the nut in the opposite direction so as to lower the disk *e* and allow the rubber to expand when a less amount of pressure is required, while the mold *J* is adjusted toward or from the wheel *H* by means of the screw *i* and nuts *l l*.

The mold *E*, before referred to, is held in a cylindrical socket, *L*, provided with a shank, *m*, and nut *n*, for securing it within the slot *o* of the frame *A*. The socket *L* is provided with mechanism for adjusting the mold *E* and regulating the pressure thereon, constructed precisely similar to that above described in connection with the socket *I*, except that the bolts *k k* are dispensed with, as the axis of the socket *L* is horizontal, and the mold *E* has no tendency to slip from its place. Two pins, *p p*, (shown in Fig. 1,) project from the edge of the mold *E* upon opposite sides of the shaft *C*, and serve to prevent the mold *E* from turning round in the socket *L*.

In the operation of my invention a blank is first fed endwise between the former *D* and mold *E*, or by modifying the shape of the mold and former the blank may be fed between them transversely of its length, by which means it has a curved shape imparted thereto in two directions. It is now desired to reshape the counter-stiffener to make it conform more nearly to the shape of the last upon which the boot or shoe is made by giving the counter-stiffeners a sharper bend at the back of the heel and bringing the sides nearer together.

This is done by passing the counter between the edge of the wheel *H* and the mold *J* in a direction at right angles to the length of said counter-stiffeners, or transversely thereof, so that the counter-stiffeners will be compressed between the edge of the wheel *H* and the mold *J* at the back of the heel for a width about equal to the thickness of the wheel *H*, while the sides of the counter-stiffeners will be pressed inward by the action of the mold *J* to form what I term a "reshaped unflanged counter," substantially as shown and described by me in another application of even date herewith. In reshaping a counter-stiffener having a flange around its lower edge, I make the wheel *H*, as shown in Figs. 5 and 6, with two lugs, *s s*, projecting from opposite sides of said wheel, and a radial slot, *r*, in its edge cutting through said lugs. A former and mold of suitable shape for making a flanged counter-stiffener being substituted for the former *D* and mold *E*, the blank is passed endwise between the said former and mold, which compress and crimp it to form a circular flanged counter-stiffener ready for reshaping. It is then placed upon the wheel *H* in the position shown in dotted lines in Fig. 5, with a portion of its flange at the back of the heel inserted in the slot *r*, when the rotation of the wheel *H* will carry the counter through the mold *J*, compressing and shaping it in the same manner as in the case of the unflanged counter-stiffeners, as above described, the portions of the flange at the side of the counter-stiffeners being supported by the walls of the slot *r* as the said sides are pressed inward, said walls thus preventing the counter-stiffeners' flange from being disturbed or thrown out of shape.

By the use of my present invention I am enabled to reshape counter-stiffeners in a very simple and effective manner, as by firmly compressing them at the back of the heel in the manner described they will retain the desired shape without liability of springing open at their ends, as is often the case when such counters are shaped by being pressed around a form corresponding in shape and size to the last upon which the shoe is to be made. By the arrangement of the cylindrical sockets *I* and *L* and mechanism contained therein, a very simple and convenient means of adjusting the molds *E* and *J* is obtained, while the method of attaching the sockets *I* and *L* to the frame *A* permits of their removal for the purpose of changing their respective molds.

The width and shape of the finished counter-stiffeners may be varied by changing the width of the wheel *H* and the width and shape of the concave working-surface of the mold *J*.

What I claim as new, and desire to secure by Letters Patent of the United States, is as follows:

1. The process of shaping counter-stiffeners, which consists in first passing the blank between pressure-surfaces in the direction of their lengths to partially shape them, and then passing the partially-shaped stiffeners a second



time between the pressure-surfaces, but in the direction of their width, substantially as described.

2. The combination of the journaled disk-wheel H, having a convex periphery, and the mold J, provided with a concave recess or groove, the inner portion of which is substantially of the form or a counterpart of the periphery of the wheel or disk, but with outwardly-diverging side walls, and adapted to press and condense the central portion of a counter-stiffener, substantially as described.

3. The combination of the journaled disk-wheel H, having a convex periphery, and provided with the slot *r* and the lugs or ribs *s s*, and the mold J, provided with a convex recess or groove, the inner portion of which is substantially of the form or a counterpart of the periphery of the wheel or disk, but with outwardly-diverging side walls, and adapted to press and condense the central portion of the counter-stiffener, substantially as described.

4. The combination of a rotating wheel or former, a stationary die or mold provided with a concave surface substantially conforming in shape circumferentially to the periphery of the former, a socket to receive said mold, provided with a threaded shank and nut, and a slotted ear or projection to which said socket may be adjustably secured, substantially as and for the purposes described.

5. The combination of a rotating former, a stationary die or mold provided with a concave surface substantially conforming in shape

circumferentially to the periphery of the former, a socket to receive said mold, provided with a tubular threaded shank and nut, a slotted ear or projection to which said socket may be adjustably secured, an elastic cushion contained within said socket, a disk or follower, also located within said socket, and provided with a tubular threaded shank or hollow screw passing through the shank of said socket, and having a nut at its outer end, and an adjusting-screw passing through said follower and its shank and having its bearing or nut therein, and adapted to receive upon its inner end the pressure of the mold, substantially as and for the purposes described.

6. The combination of a rotating former, a stationary mold provided with a concave surface substantially conforming in shape circumferentially to the periphery of the former, the socket I, provided with the shank I' and nut K, the slotted ear *e*, the elastic cushion *h*, the disk or follower *e*, provided with the tubular shank *f* and the nut *g*, the adjusting-screw *i*, and the bolts *k k*, provided with the nuts *l l*, all arranged and adapted to operate substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of March, A. D. 1883.

LOUIS COTÉ.

Witnesses:

E. A. HEMMENWAY,  
WALTER E. LOMBARD.