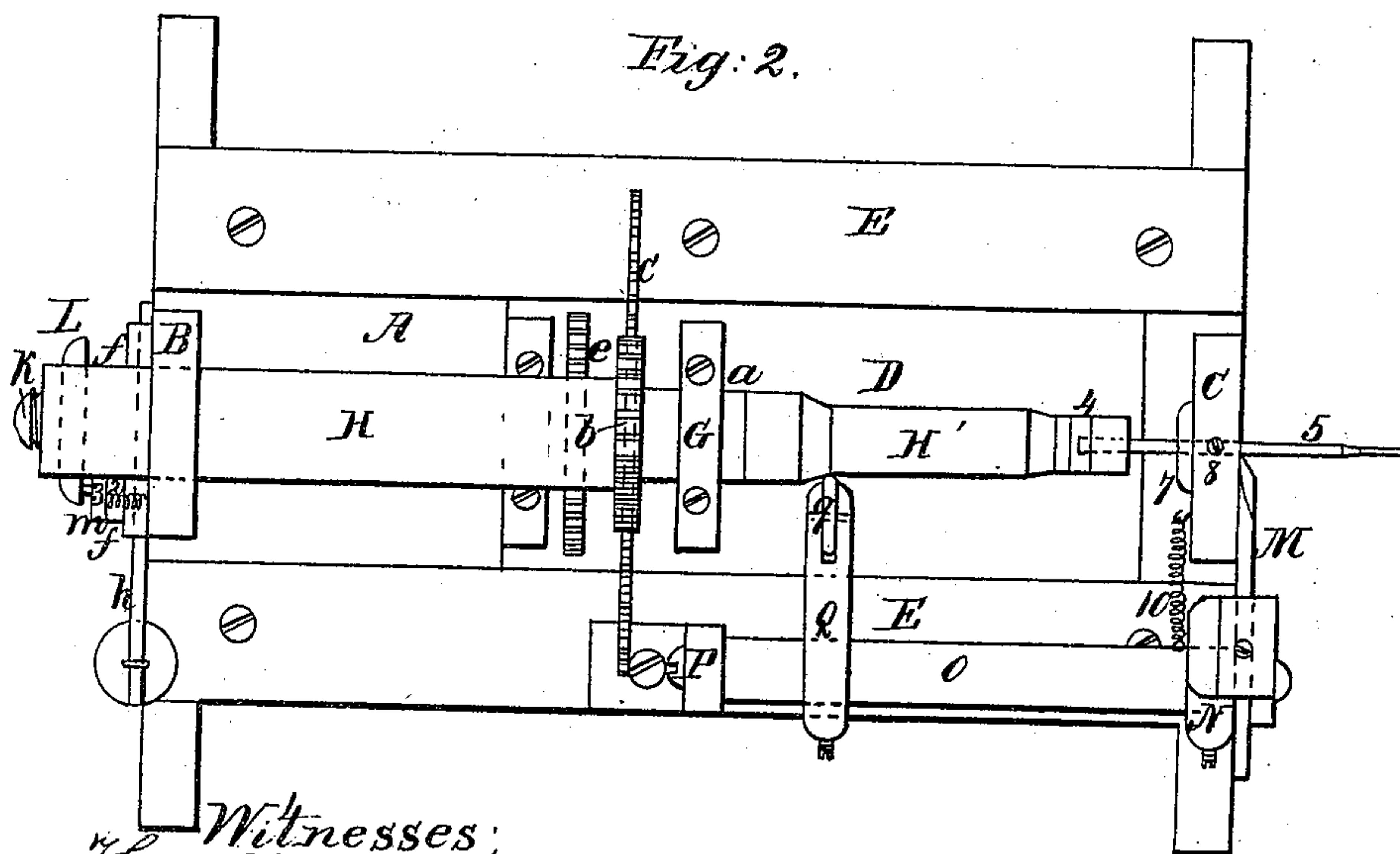
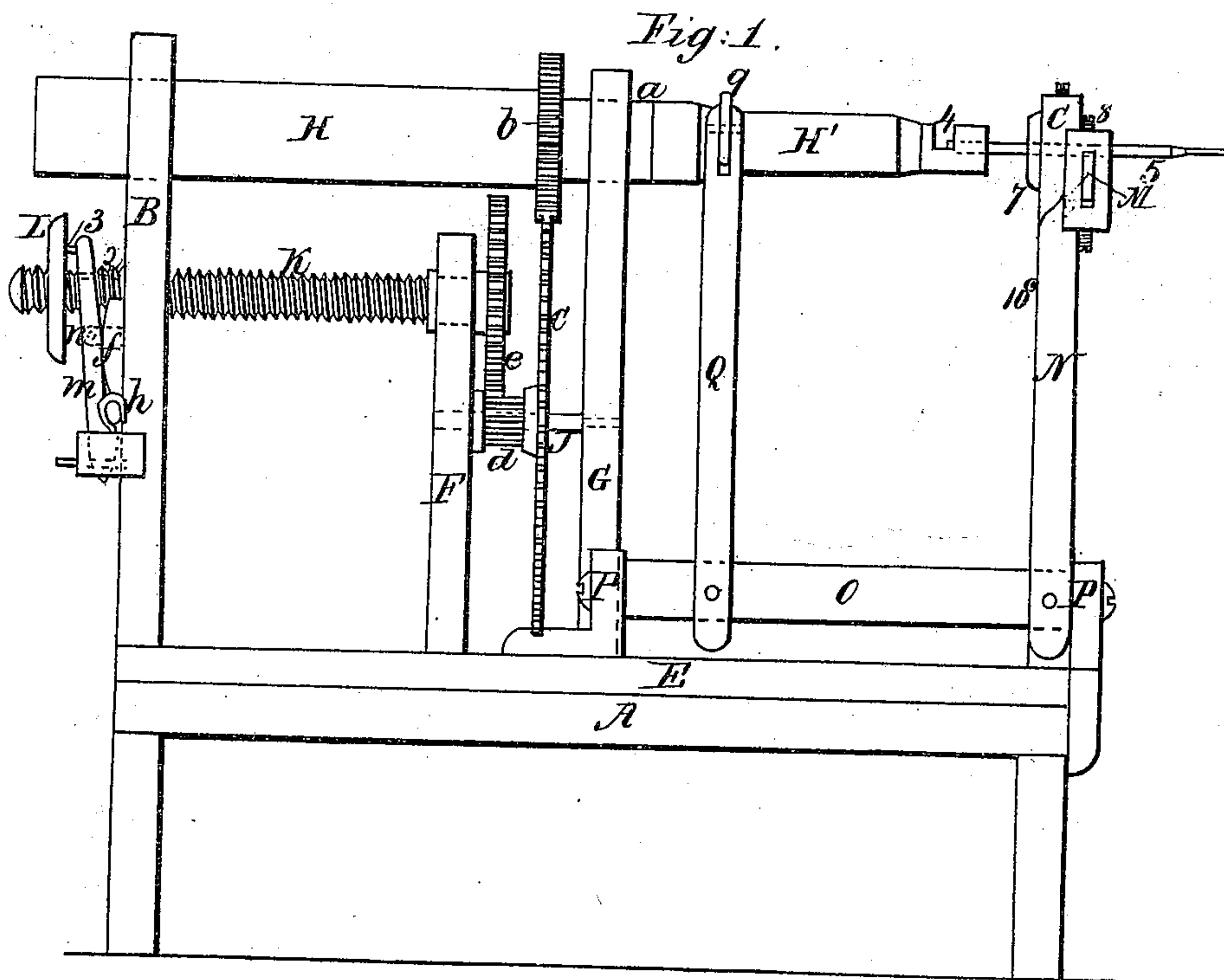


C. JILSON.

Taper-Cutting Mach.

N^o 95,480.

Patented Oct. 5, 1869.



Witnesses;
 John C. Dodge
 Geo H Miller

Inventor,
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C. Jilson.

Typer-Cutting Mach.

N^o 95,480.

Patented Oct. 5, 1869.

Fig: 3.

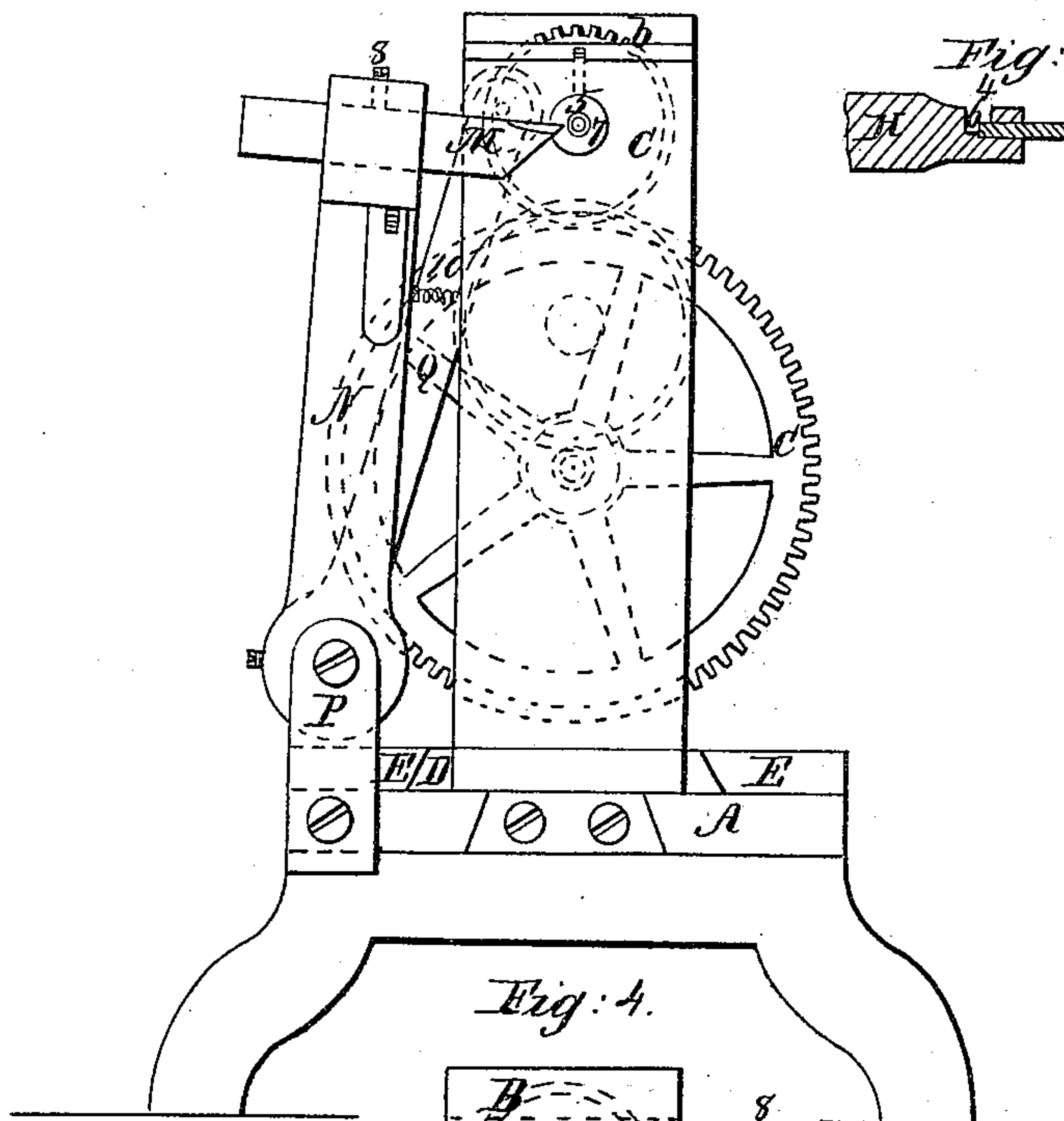
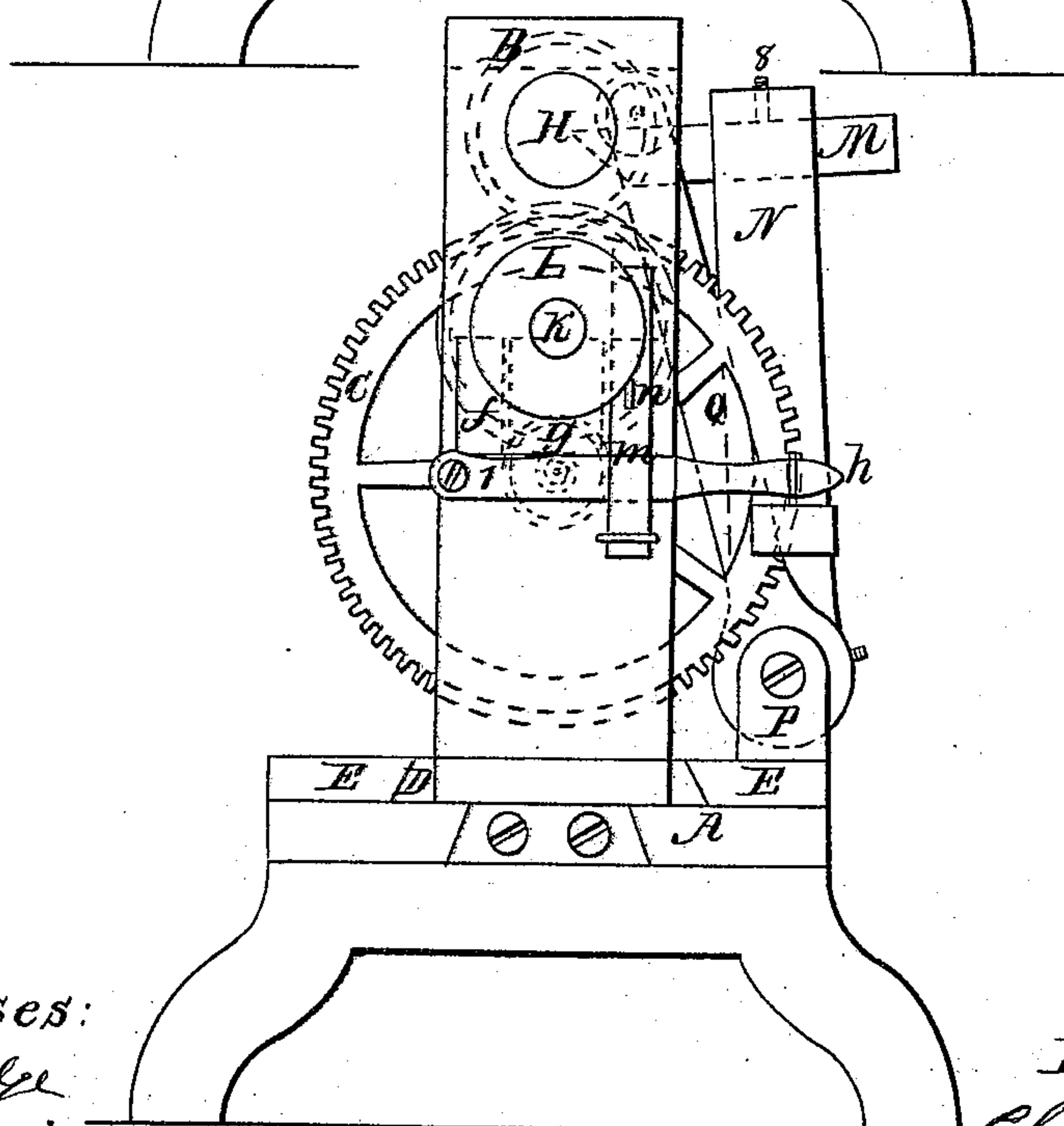


Fig: 5.



Fig: 4.



Witnesses:
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United States Patent Office.

CLARK JILLSON, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 95,480, dated October 5, 1869.

IMPROVED MACHINE FOR CUTTING TAPERS.

The Schedule referred to in these Letters Patent and making part of the same.

Know all men by these presents:

That I, CLARK JILLSON, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Machines for Cutting Tapers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side view of my machine;

Figure 2 represents a plan or top view;

Figure 3 represents a front view; and

Figure 4 represents a back view.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings—

A is the base of the machine, provided with a rear supporting-piece, B, and a front supporting-piece, C.

Between the front and rear supporting-pieces is arranged a sliding table, D, which is retained in place by the side guides E E.

To the rear of the table D are secured two upright pieces F G.

In the upper end of the piece G is journaled, at *a*, a spindle, H H'; said spindle being fitted to move back and forth with the table D, the rear end H of the spindle being fitted to slide in the stand B.

A spur-gear, *b*, is fastened on the spindle H, which gears into another spur-gear, *c*, on shaft J, which is journaled in the upright pieces F and G, and carries a gear, *d*, to gear, into the gear *e* on the end of the screw-shaft K, the front end of which screw-shaft is journaled and supported in the upright piece F, while the rear end of the shaft is fitted to slide freely through a hole cut or formed in the upright piece B.

Upon the back of the upright piece B are secured two guide-pieces *f f*, between which is a slide-piece, *g*, having a screw-thread cut upon its upper edge.

The slide-piece *g* may be thrown up and down by a lever, *h*, the rear end of which is hinged at 1 to the piece B, while the other end plays inside of the lower end of the hinged catch-piece *m*.

Catch-piece *m* is hinged at *n*, the upper end being thrown out by a spiral spring, 2, while the lower end is provided with a catch to slip under the lever *h*, when the latter is raised to throw the slide-piece *g* into mesh with the thread on the shaft K.

A stop-plate, L, is screwed upon the end of the shaft K, to strike against the pin 3, for the purpose of forcing the upper end of catch-piece *m* in and the lower end out, to permit the lever *h* to fall when the spindle H H' has been run in far enough.

As soon as lever *m* falls, the slide-piece *g* drops down, and the sliding table stops, although the screw-shaft K may still be continued in motion.

The power to drive the spindle may be applied directly to the part H, by means of a belt or band.

The front part H' of the spindle is made in the form in which the article is to be turned, which may be of any desired shape.

The front part of the spindle is slotted out, as shown at 4, the slot extending down to near the centre of the hole bored in the end of the spindle, for the reception of the metal blank 5, which is held in place by simply nicking or filing off the end of the blank at one side, so that when it is run into the hole in the end of the spindle, the unfiled or unnicked side of the end of the blank will project in over the flat part 6 of the slot, as indicated in Figure 5.

By the above arrangement, the blanks can be put in and taken out very quickly, while at the same time the necessity of a gripping-chuck, or other clamping-device for holding the blanks in place during the operation of tapering and turning, is obviated.

In the front supporting-piece C is fitted a rest or eye, 7, the hole in which is just large enough to receive the blank to be turned or tapered.

The cutting-tool M is secured, by means of the set-screw 8, in a slot in the upper end of the arm N, which arm is fastened to the rock-shaft O, journaled in the stands P P.

The lower end of the indicator-arm Q is also secured to rock-shaft O, while its upper end is slotted to receive the friction-roll 9, which runs in contact with the pattern-part H' of the spindle when the machine is in motion.

The cutting-tool is drawn toward the blank by means of the spring 10, and the same spring serves the purpose of holding the friction-roll 9 against the spindle-part H' by a yielding pressure, owing to the fact that its arm and the tool-arm are both secured to the same rock-shaft.

The operation is as follows:

Table D being run back to its full extent, and a blank being inserted in the end of the spindle, and motion imparted to the latter, as before explained, the end of the lever *h* is raised, so as to throw the slide-piece *g* into mesh with the screw K, when table D and spindle H H' will be moved forward, so as to pass the blank 5 gradually through the eye 7, to be turned and tapered as it passes through, by means of the tool M, the form of the tapered or turned blank being of the same shape as the end H' of the spindle, whatever that may be.

From the foregoing description, it will be seen that

my present machine is specially adapted for turning needle-blanks, and besides is not complicated or liable to derangement of parts.

The pattern-part H' of the spindle may be so made that it can be readily detached from the main part H, to enable patterns of different styles to be used.

Having described my machine for cutting tapers,

What I claim therein as new, and of my invention, and desire to secure by Letters Patent, is—

1. In a machine for turning tapers, the employment, substantially as herein shown and described, of a divided spindle, the front or removable portion of which constitutes not only the pattern after which the blank is to be shaped, but also the support in which said blank is held during the turning-operation, as set forth.

2. The combination of the longitudinally-moving divided pattern-spindle and the rest or eye 7, upon the prolongation of the axis of said spindle, with the arms N and Q, capable of vibrating upon a common fulcrum, and carrying the cutting-tool M and friction-roll G, for operation substantially as herein shown and described.

3. The combination of mechanism, constructed as described, for moving the spindle longitudinally with the devices for holding the cutting-tool and directing its motions, substantially as herein described, as shown in the accompanying drawings.

CLARK JILLSON.

Witnesses:

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GEO. H. MILLER.