

F. H. AIKEN.

Machines for Pointing Wire.

No. 143,486.

Patented Oct. 7, 1873.

Fig. 1.

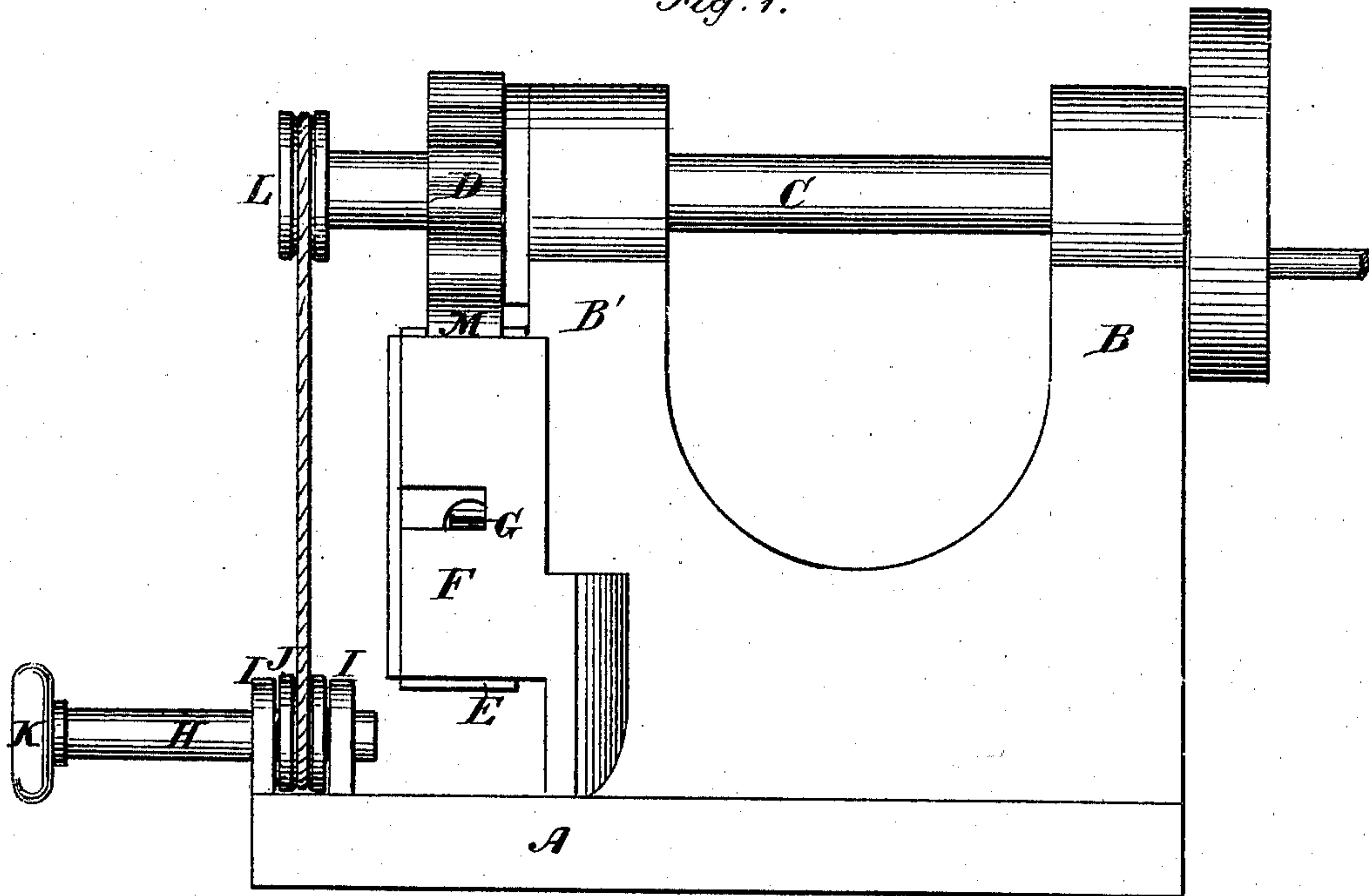
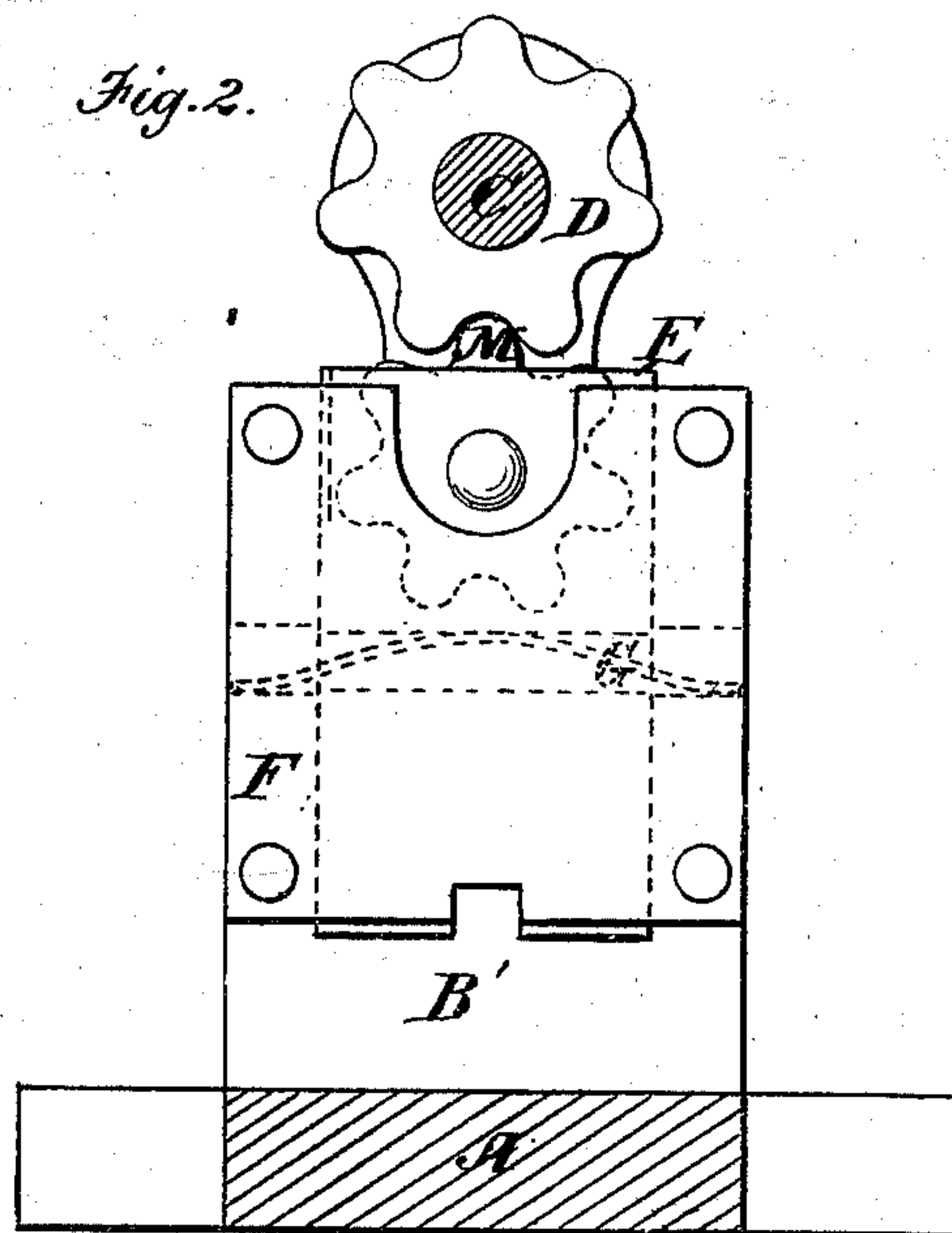


Fig. 2.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

FRANK H. AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

## IMPROVEMENT IN MACHINES FOR POINTING WIRE.

Specification forming part of Letters Patent No. 143,486, dated October 7, 1873; application filed March 25, 1873.

*To all whom it may concern:*

Be it known that I, FRANK H. AIKEN, of Franklin, Merrimack county, New Hampshire, have invented an Improved Machine for Compressing Articles of Metal, of which the following is a specification:

Figure 1 is a side elevation, and Fig. 2 is an end view.

This invention has for its object the improvement in machines for pointing wire; and consists in the employment of two spur-gears to impart a reciprocating movement to the slide having the movable die, one of said spur-gears revolving upon a fixed axis and meshing with the second gear, which rotates on an axis in the reciprocating slide, and the upper spur-gear also being provided with teeth, which are longer than the teeth of the lower spur-gear, by means of which a reciprocating motion is imparted to the slide, as hereinafter more fully set forth.

In the accompanying drawing I have shown the application of the devices for operating the reciprocating slide carrying the movable die to a machine for which I have applied for Letters Patent, and which is now pending before the United States Patent Office, in which A is the bed of the machine, the same affording a means of fastening the apparatus to a suitable foundation. B B' are standards rising from said bed, and supporting the boxes in which is mounted the shaft C. Near one end of the shaft, and outside the standard B', is a spur-gear, D, firmly fixed on the shaft. E is a reciprocating vertical slide placed beneath the gear D, and inclosed in a case, F, fastened to the outside of the standard B', and supported in the case by means of a spring, G, passing horizontally through both the slide and case. Mounted in the upper end of the slide E is another gear, M, engaging with the gear D. The points of the teeth of both gears are rounded off, and the spaces between them are hollowed out. The teeth of the gear D are longer than those of the gear M, so that a rotary motion will be given the latter, and at the same time it will be pressed downward, causing, in conjunction with the spring G, a reciprocating movement to the slide E. H is a hollow shell placed in suitable bearings I, springing from the bed A, between which bearings, and on the outside of the shell H, is secured a pulley, J. K is the blank-holder, having a groove running

its whole length, into which groove a pin extends from the inside of the shell H. Instead of this arrangement, the shell H might have a slot, and the blank-holder K a pin to enter said slot. On the extremity of the shaft C is fixed a pulley, L, whence a belt proceeds to and around the pulley J.

Suppose two dies attached—one to the lower end of the reciprocating slide E, and the other to the bed A directly beneath. Let a blank be inserted in the groove of the holder K, and extend between said dies, said holder being provided with any suitable device for securing the blank. Rotary motion being imparted to the shaft C, every time one of the longer teeth D crosses the right line joining the axes of the two gears it necessitates a yielding downward movement of the gear M and a consequent depression of the slide E, this carrying downward the upper die, and compressing the blank between the upper and lower dies. On the other hand, every time one of the shorter teeth D' crosses the said line it allows a yielding upward of the gear M under the action of the spring G on the slide E, which raises the upper die. In this way a reciprocating motion is imparted to the upper die, which effects the compression of the blank placed between the two dies.

The motion produced by the two gears may be applied to other purposes than those herein specified.

It will be seen that in my invention a great advantage is attained over those machines in which a cam or wheel armed with stubs operates against a roller in the upper head of the slide to impart to the latter the reciprocating movement, as in the latter case there is but one wearing-point, while in my invention there are as many wearing-points as there are teeth employed in one of the spur-gears.

I claim as my invention—

The revolving spur-gear D, in combination with the revolving spur-gear M, spring G, and reciprocating slide E, carrying the upper die, when the teeth of the revolving spur-gear D are longer than those of the revolving spur-gear M, substantially as and for the purpose described.

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Witnesses:

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