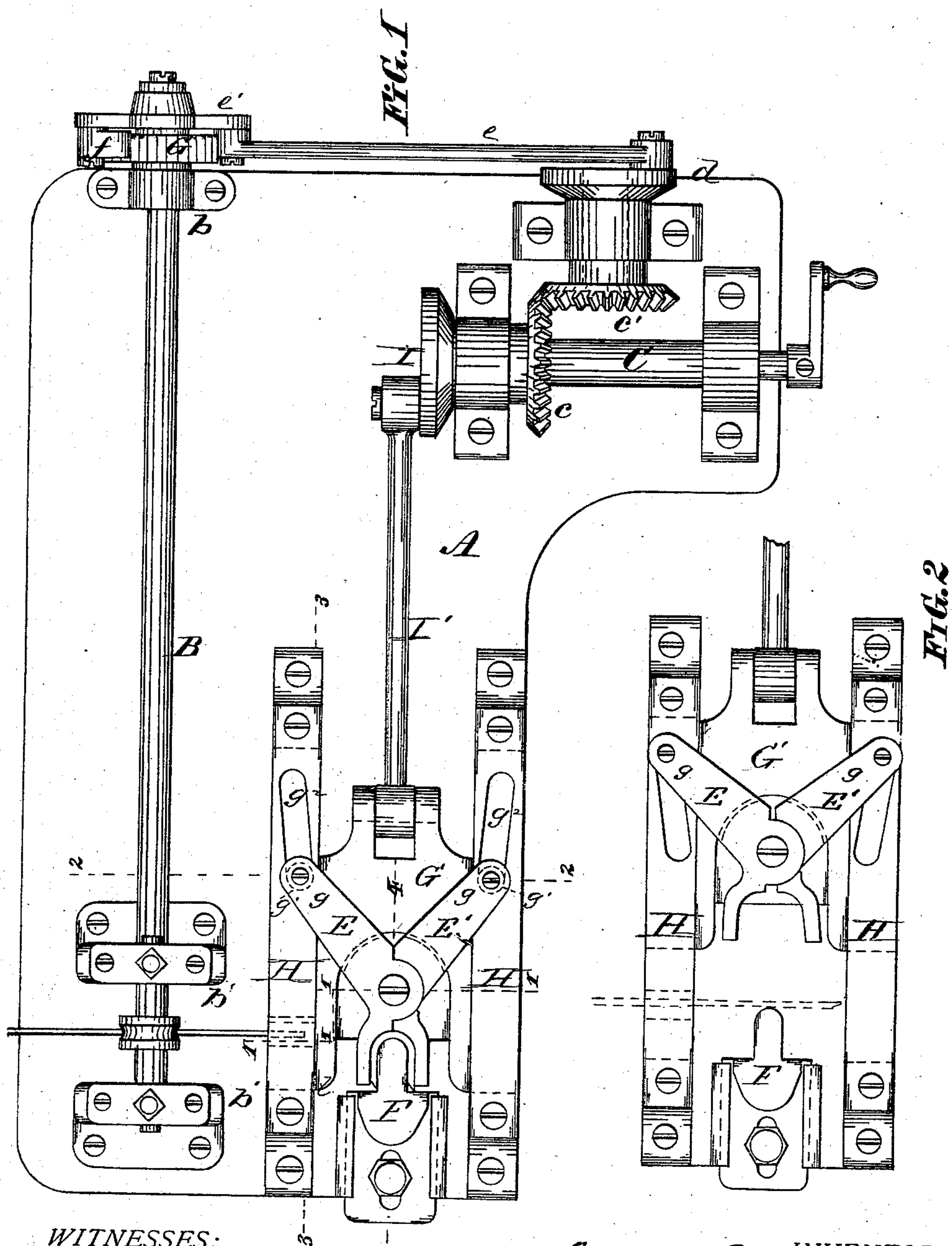


(No Model.)

2 Sheets—Sheet 1.

W. D. BROWN.
Machine for Forming Staples for Fences.
No. 238,339.
Patented March 1, 1881.



WITNESSES:

M. A. Connolly
V. Connolly

INVENTOR

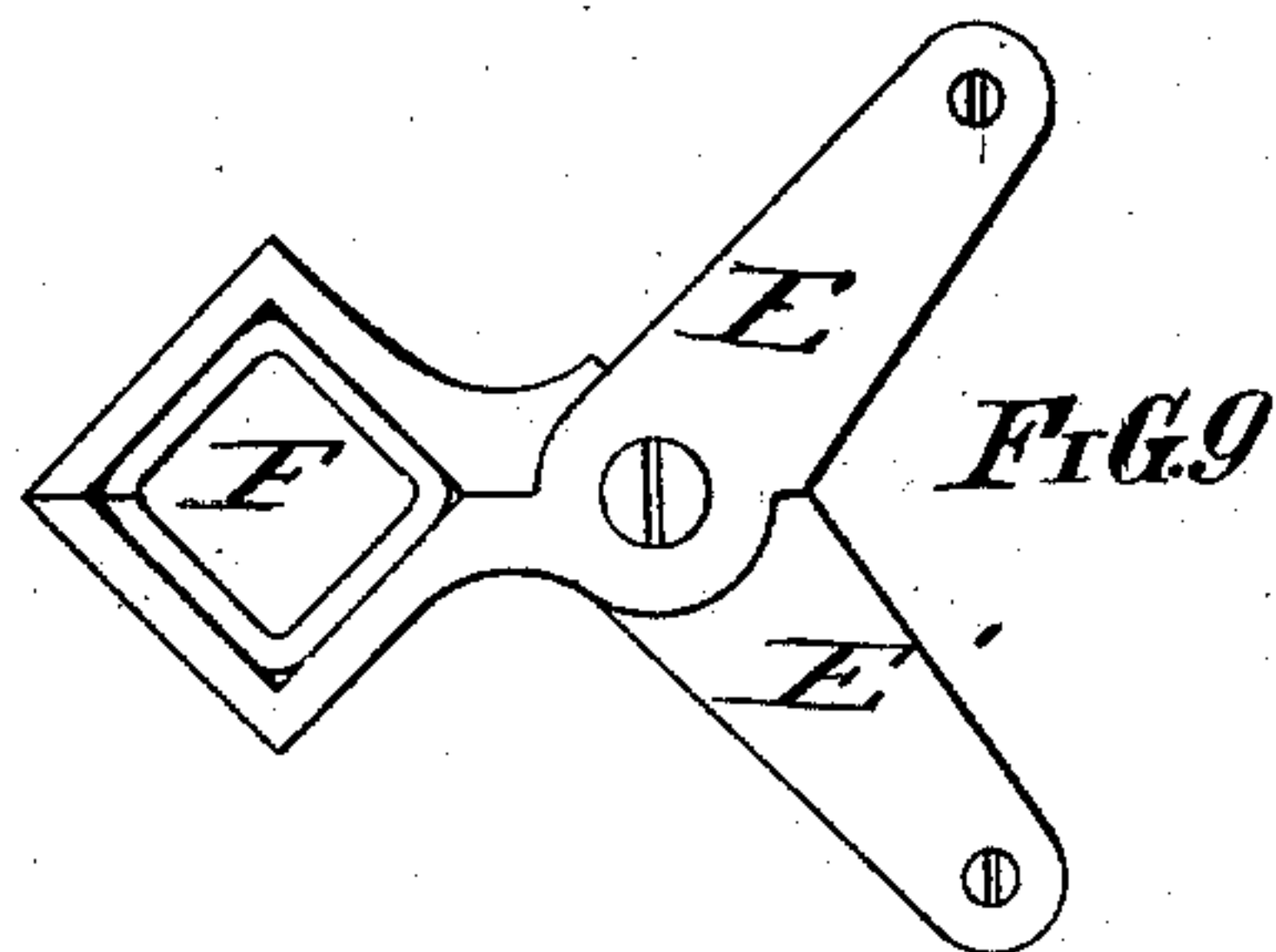
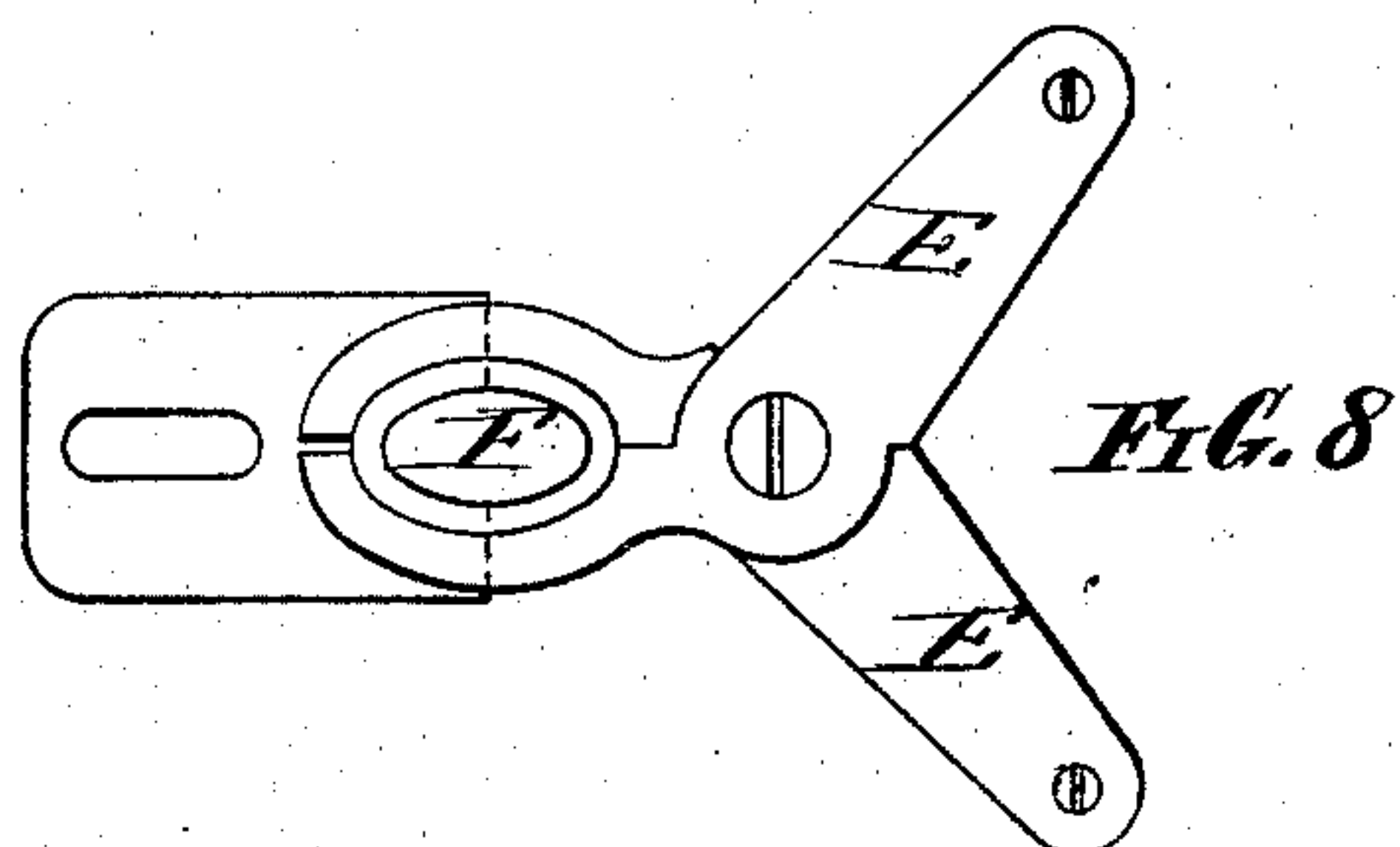
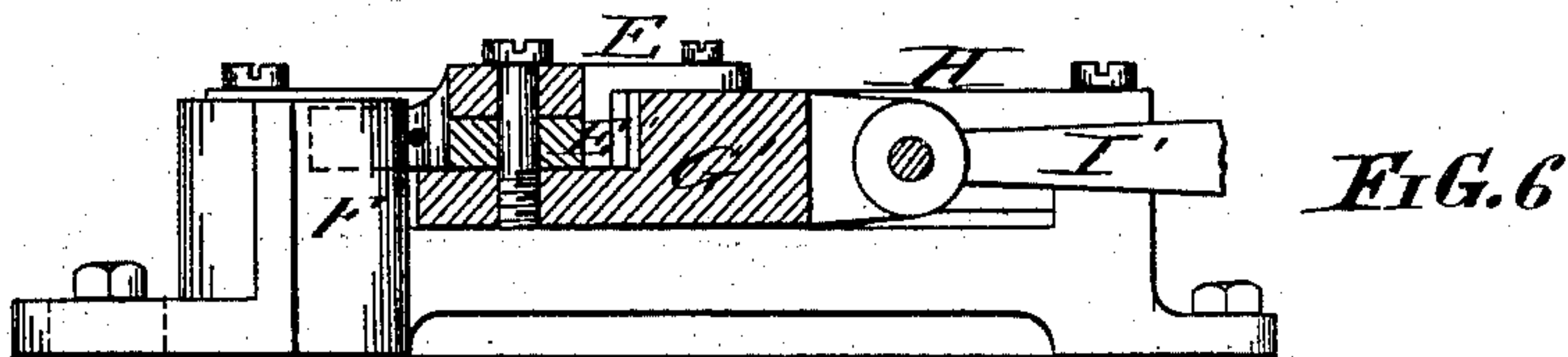
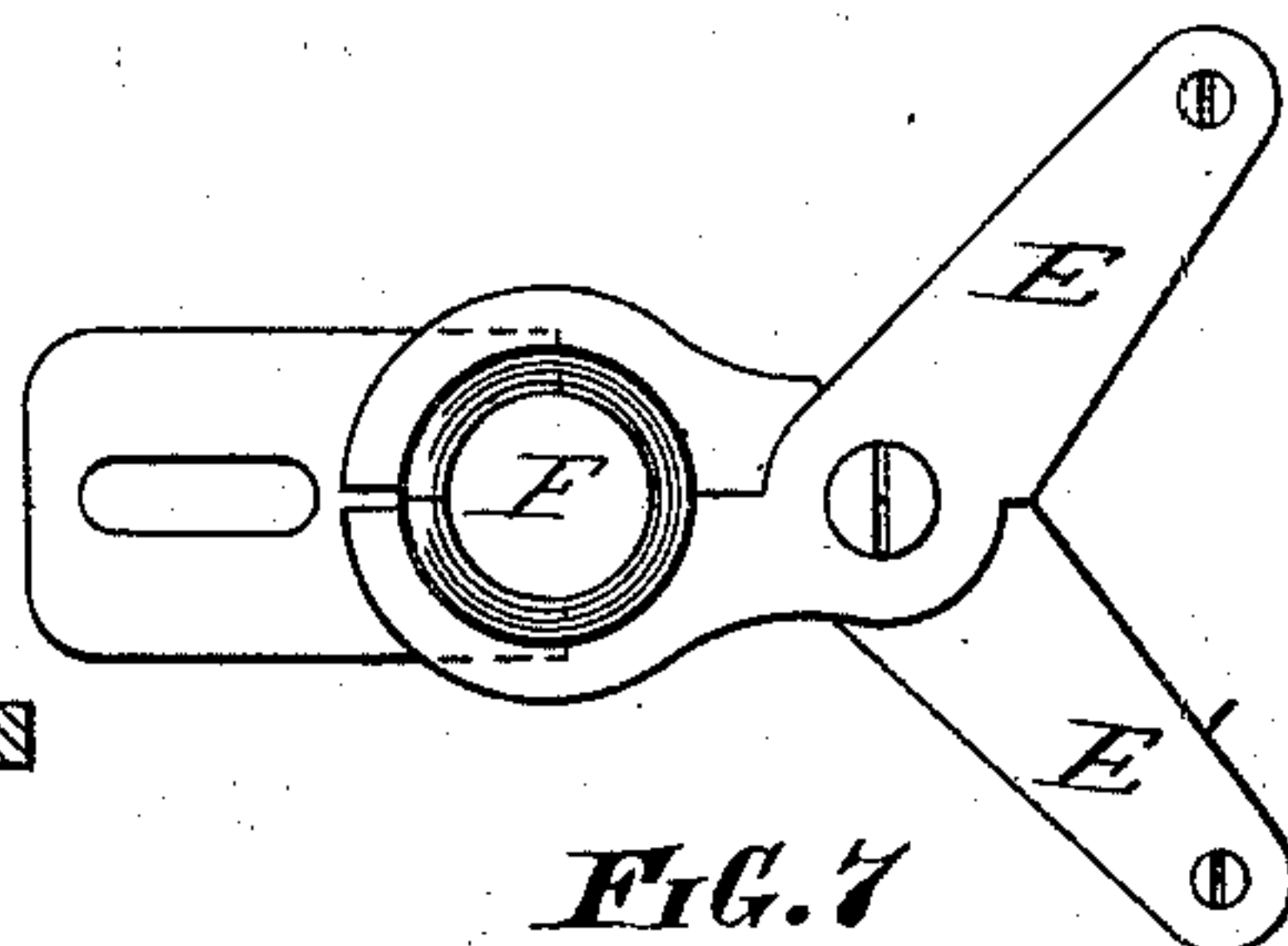
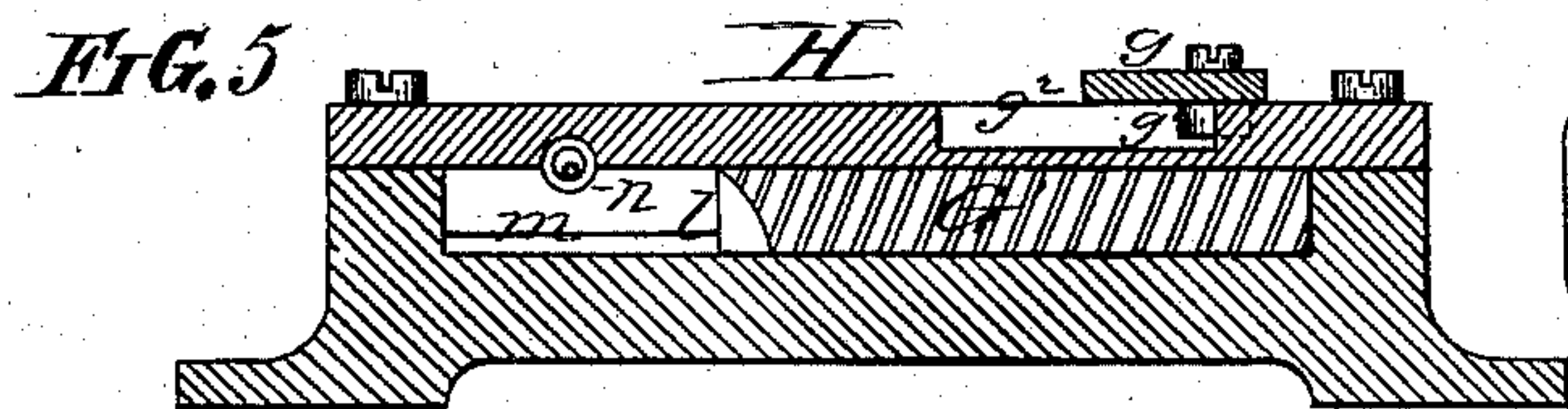
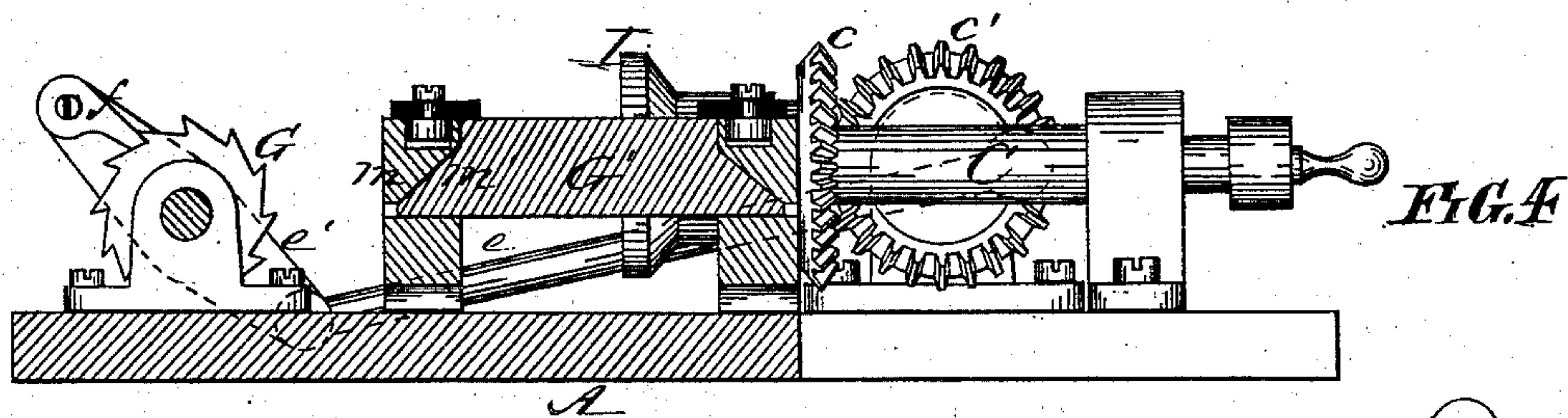
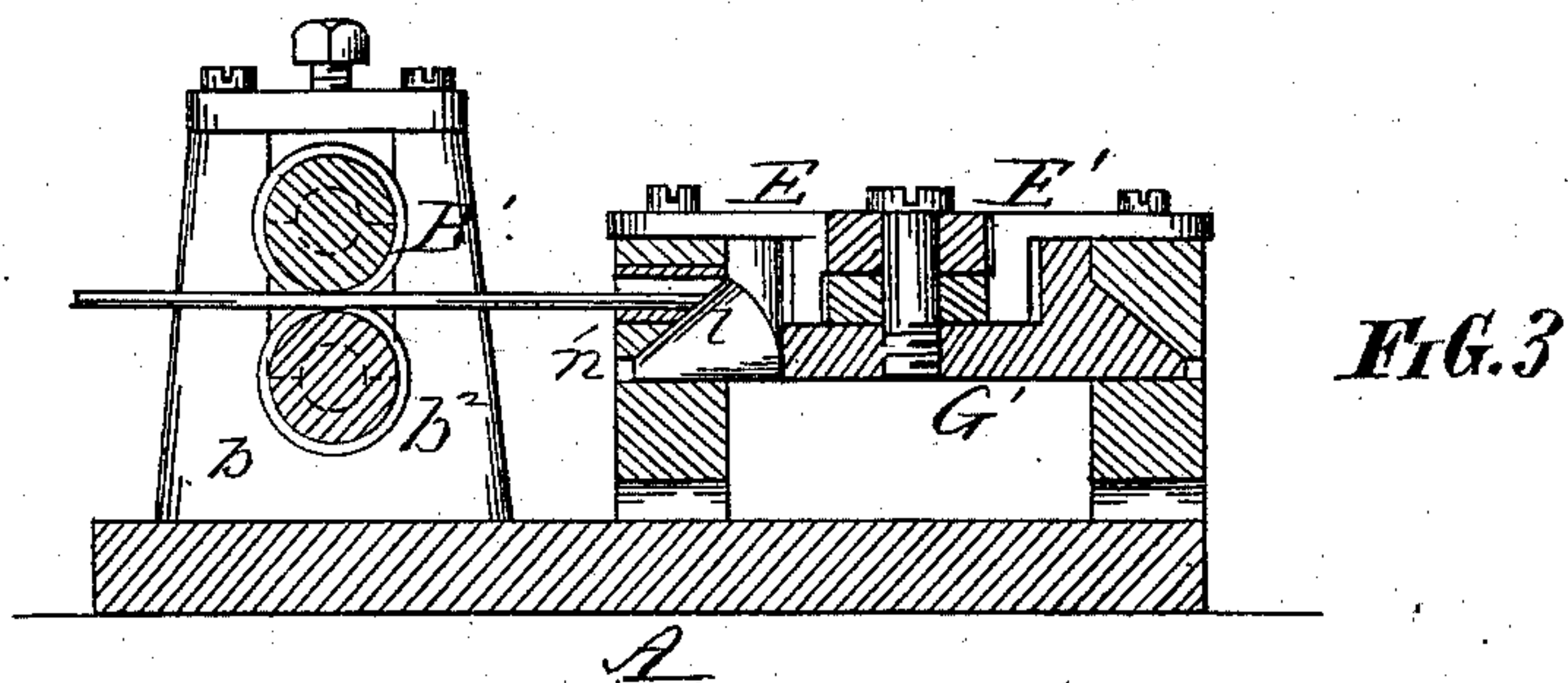
Wm. D. Brown
by Connolly Bros.

ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

W. D. BROWN.
Machine for Forming Staples for Fences.
No. 238,339. Patented March 1, 1881.



WITNESSES:

M. A. Connolly
J. Connolly

INVENTOR

Wm D Brown
by Connolly Bros

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM D. BROWN, OF LA FAYETTE, INDIANA, ASSIGNOR TO THOMAS HARDING, WILLIAM T. BARBEE, AND CHARLES B. SIMPSON, OF SAME PLACE.

MACHINE FOR FORMING STAPLES FOR FENCES.

SPECIFICATION forming part of Letters Patent No. 238,339, dated March 1, 1881.

Application filed July 14, 1880. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. BROWN, of La Fayette, in the State of Indiana, have invented certain new and useful Improvements in Machines for Forming Staples for Fences, Chain-Links, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view. Fig. 2 is a plan view of detail. Figs. 3, 4, 5, and 6 are sectional views. Figs. 7, 8, and 9 are plan views of modifications.

This invention has relation to improvements in machinery for the manufacture of fence-staples, belt-hooks, chain-links, rings, &c., and for perforating tin, sheet-iron, &c.

The improvements consist in the novel mechanism for feeding the wire or other material to the former, for cutting the same into suitable lengths as it is fed, for bending it around or upon the former, and for causing simultaneous action of the several devices employed, all as hereinafter described and claimed.

The machine or apparatus embodying my improvements embraces a pair of feed-rolls, a cutting-tool, an adjustable former, and a pair of automatically-working tongs, the operative parts being so coupled for conjoint action that the wire or rod is first fed a certain distance between the tongs and the former or die, then clipped, and immediately bent to the desired shape.

In the accompanying drawings, A designates the base of the machine, at one side of which is arranged a horizontal shaft, B, having its rear end journaled in a bearing standard or block, *b*, and its forward end supported by housings *b'*. A grooved collar is formed at *b*², coinciding with a short roll, *B'*, above and in the same housings. Between the two collars the wire or rod is guided and fed by the rotation of the shaft B. Motion is imparted to the shaft B from a main shaft, C, through beveled gearing *c c'*, crank *d*, pitman *e*, loose head *e'* on shaft B, dog or pawl *f* on said head,

and ratchet-wheel G fixed on shaft B. The continuous rotary motion of the main shaft C in one direction gives the shaft B an intermittent motion, having its periods of rest during the acts of cutting and bending the wire.

E E' represent the tongs, (shown in Fig. 1,) of a shape adapted specially to the forming of staples. The former or die F is of a corresponding shape. The tongs are pivoted to a block, G', having flanges which travel in guides H H. This block receives a reciprocating motion from the main shaft through the crank I and pitman I'. The jaws of the tongs lie in a recess of the block G', while the arms *g g* extend obliquely over the face of the block, and have anti-friction rollers *g' g'* at their ends traveling in oblique grooves *g² g²*, cut in the guides or ways H H. As the block reciprocates the grooves *g²* and rollers *g'* cause the arms of the tongs to alternately approach toward and recede from each other, so that the wire is simultaneously pressed toward and pinched or bent upon the former. As the block and tongs recede from the former the jaws open and release the wire or staple.

The cutting of the wire is effected by the movement of the block G'. For this purpose the forward end of the block is beveled on one side of the tongs, as shown at *l*. The upper surface of the way-channel *m* is also beveled, and coincides with the bevel or incline of the flange *m'* of the block G'. The wire is led to the tongs through a tube, *n*, and is thereby guided in a straight line. The inner end of the tube terminates on the line of the cutting-edge of the block, and is similarly beveled, as shown.

By using tongs and former of proper shapes, as shown in the several figures illustrating modifications, the machine may be adapted to the manufacturing of chain-links, screw-eyes, round rings, coat and hat hooks, as well as other articles of manufacture.

By substituting a proper punch for the tongs and using a die of corresponding form, the machine may be used for perforating tin, sheet-iron, or other metal.

Having described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the reciprocating
and automatically-working tongs and the die
or former, of the intermittently-rotating feed-
rolls, arranged with their axes on lines paral-
5 lel with the line of reciprocation of the tongs,
so as to feed the wire across the path of the
tongs and in front thereof, the main shaft, and
the mechanism, substantially as described, for
communicating motion to the tongs and rolls.
10 2. The reciprocating block G', supporting

and carrying the tongs, and formed with a
cutting-edge to sever the wire in proper lengths,
as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in 15
presence of two witnesses.

WILLIAM D. BROWN.

Witnesses:

CURTIS M. BROWN,

BENJAMIN F. HOFFMAN.