

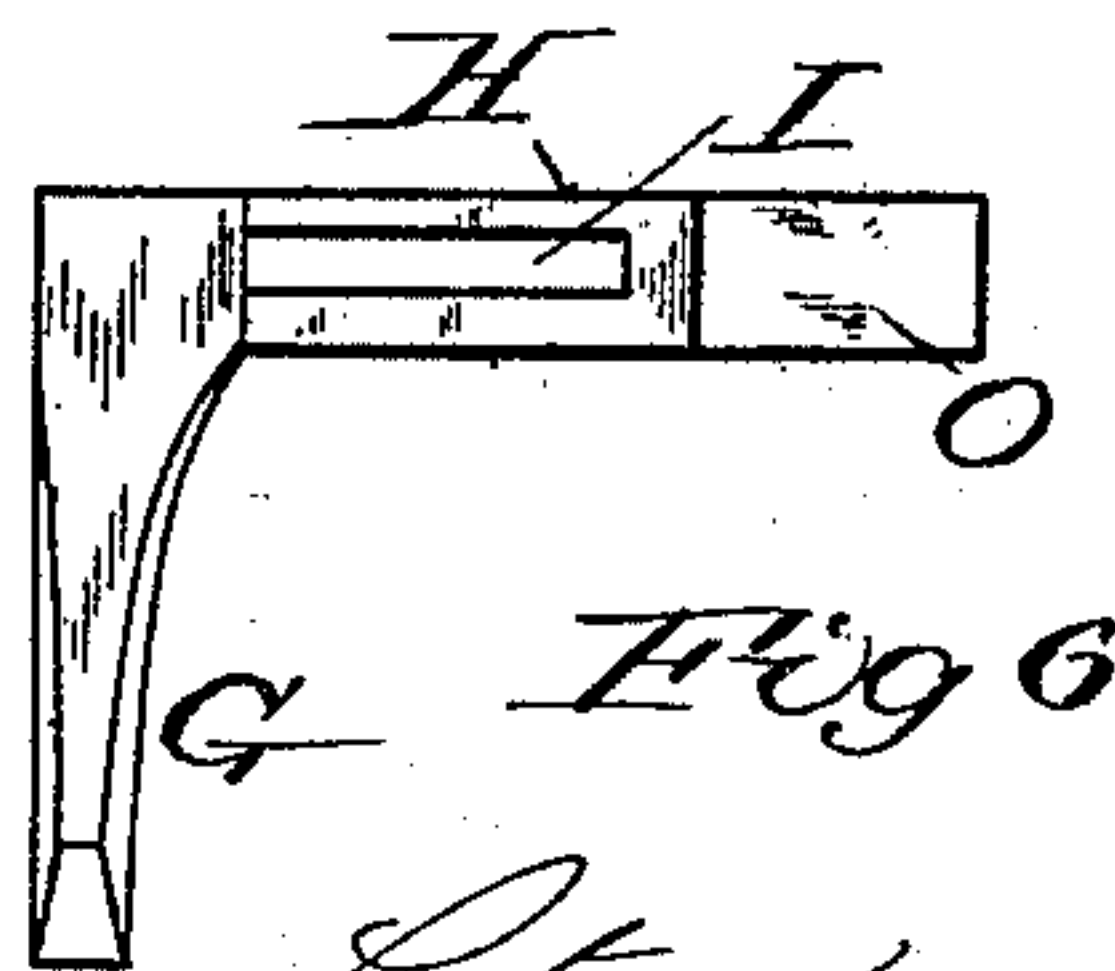
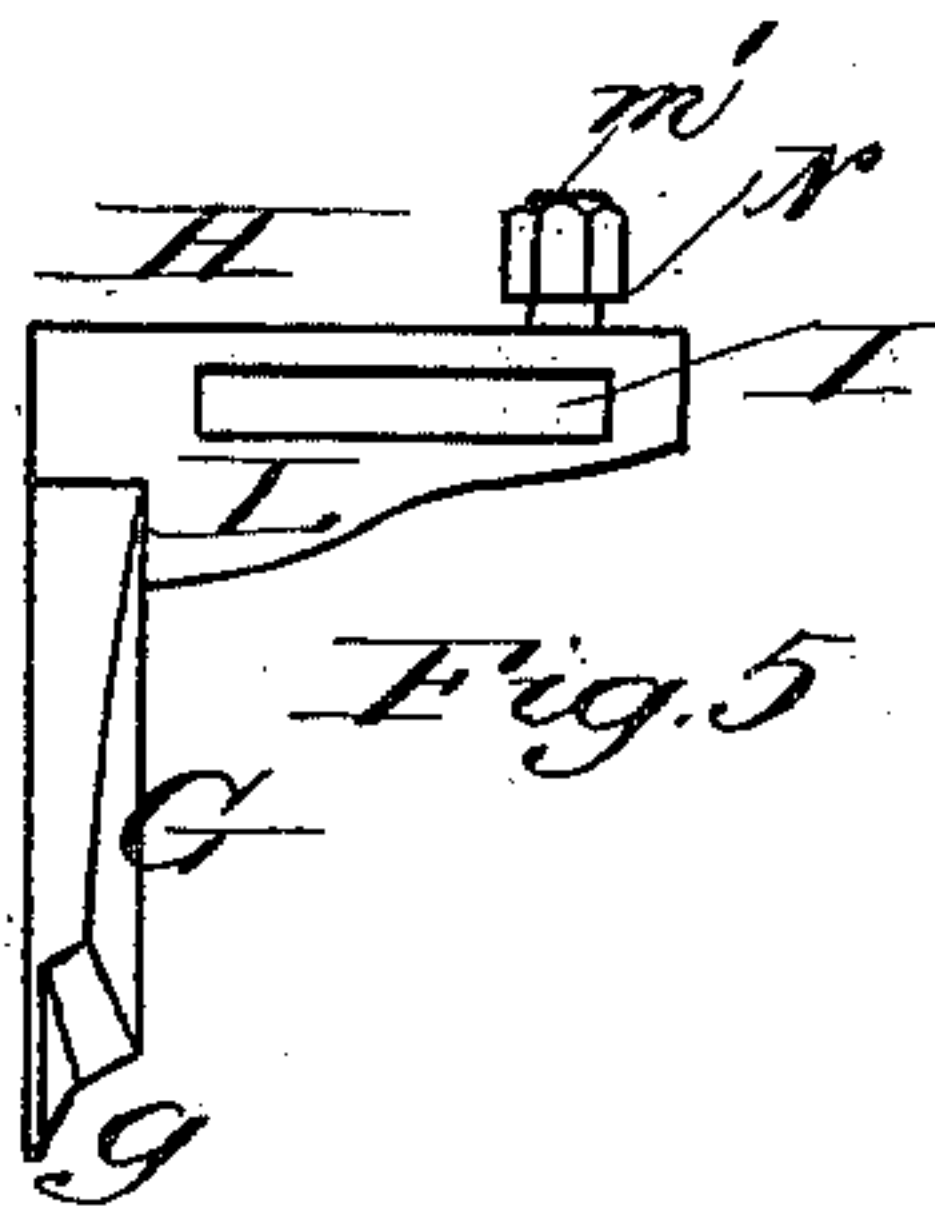
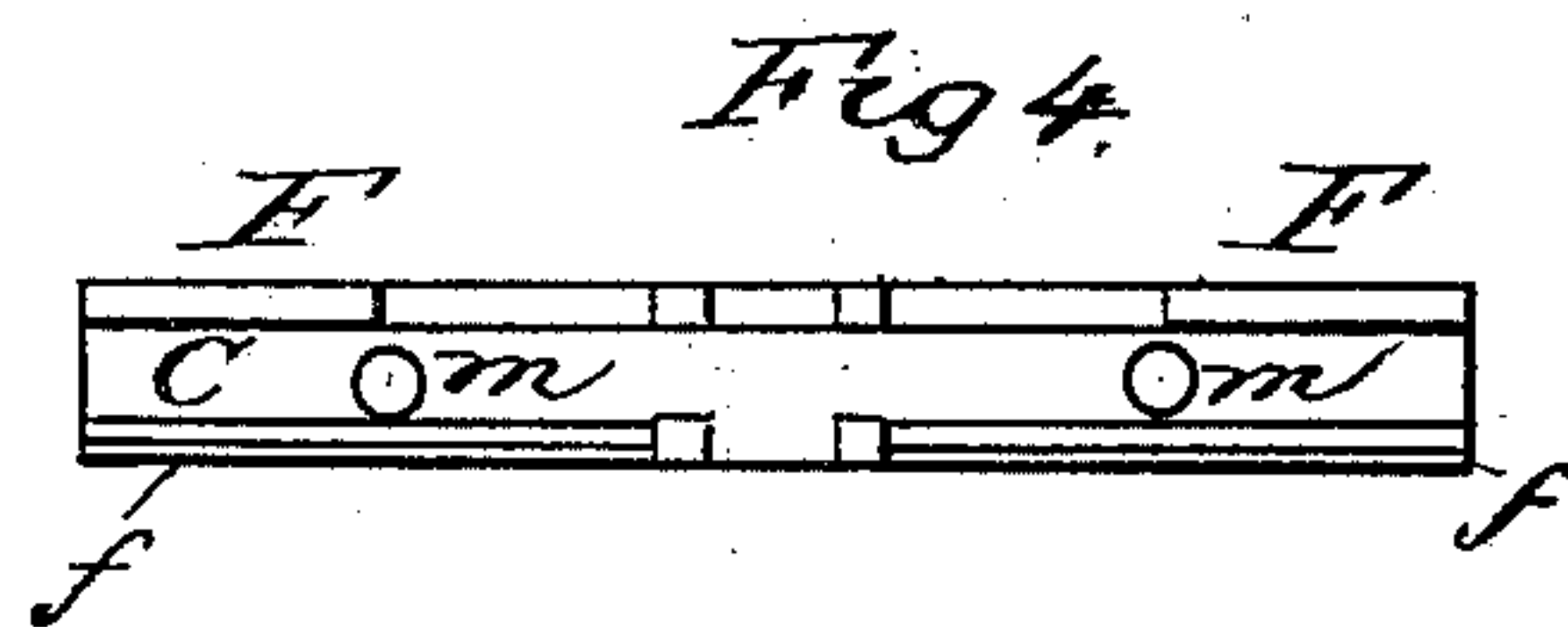
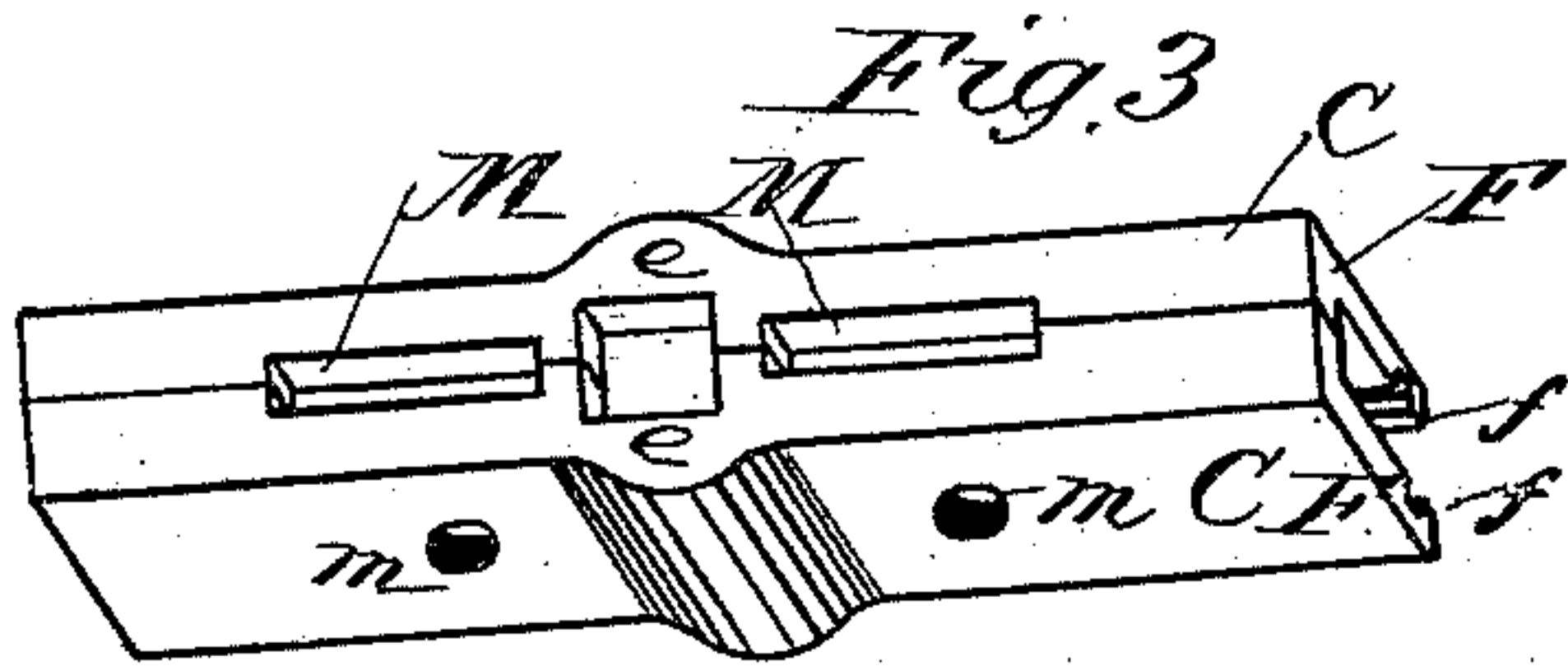
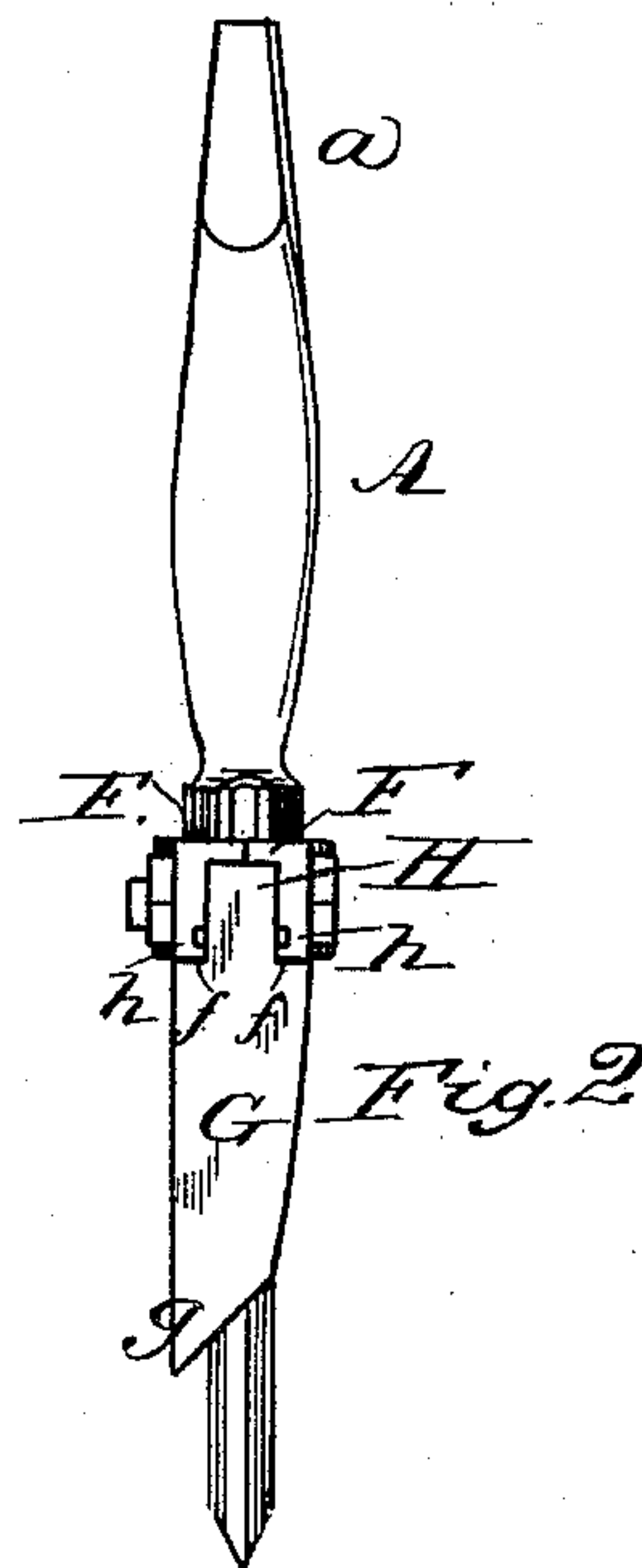
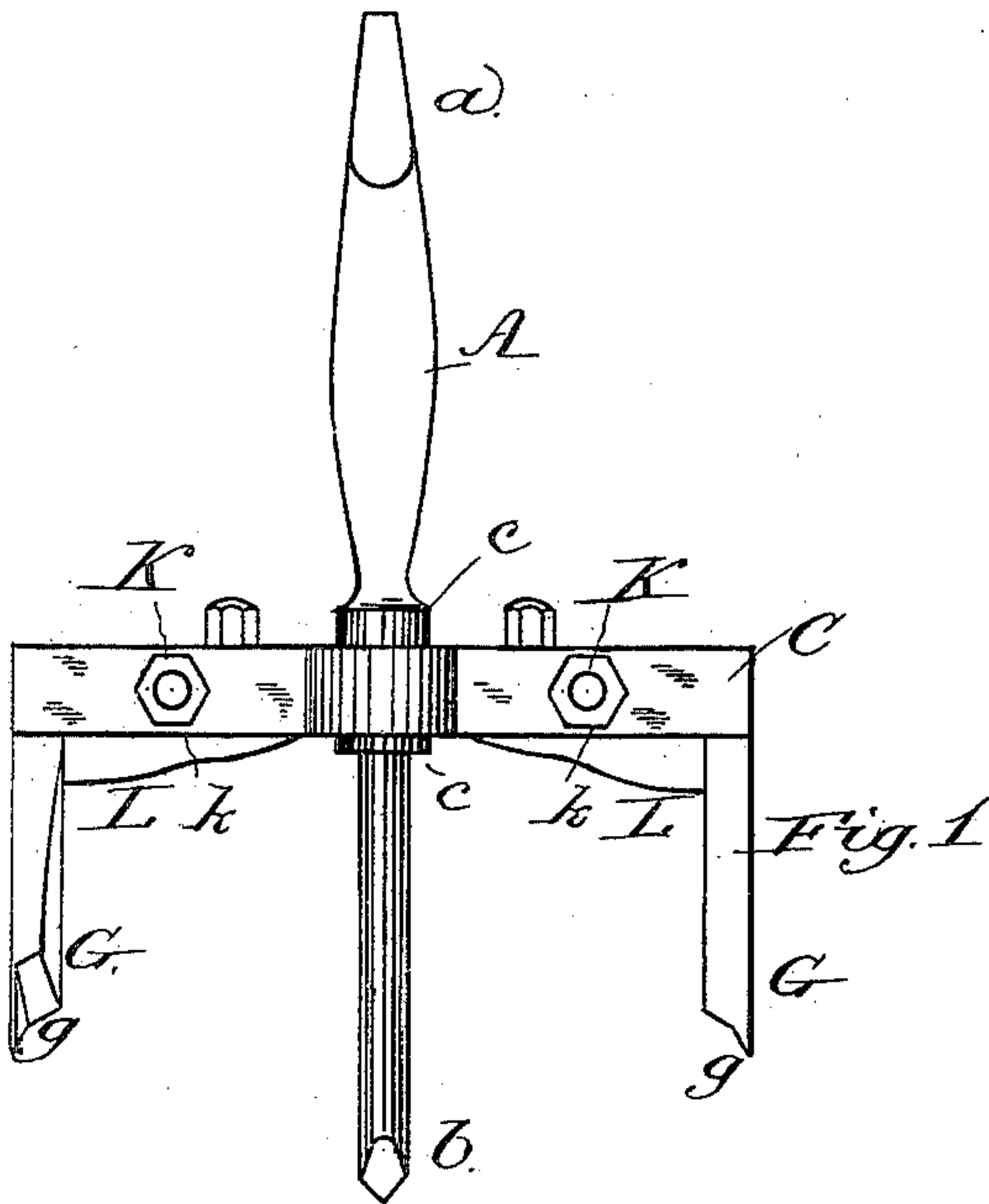
(No Model.)

2 Sheets—Sheet 1.

P. McCAULEY.
EXPANSIBLE AUGER.

No. 338,997.

Patented Mar. 30, 1886.



Witnesses.
E. B. Rankin.
A. A. Connolly

Patent M. Cauley
Inventor.
by his atty
Connolly & Co.

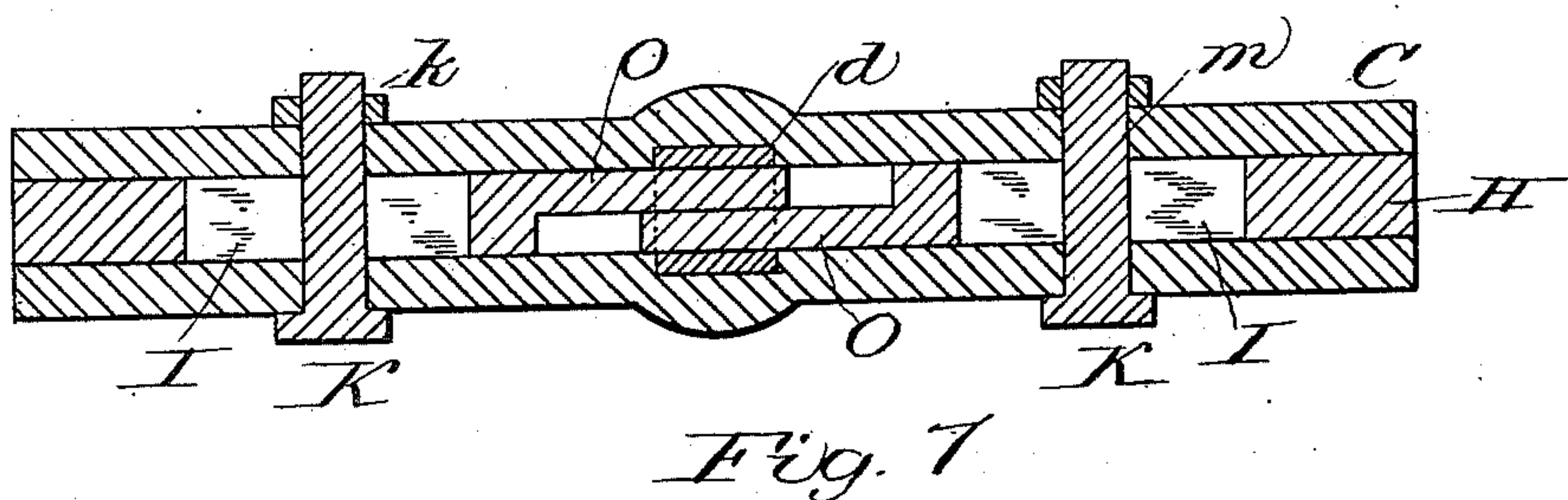
(No Model.)

2 Sheets—Sheet 2.

P. McCAULEY.
EXPANSIBLE AUGER.

No. 338,997.

Patented Mar. 30, 1886.



Witnesses.
E. B. Rankin.
A. A. Connolly.

Patrick M. Cauley,
Inventor.
by his atty,
Connolly & Co.

UNITED STATES PATENT OFFICE.

PATRICK McCAULEY, OF BRADDOCK, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO B. P. McKENNA, OF SAME PLACE.

EXPANSIBLE AUGER.

SPECIFICATION forming part of Letters Patent No. 338,997, dated March 30, 1886.

Application filed November 4, 1885. Serial No. 181,821. (No model.)

To all whom it may concern:

Be it known that I, PATRICK McCAULEY, a citizen of the United States, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Expansible Augers; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to expansible augers for cutting iron, wood, or other material, and has for its object the provision of means whereby a single tool, comprising a bit and a cross-piece secured thereto and consisting of two parts, may be adapted, by the addition of cutting-blades of various kinds, to cut circular holes of various diameters in wood, metal, or other material, or may be employed to cut rosettes upon or out of wood or other material, all as hereinafter described.

The invention consists in the novel construction, combination, and arrangement of parts, as hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 is a face view of my improved auger with rosette-cutting blades in position thereon. Fig. 2 is an edge view of the same. Fig. 3 is a perspective view of the lateral arms removed from the bit. Fig. 4 is a plan view looking at the inside of one of the said arms. Fig. 5 is a detail showing one of the rosette-cutting bits. Fig. 6 is a detail showing a bit for cutting wood or metal. Fig. 7 is an enlarged sectional view showing the manner in which the blades are secured in position.

A designates the body of the bit, having the shank *a* and the cutting-point *b*. The bit may be in the form of a drill, gimlet, or other boring-tool, and is provided with two collars, *c c*, between which lie the cross-arms, to which the blades are attached. The bit is square between the collars *c c*, and is formed with a square hole, *d*, through which passes the shanks of the metal-cutting blade shown in Fig. 6, when the same is employed.

CC designate the cross-arms, which embrace the bit between the collars *c c*, being squared out at *e e*, so as to fit the square portion of the bit. The arms C C have flanges F F on top

and narrow flanges *f f* at their bottom edges. When the arms C C are in position upon the bit, the flanges F F are in contact, as seen in Fig. 2, leaving a rectangular open-ended slot between the cross-pieces C C for the reception of the shanks of the cutting-blades. G G designate these cutting-blades, which are beveled off and sharpened at *g*, in the ordinary manner of cutting-tools of this class. The blades G have lateral shanks H H, which fit into the rectangular slot formed by the joining together of the cross-pieces C C, and on each side the shanks H are formed with beads *h*, which rest upon the narrow flanges *f* when the blades are in position between the cross-pieces C C. The shanks H are provided with longitudinal slots I I, through which pass pins or bolts K K, having nuts *k k*, said bolts also passing through holes *m m* in the sides of the cross-pieces G G. The flanges F F are cut away on each side of the bit, so as to form slots M M, through which project pins N N, having heads *m'*, said pins being secured in or forming part of the shanks H. As a substitute for the pins N, which are shown attached to the blade in Fig. 5, (the object of said pins being to hold the blades steady in the cross-arms C,) I will suggest that the shanks H may be prolonged, as at O O, the portions O O passing through the square holes *d* in the bit and lapping over, as seen in Fig. 7.

Where the tool is to be used for cutting rosettes, I employ the blade shown in Figs. 1 and 5, the shank H in this case having its lower edge formed into a cutting-blade, L, of any desired configuration, width, and depth.

Operation: With each bit and pair of cross-arms C C is furnished a series of the cutting-blades G, of various sizes and kinds, adapted to different kinds of work. For instance, when it is desired to cut rosettes upon or out of wood, the blades shown in Figs. 1 and 5 are employed, while when it is desired to merely cut a circular hole, the blade shown in Fig. 6 is substituted for that shown in Fig. 5.

By means of the screw K, nut *k*, and the slot I in the shank of the blade, the distance between the blades may be readily adjusted, and thus one pair of blades can be made to cut several sizes of holes.

The tool is particularly well adapted for cut-

ting holes in iron plates, for the reason that but a small quantity of the iron is actually operated upon, as the tool cuts out quite a large disk at one operation.

5 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an auger, the combination, with bit A and cross-arms C C, embracing said bit and
10 formed with the flanges F f, of the vertical blades G G, having the lateral shanks H H, longitudinally slotted at I, and adapted to fit between said cross-arms, and the screws K K, passing through holes in said cross-arms and
15 the slots in the lateral shanks, and serving to secure the cross-arms together and permitting adjustment of the cutting-blades toward and from said bit, substantially as described.

2. The combination, with the bit A and the
20 cross-arms C C embracing the same, with the blade G, having the shank H, and the blade

L on the lower edge of said shank, of the screw K, passing through said cross-arms and securing them together and the blade in position, substantially as described. 25

3. In an expansible auger, the combination, with a bit, A, cross-pieces C C, embracing said bit and formed with flanges F F on their upper edges, of the cutting-blades G, having slotted lateral shanks, and pins N on said shanks
30 passing through slots M, formed in the flanges F F, and serving to steady the blades in the cross-arms, and the screws K K, passing through said cross-arms and the slotted shanks, substantially as described. 35

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of November, 1885.

PATRICK McCAULEY.

Witnesses:

A. A. MOORE,
C. L. STRAUB.