

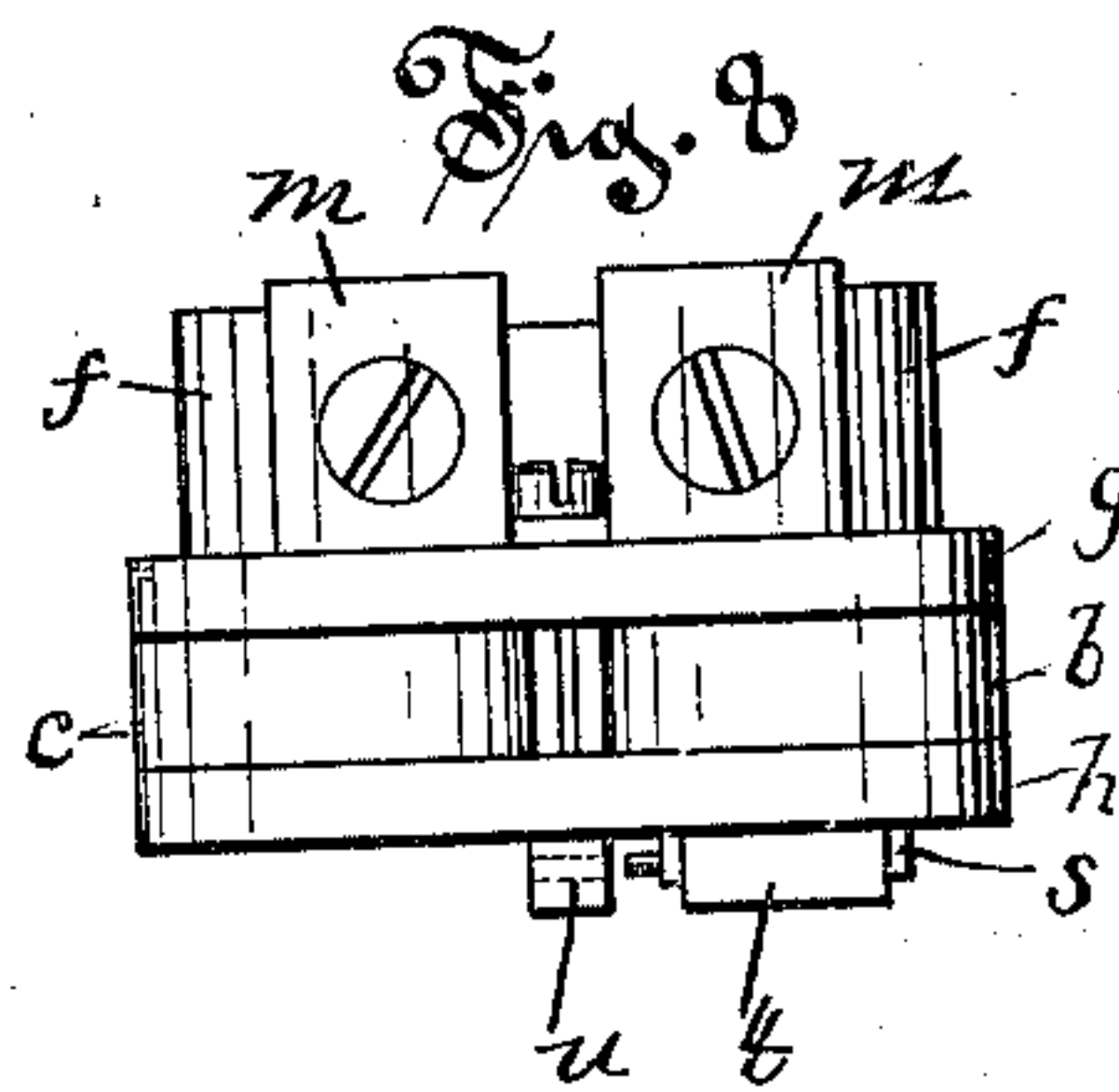
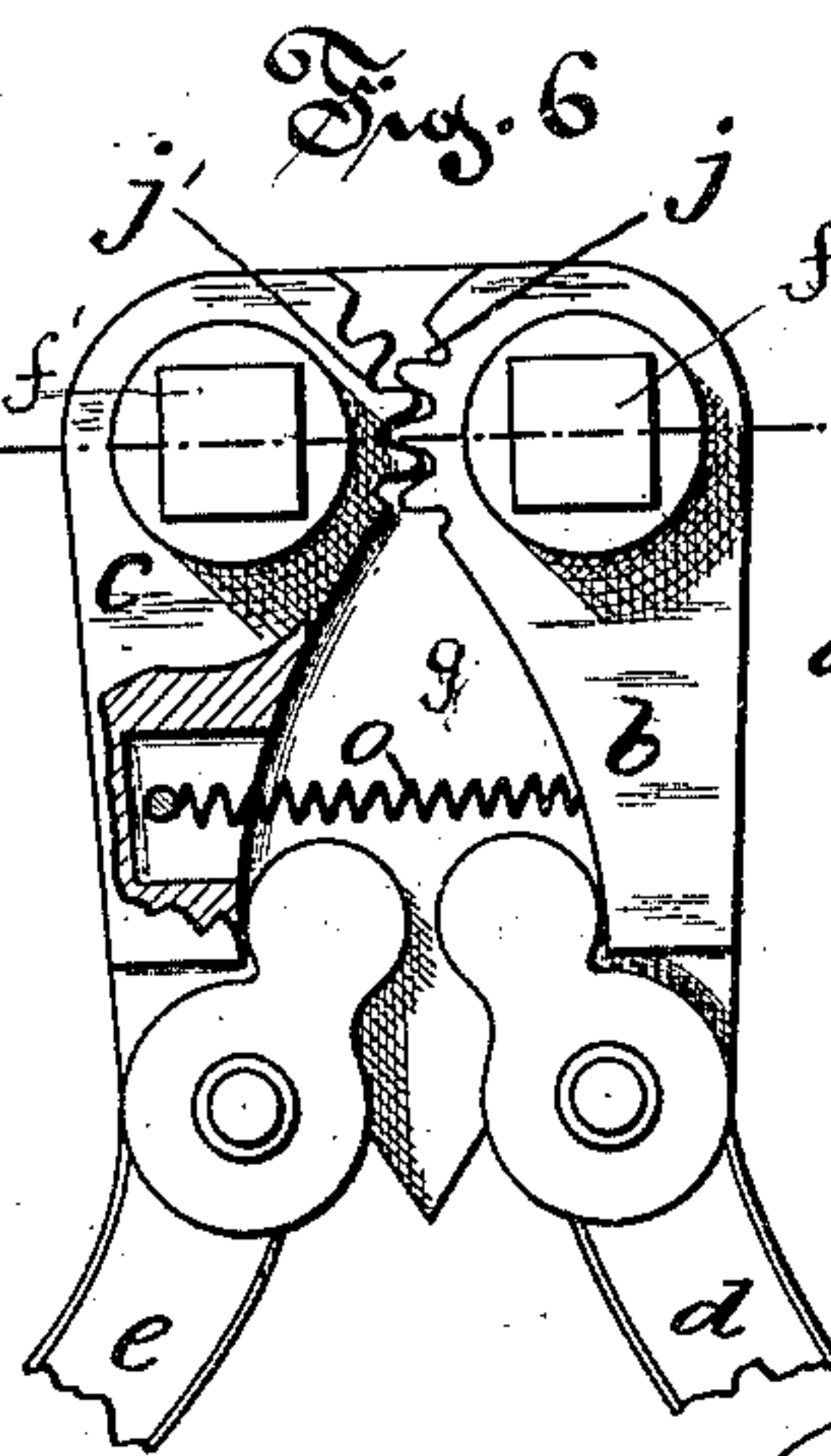
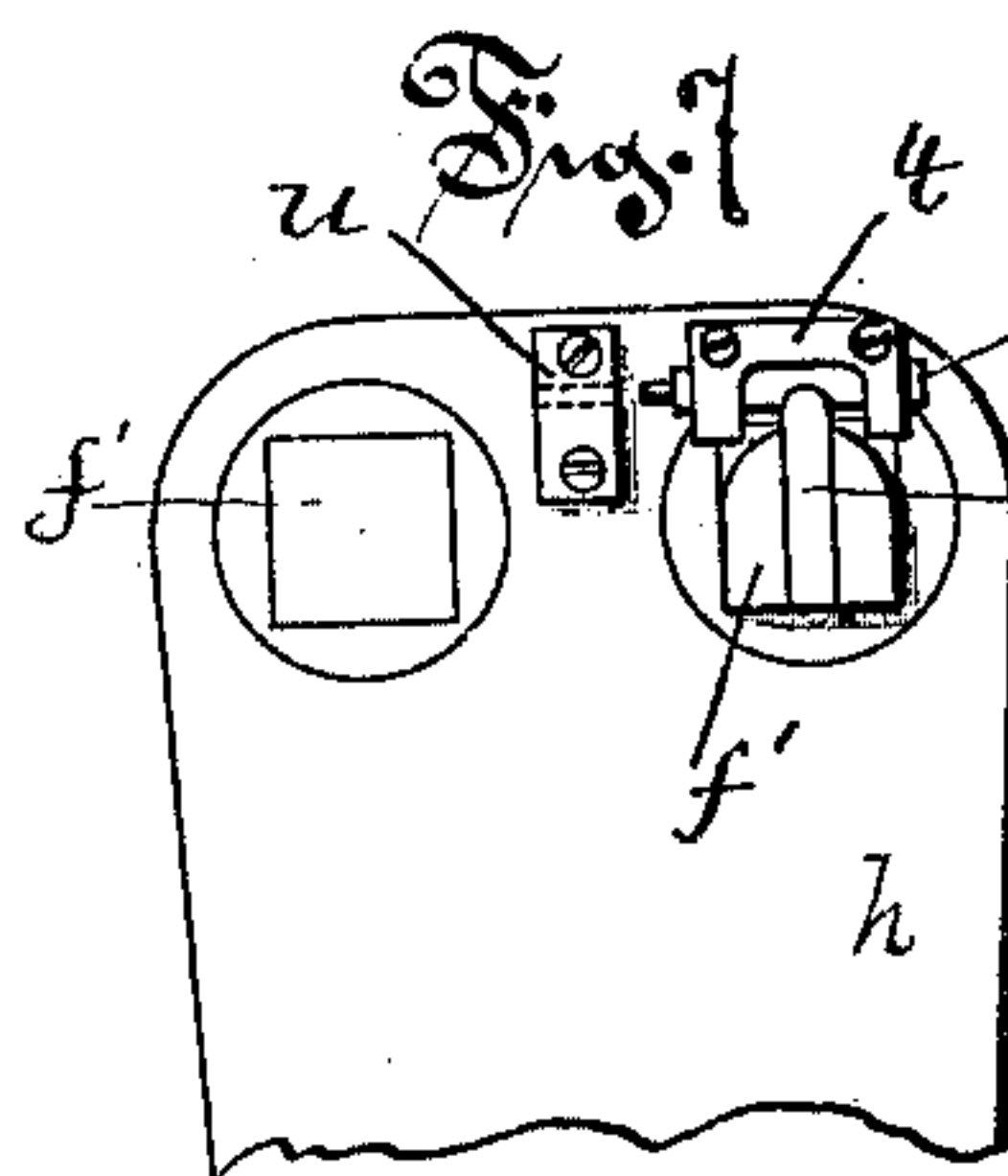
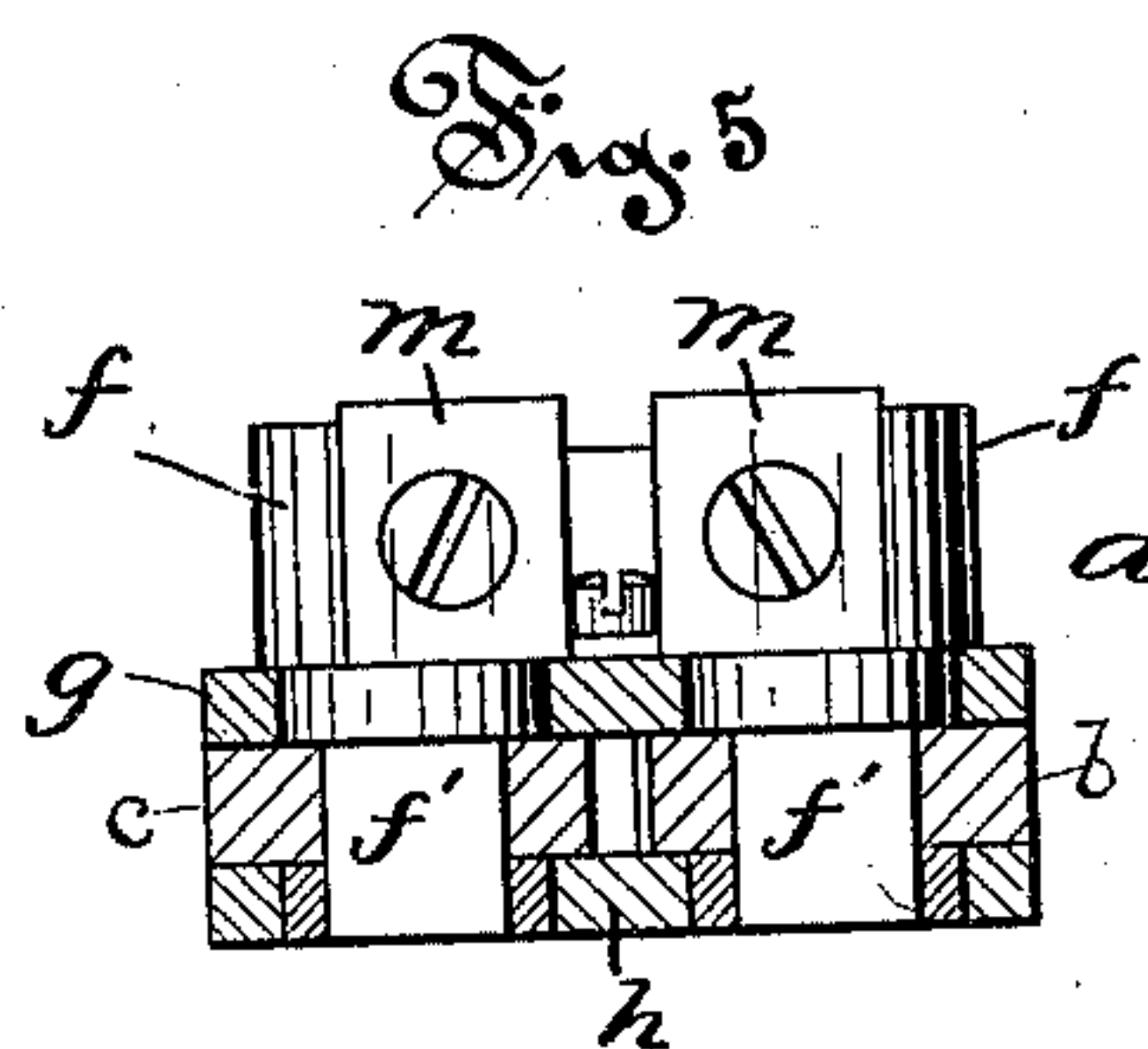
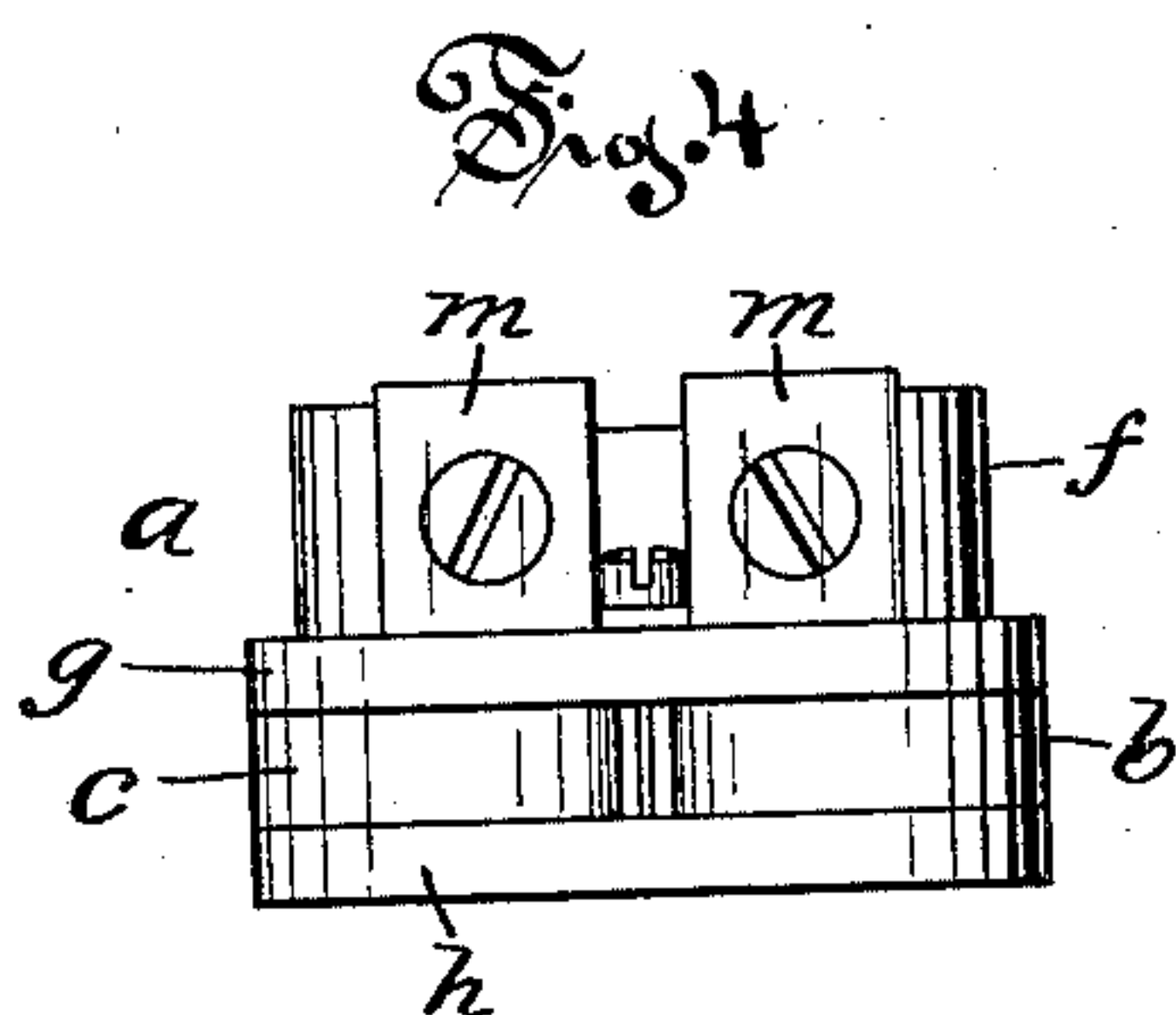
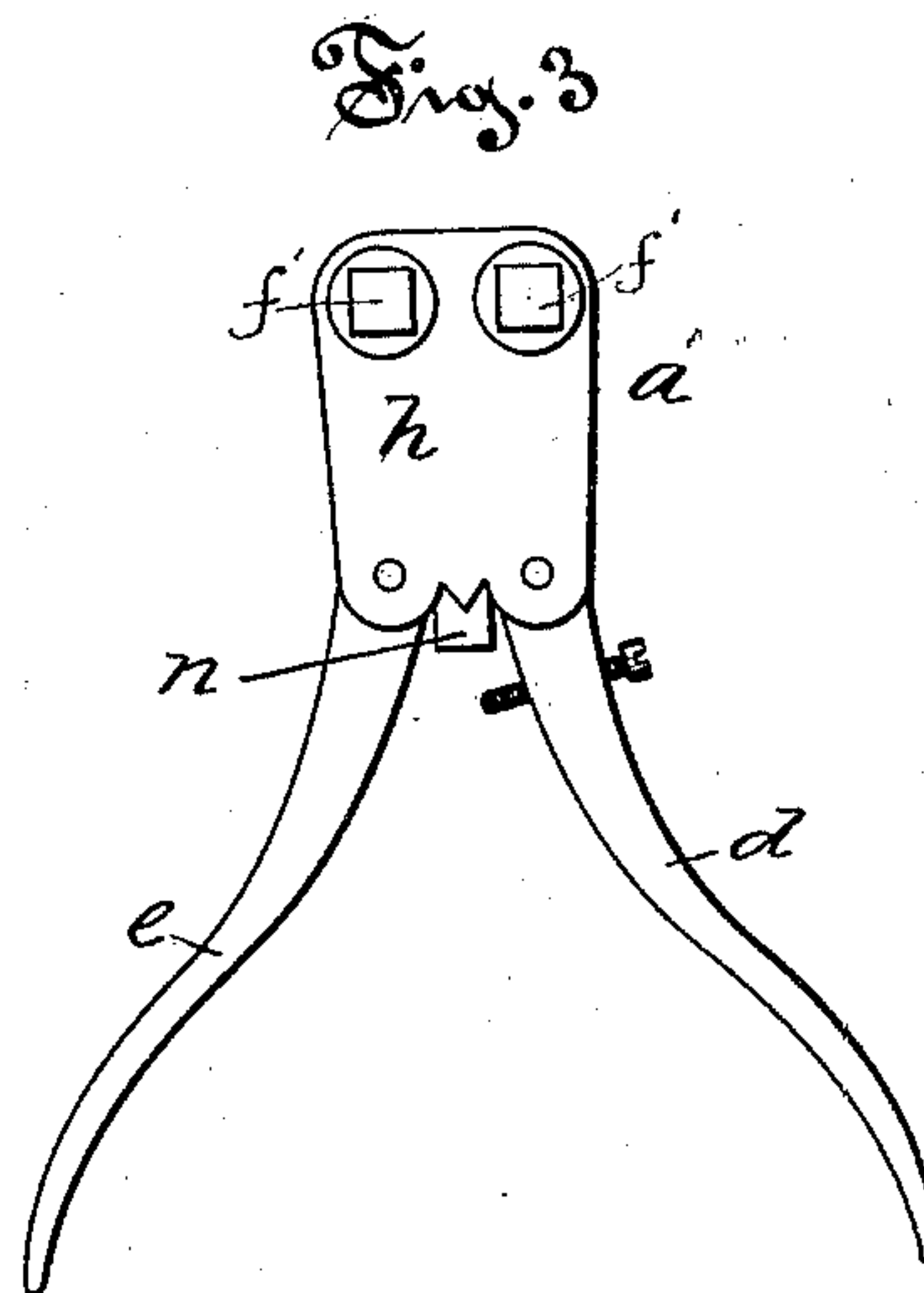
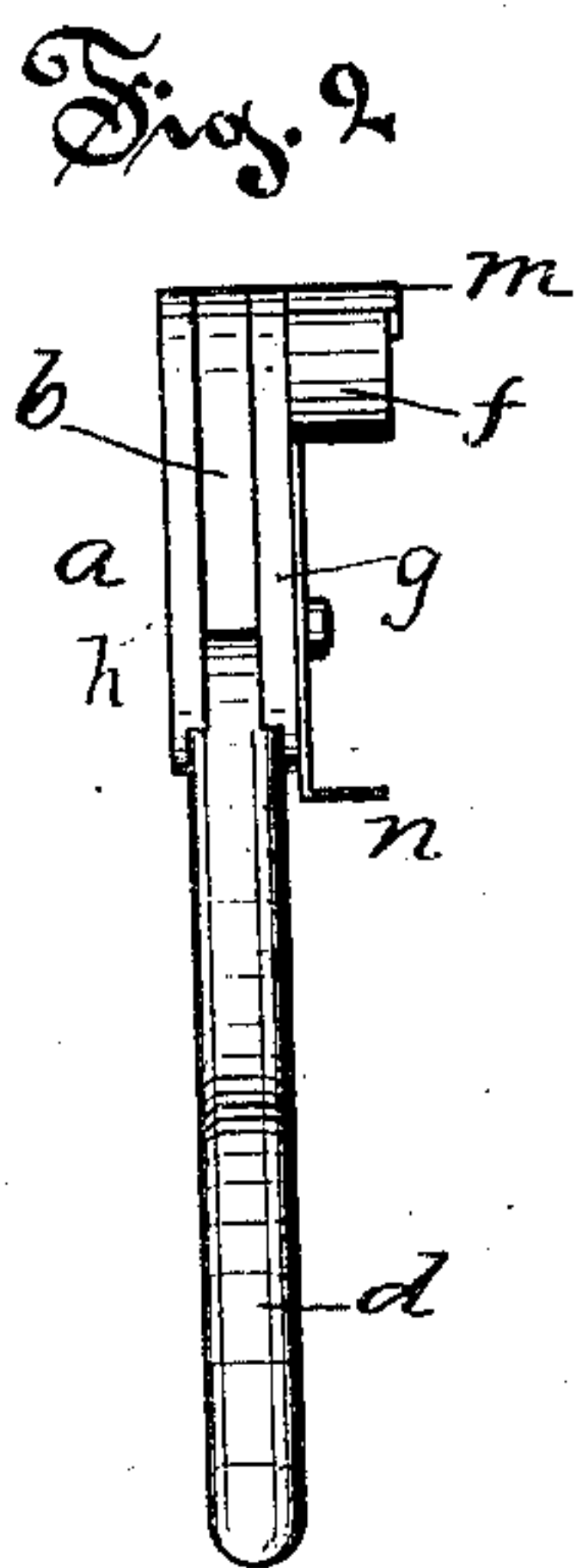
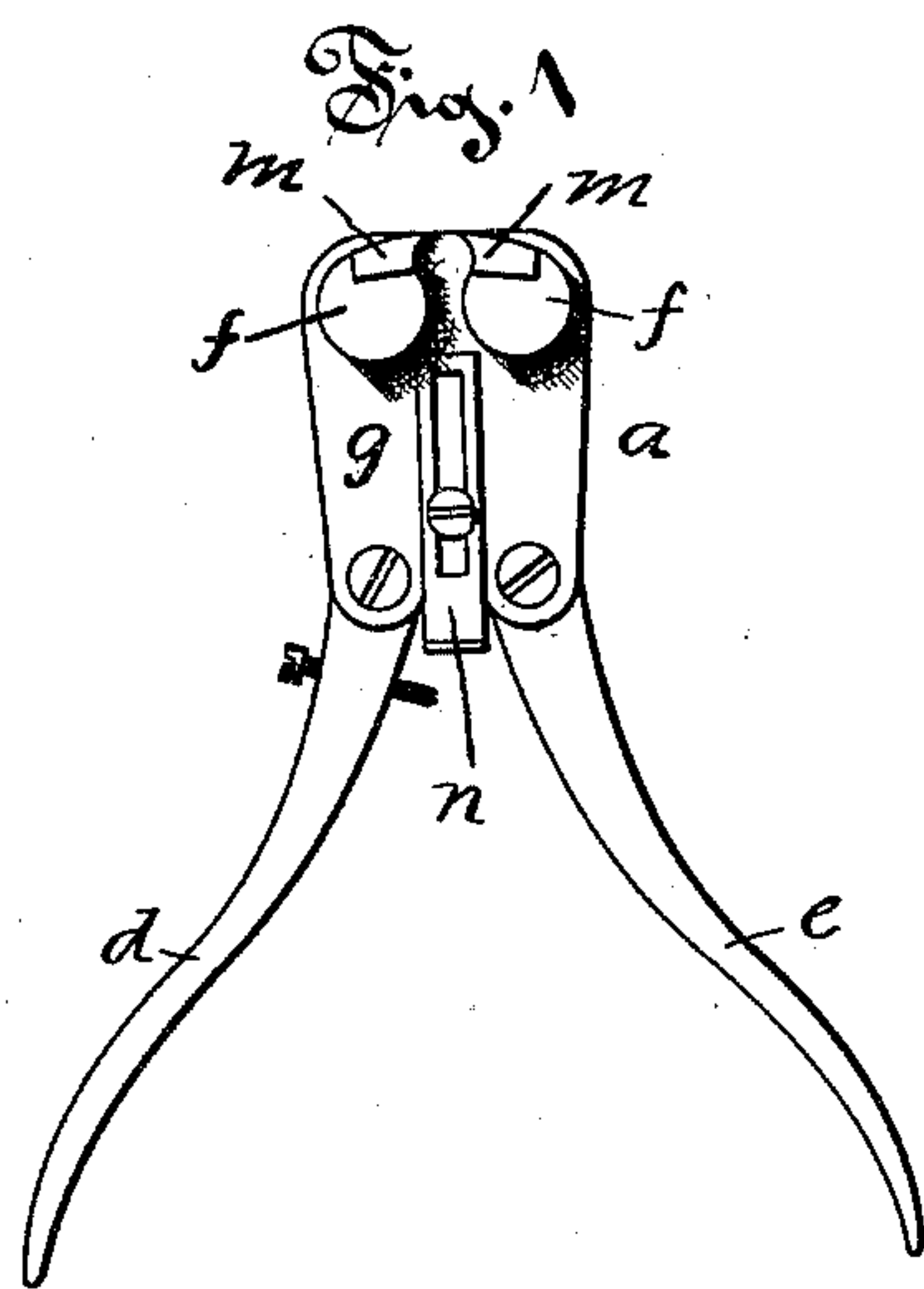
(No Model.)

J. THOMSON.

COMBINED CUTTING PLIERS AND PUNCH.

No. 283,833.

Patented Aug. 28, 1883.



Witnesses
W. M. Sporkman
Edwin A. Dinwiddie.

Inventor
John Thomson,
By Simonds & Burdett,
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN THOMSON, OF HARTFORD, CONNECTICUT.

COMBINED CUTTING-PLIERS AND PUNCH.

SPECIFICATION forming part of Letters Patent No. 283,833, dated August 28, 1883.

Application filed June 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Combined Cutting-Pliers and Punch; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Figure 1 is a front view of my improved cutting-pliers. Fig. 2 is a side view of same. Fig. 3 is a back view of same. Fig. 4 is a top view of same. Fig. 5 is a view in cross-section on the plane denoted by line *x x* of Fig. 6. Fig. 6 is a back view of my device with the plate removed. Fig. 7 is a back view of my device, showing the punch, which has been omitted from previous views to prevent confusion. Fig. 8 is a top view of the complete tool shown in Fig. 7.

My invention relates to the class of cutting-pliers adapted for use with removable cutting-blades; and it consists in the peculiar arrangement of the blades upon projecting shafts; in the combination of the lever-arms provided with segmental gears and handles, and in other details more particularly hereinafter described.

In the accompanying drawings, the letter *a* denotes the main body or case of the pliers as a whole, pivoted in which are the short lever-arms *b c* and the lever-handles *d e*. The short shafts *f* are shouldered to form a bearing against the face of plate *g*, through which plate and the opposite rear plate, *h*, the reduced part *f'* of the shafts pass, and in which plates they are so seated as to permit rotation. The part *f* is made square in section between the inner faces of the plates and upon this squared portion fits the upper ends of the shaft-arms *b c*. These arms are provided for a certain distance on their inner edges with segmental gears *j j'*, which intermesh. At the opposite edges of the case, at its lower side, are pivoted the lever-handles *d e*, between the plates, in such manner that their short arms reach up-

ward between the lower ends of the shaft-arms and engage them, so that by pushing the lever-handles inward the shafts are rotated through the medium of the intermediate shaft-arms. In the upper side of the projecting part of each of the short shafts a socket is made in which is fitted a cutting-blade, *m*, fastened by means of the screw passing radially through the blade into the shaft. The rear side of the blade fits closely against the side of the socket in the shaft and is thus firmly backed up in cutting. The cutting is effected by the rotation of the shafts, which forces the cutting-edges of the blades together with a peculiar rolling motion, which aids in the work. To the front of the case a gage, *n*, having an upturned shoulder, is adjustably attached by means of a screw passing through a slot in the gage, and by means of this gage the lengths of pieces cut by the pliers may be determined and kept constant. The arrangement of the blades upon the projecting shafts enables the tool to be used in cutting from sheets of metal or from wire and the like with equal advantages, and the intermeshing segmental gears upon the shaft-arms serve to move the blades simultaneously with a uniform motion and give an even cut. A spring, *o*, is secured to the shaft-arms in such manner as to tend to keep the blades apart as their normal position.

In Figs. 7 and 8 I show the special feature of my invention, that adds greatly to its utility and efficiency as a bench-tool for use in jewelers' and other light work. The reduced part *f'* of either shaft is extended beyond the face of the back plate, and a finger or lug, *r*, secured to it in such position as to extend into a mortise in the edge of the sliding bolt *s*, which is seated so as to move freely in the socket *t* fast to the back plate. The forward end of the bolt works in connection with the die *u*, also fast to the back plate in proper position, in line with the bolt, and the whole forms a punch that is useful in forming holes in thin metal—as in watch-springs and the like. The punch is operated by the handles, the same mediums as the blades, which are also fast to the rotary shaft, as the rotation of the shaft causes the bolt *s* to slide back and forth.

I claim as my invention—

1. In combination, the case bearing the projecting rotary shafts having cutters, the shaft-arms, having intermeshing segmental gears, and the lever-handles pivoted to the case, all substantially as described.

2. In combination, the case bearing the projecting rotary shafts with removable cutting-blades and operating-levers, all substantially as described.

10 3. In combination, the cutting-pliers, having laterally-projecting blades, and the adjustable gage, attached to the case or body of the pliers, all substantially as described.

15 4. In combination, the case, the rotary shafts bearing the cutting-blades, and the shaft-arms

having intermeshing segmental gears, all substantially as described.

5. In combination, case *a*, shafts *f*, blades *m*, finger *r*, fast to the shaft, sliding bolt *s*, die *u*, and the operating-levers, all substantially as described.

6. In combination, the lever-handles, the case *a*, bearing the rotary shafts *f*, having on opposite ends the cutting-blades and punch, and the intermediate shaft-arms, all substantially as described.

JOHN THOMSON.

Witnesses:

CHAS. L. BURDETT,
EDWIN F. DIMOCK.