

No. 754,812.

PATENTED MAR. 15, 1904.

H. SCHMIDT & V. ISKIYAN.

COMBINATION TOOL.

APPLICATION FILED AUG. 5, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

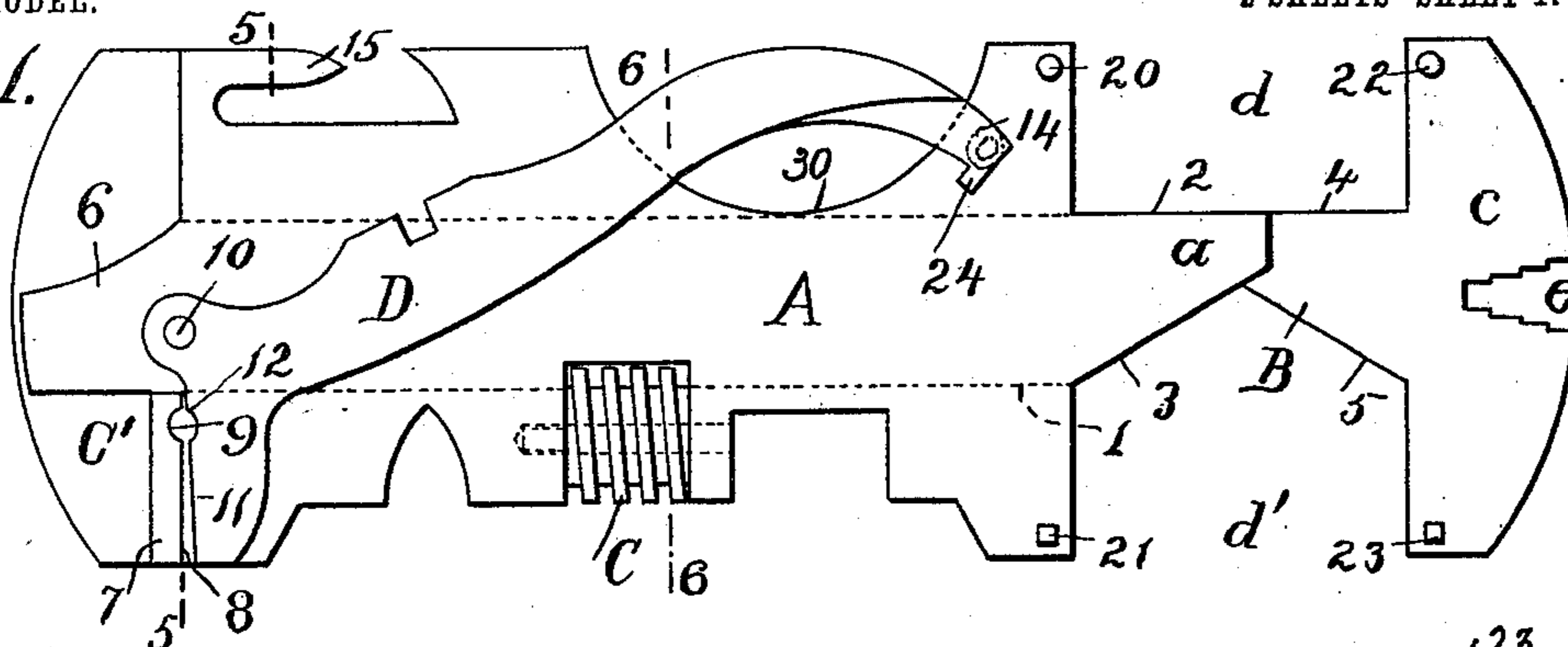


Fig. 2.

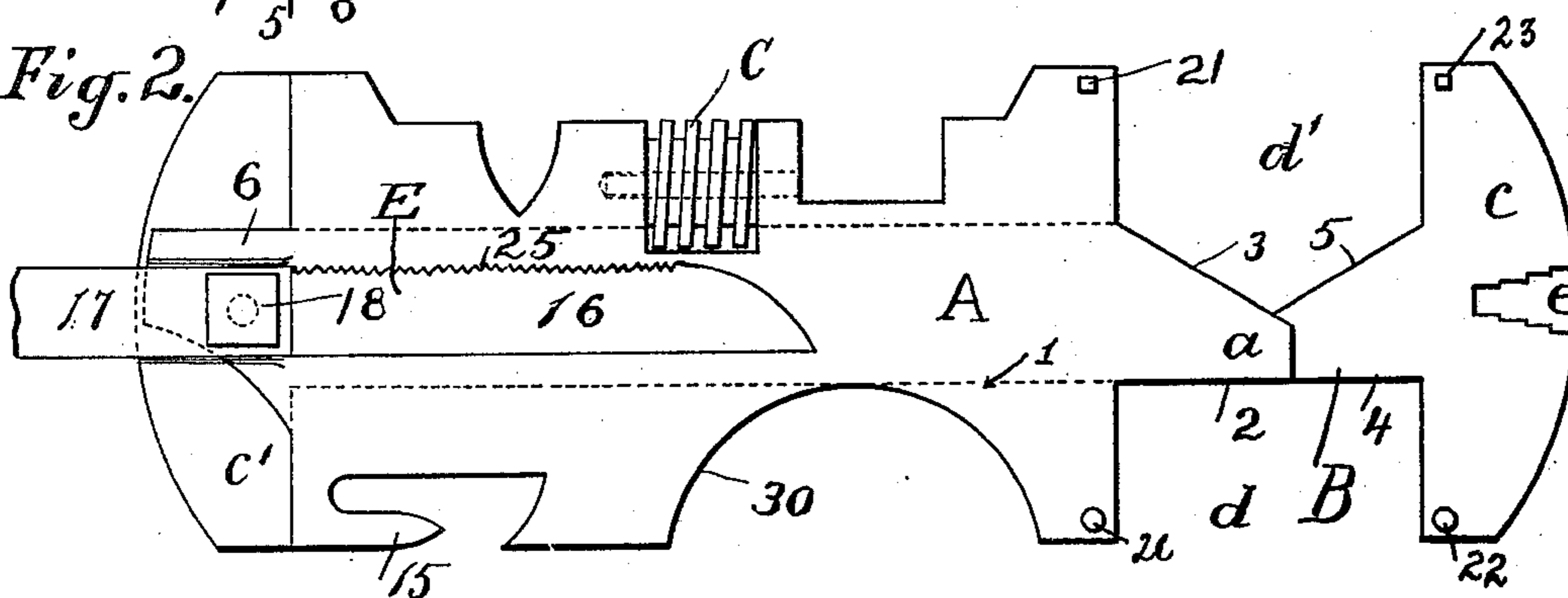


Fig. 3.

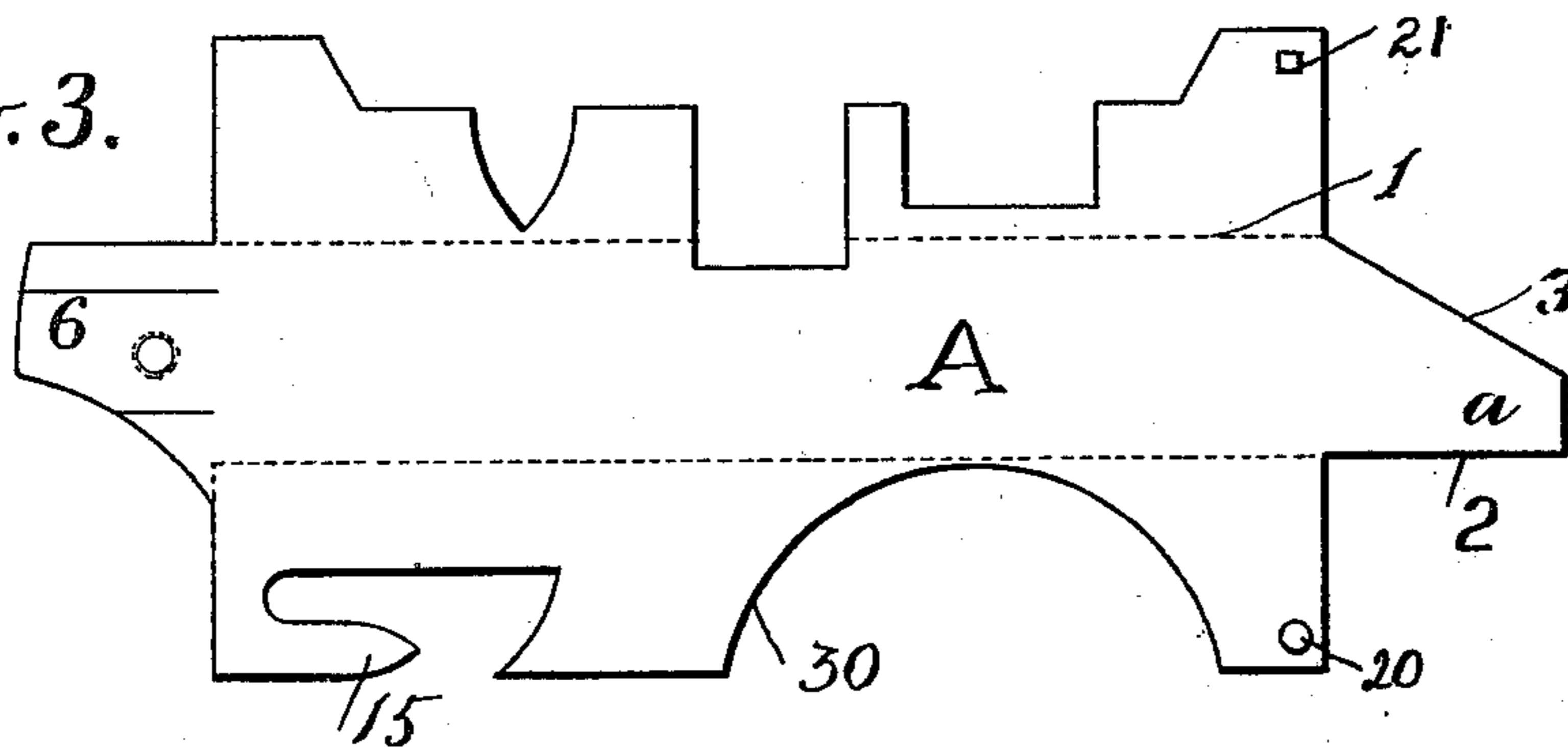
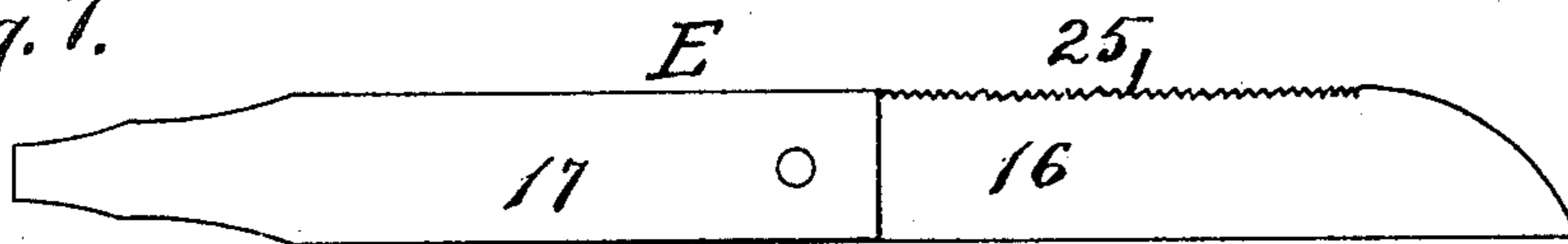


Fig. 7.



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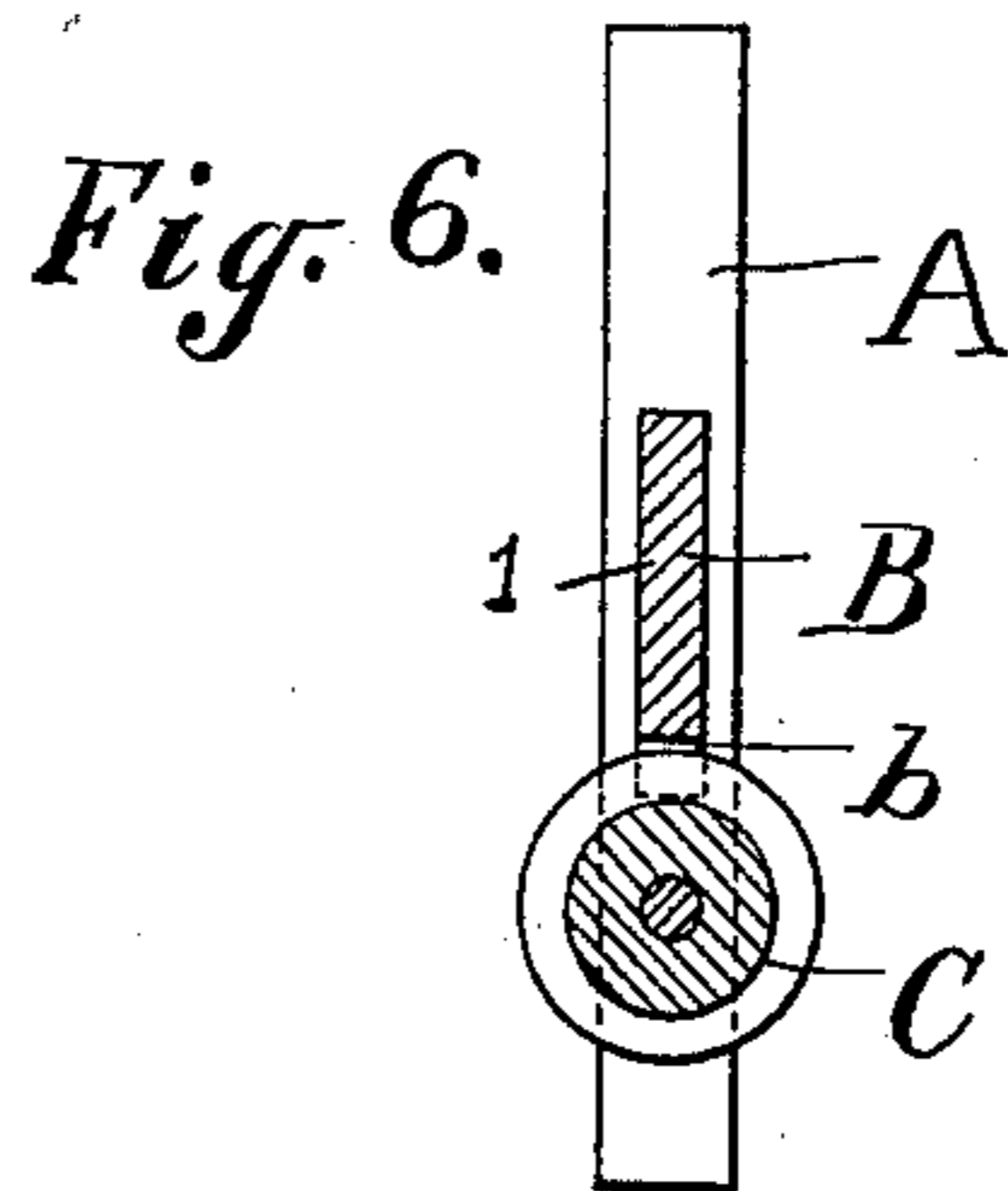
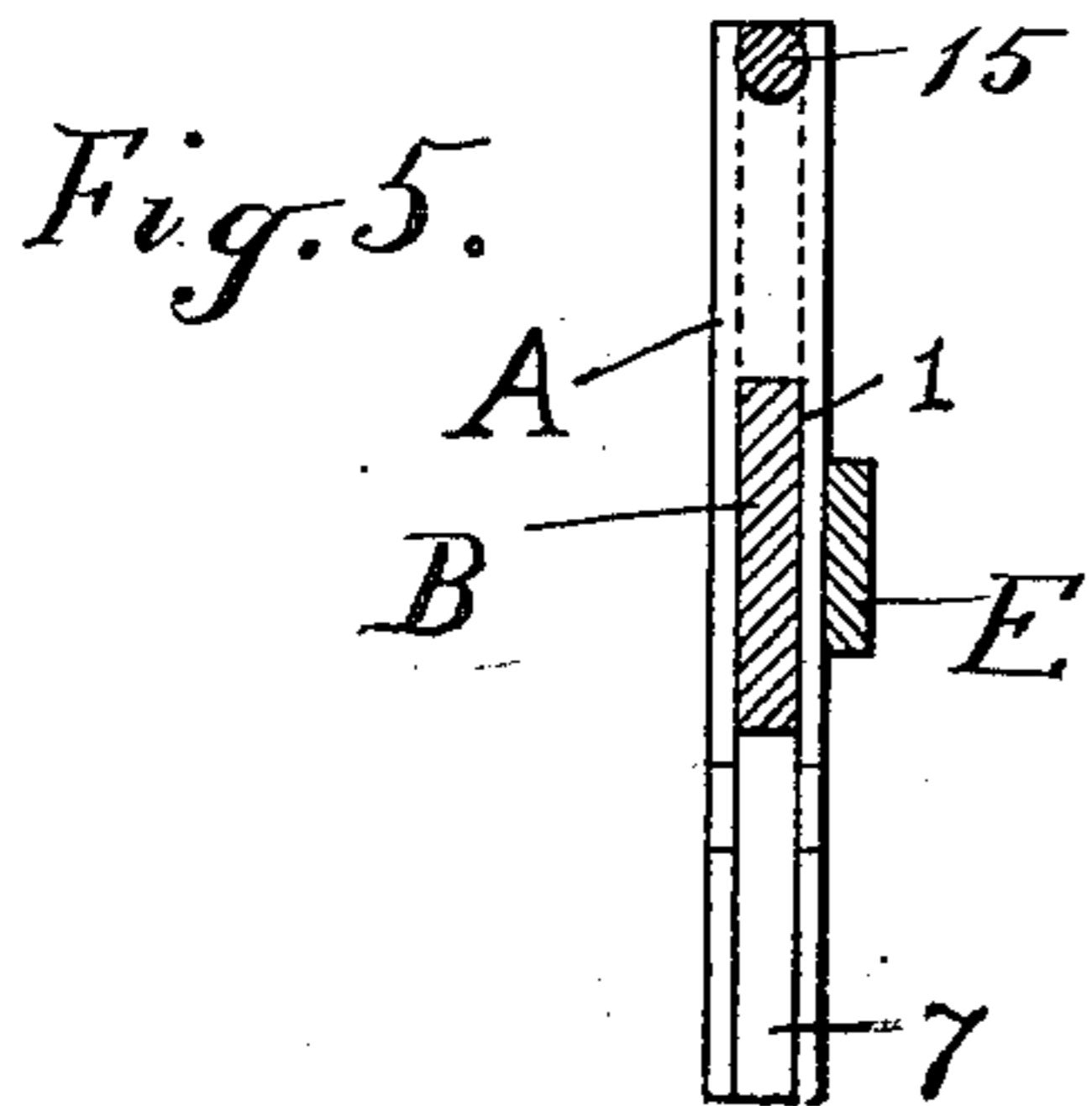
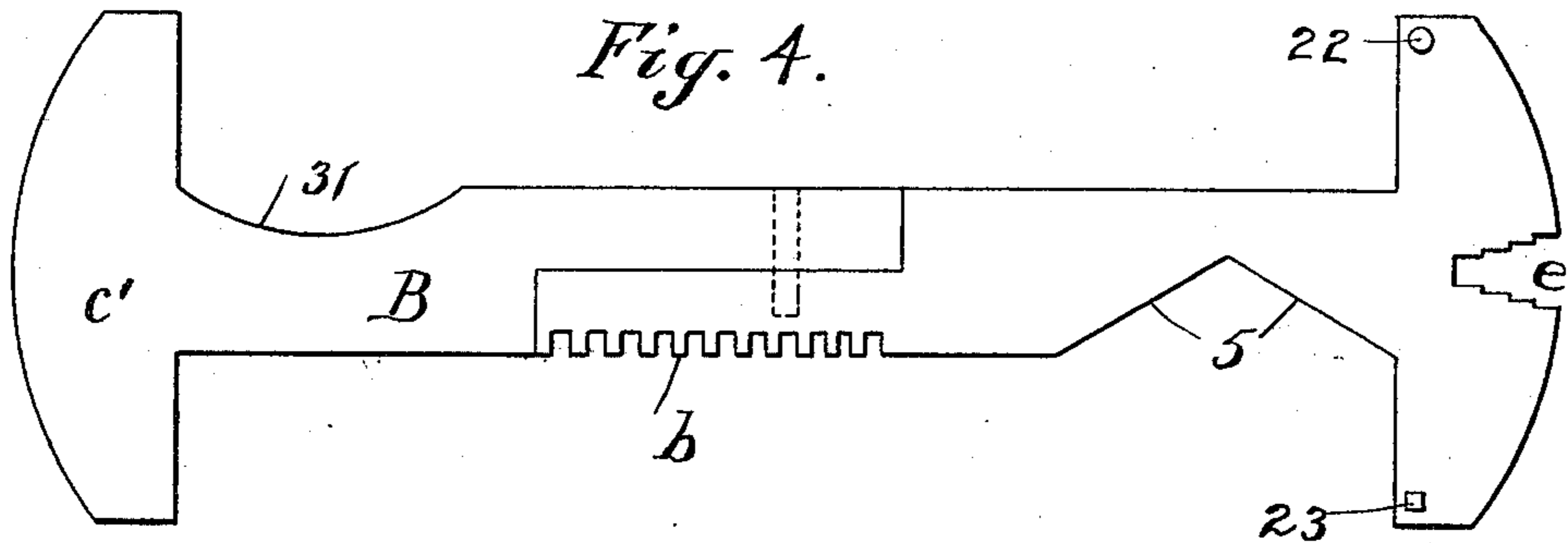
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NO MODEL.

2 SHEETS—SHEET 2.



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COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 754,812, dated March 15, 1904.

Application filed August 5, 1902. Serial No. 118,546. (No model.)

To all whom it may concern:

Be it known that we, HENRY SCHMIDT and VICTOR ISKIYAN, residing at Collegepoint, in the county of Queens and State of New York, have invented certain new and useful Improvements in Combination-Tools, of which the following is a specification.

Our invention has reference to combination-tools, especially adapted for use by bicyclists, chaffeurs, and machinists, and has for its objects to provide in one simple and effective combination a wrench for square, hexagonal, and other nuts, means for cutting and coiling wire, a plier, a knife and screw-driver, a tire-cleaner, and a spoke-wrench, all such parts being arranged in a light and compact form, so as to be conveniently carried in the pocket, while at the same time the tool is strongly built and can be readily handled.

To this end our invention consists, essentially, in a combination-tool comprising a handle having a longitudinal passage-way and provided with a stepped end, a slide provided at one end with a jaw having the faces adjacent to the ends of the handle matching said end on the handle for the purpose of forming at one end of the tool wrench-sockets and at the other end with a jaw provided with a plier-surface and a shear-surface, and a plier-lever pivoted to the handle and coöperating with the latter surfaces for the severance of wire and the holding of material.

Our invention consists in other novel features of construction, as hereinafter more fully pointed out in connection with the accompanying drawings, in which—

Figure 1 represents a side elevation of a combination-tool embodying our invention, part of the handle being broken away. Fig. 2 is a similar view taken from the opposite side of Fig. 1. Fig. 3 is a side elevation of a handle. Fig. 4 is a side elevation of a slide. Fig. 5 is a transverse section on the line 5 5, Fig. 1. Fig. 6 is similar section on the line 6 6, Fig. 1. Fig. 7 is a side view of the knife and screw-driver blade.

Similar letters and numerals of reference designate corresponding parts throughout the several views of the drawings.

Referring to the drawings, the letter A des-

ignates the handle of the combination-tool, which is preferably made quite flat and provided with a longitudinal passage-way 1, extending entirely throughout the same and adapted for the reception for the slide B, neatly fitted therein and provided on one edge with a rack *b*, adapted to be engaged by a worm C, mounted in the handle A for the purpose of moving said slide relatively to the handle in a usual manner. Of course other means for effecting the movement of the slide could be employed.

One end of the handle A is provided with a projection *a*, having one of its surfaces, 2, at right angles to the end of the handle, while its opposite surface, 3, extends obliquely or is inclined to the end of the handle, thus providing the handle with a stepped end. At the corresponding end the slide B is provided with a jaw *c*, having similar surfaces 4 and 5, as best seen in Figs. 1, 2, and 3, the parts described forming sockets *d* and *d'*, adapted, respectively, for square and hexagonal nuts of any size within the limits of the wrench. The other end of the handle is provided with longitudinal extensions 6 for the guidance of a jaw *c'*, having thereon a plier-surface 7, provided with a longitudinal groove 8 and with a transverse groove 9. To the handle A is pivoted at 10 a plier-lever D, provided with a plier-surface 11, extending in the direction of the length of the surface 7 and having a transverse groove 12, matching the transverse groove in said surface. When the slide B is in the position shown in Figs. 1 and 2, the jaw *c'*, in combination with the plier-lever D, is retained in its normal position by having its free end provided with a nib adapted to engage with a shallow socket 14 formed in the handle A. On the handle is also formed, preferably at the end adjacent to the jaw *c'*, a wire-coiling prong 15. This may be formed by recessing the handle, as shown in Figs. 1, 2, and 3, and then rounding up the projecting parts. In practice, as shown in Fig. 4, we make the slide B in two parts suitably joined for the purpose of enabling its insertion into the handle, although the handle may be made in two parts and joined after the insertion of a solid slide.

We also provide a reversible blade E, comprising a knife-blade 16 and a screw-driver blade 17, adapted to be removably attached to the projection 6 of the handle A in any suitable manner—as, for instance, by means of the clamping-screw 18 entering said projection—and said projection being slotted longitudinally for firmly holding the blade in either position.

We furthermore provide the handle A at or near the end adjacent to the jaw *c* with pins 20 and 21, and the said jaws are also provided with similar pins 22 and 23, arranged opposite to the pins aforesaid for the purpose of forming spanners for the setting of cones in bicycles. These pins may be formed by round and square headed screws, as shown in the drawings. For a like purpose we provide the plier with a hooked end 24, adapted to engage with the recesses or notches in the cone.

The knife-blade 16 is also preferably provided either on its back or side with a file 25.

In the handle A we also form a substantially semicircular depression 30, adapted for the purpose of cleaning tires by placing the same against the tire and turning the wheel. We also form in the slide B a circular depression 31, which, in connection with the jaw *c'* and the handle A, forms a wrench for half-round nuts.

What we claim as new is—

1. A combination-tool comprising a handle having a longitudinal passage-way and provided with a stepped end, and a slide provided with jaws, the faces of one matching one end of the handle for the purpose of forming different wrench-sockets on opposite sides, and the other jaw being provided with a plier-surface, and a plier-lever pivoted to the handle and coöperating with the plier-surface for the holding of metal, substantially as described.

2. A combination-tool comprising a handle

having a longitudinal passage-way and provided with a stepped end, a slide provided with jaws, the faces of one matching one end of the handle for the purpose of forming different wrench-sockets on opposite sides, and said jaw containing a tapered socket for small nuts, and the other jaw being provided with a plier-surface, and a plier-lever pivoted to the handle and coöperating with the plier-surface for the holding of metal, substantially as described.

3. A combination-tool comprising a handle having a longitudinal passage-way and provided with a stepped end, a slide provided with jaws, the faces of one matching one end of the handle for the purpose of forming different wrench-sockets on opposite sides, and said jaw containing a tapered socket for small nuts, and the other jaw being provided with a plier and cutting surface, a plier-lever pivoted to the handle and coöperating with the plier and cutting surface for the holding and severance of metal, substantially as described.

4. A combination-tool comprising a handle having longitudinal passage-way and provided with a stepped end, a slide provided at one end with a jaw having its face adjacent to the ends of the handle matching said end of the handle for the purpose of forming wrench-sockets, and transversely-projecting pins secured in the handle and in the jaw for the purpose of forming an adjustable spanner, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

HENRY SCHMIDT.
VICTOR ISKIYAN.

Witnesses:

JACOB KOERBER,
WILLIAM BERNDT.