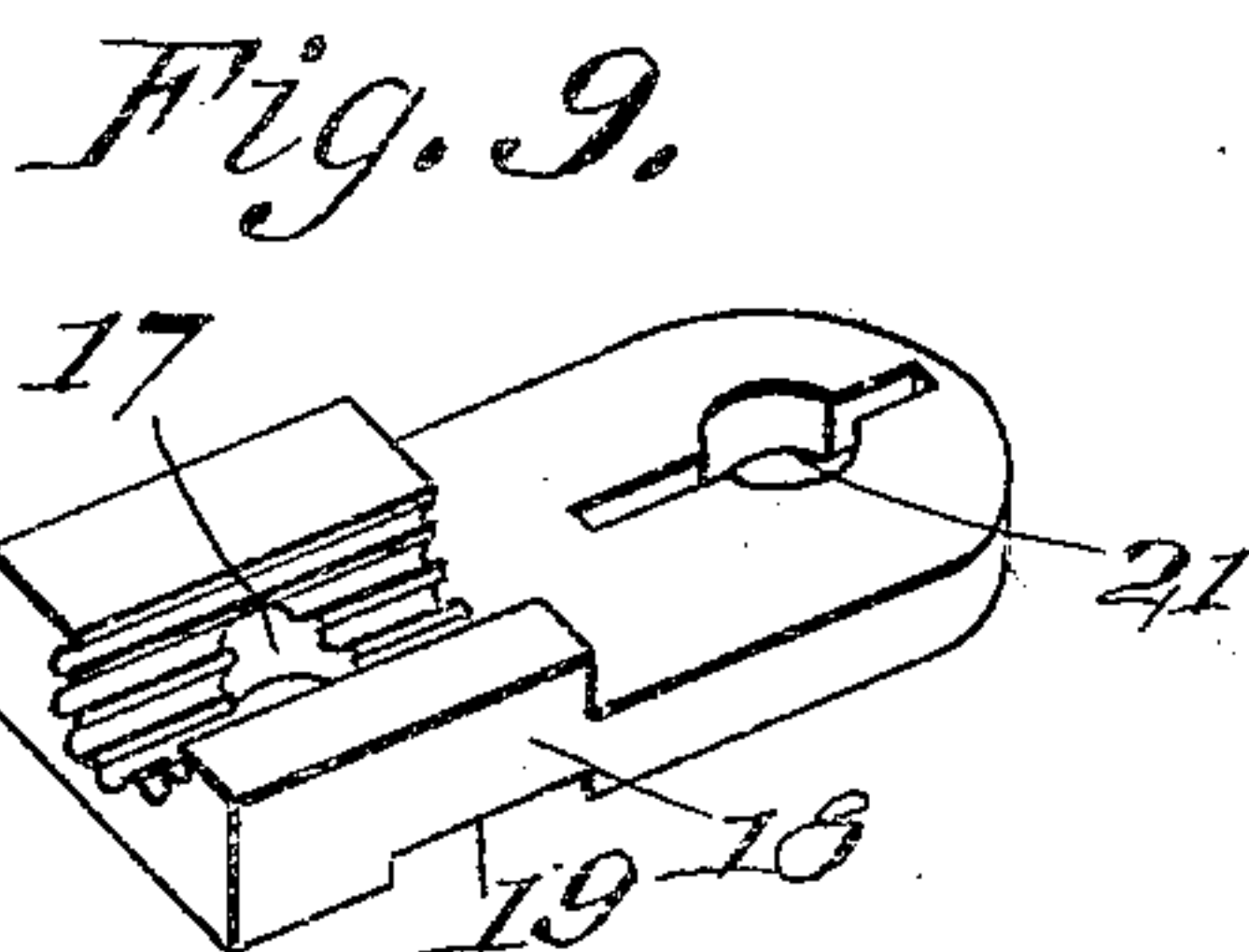
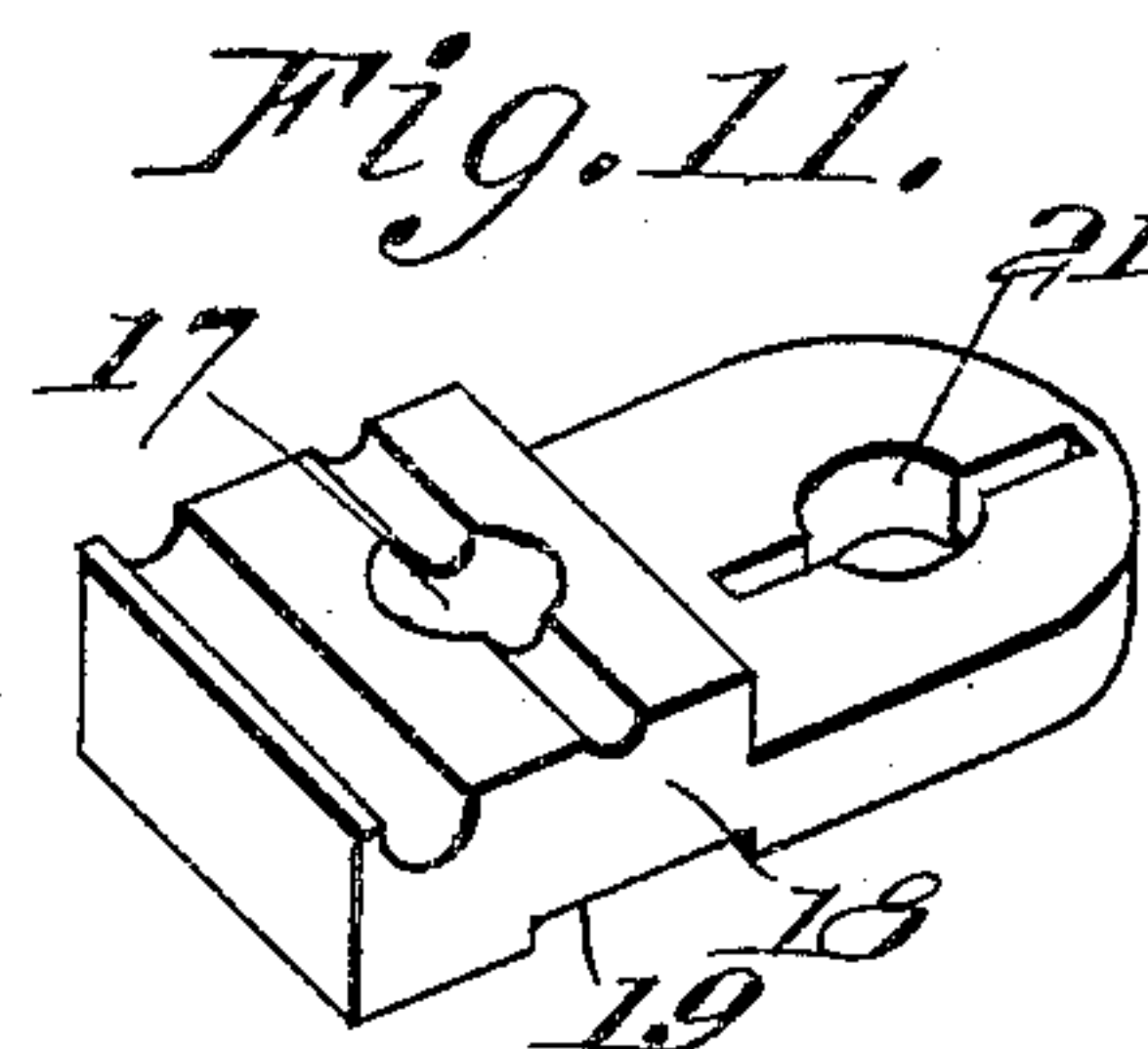
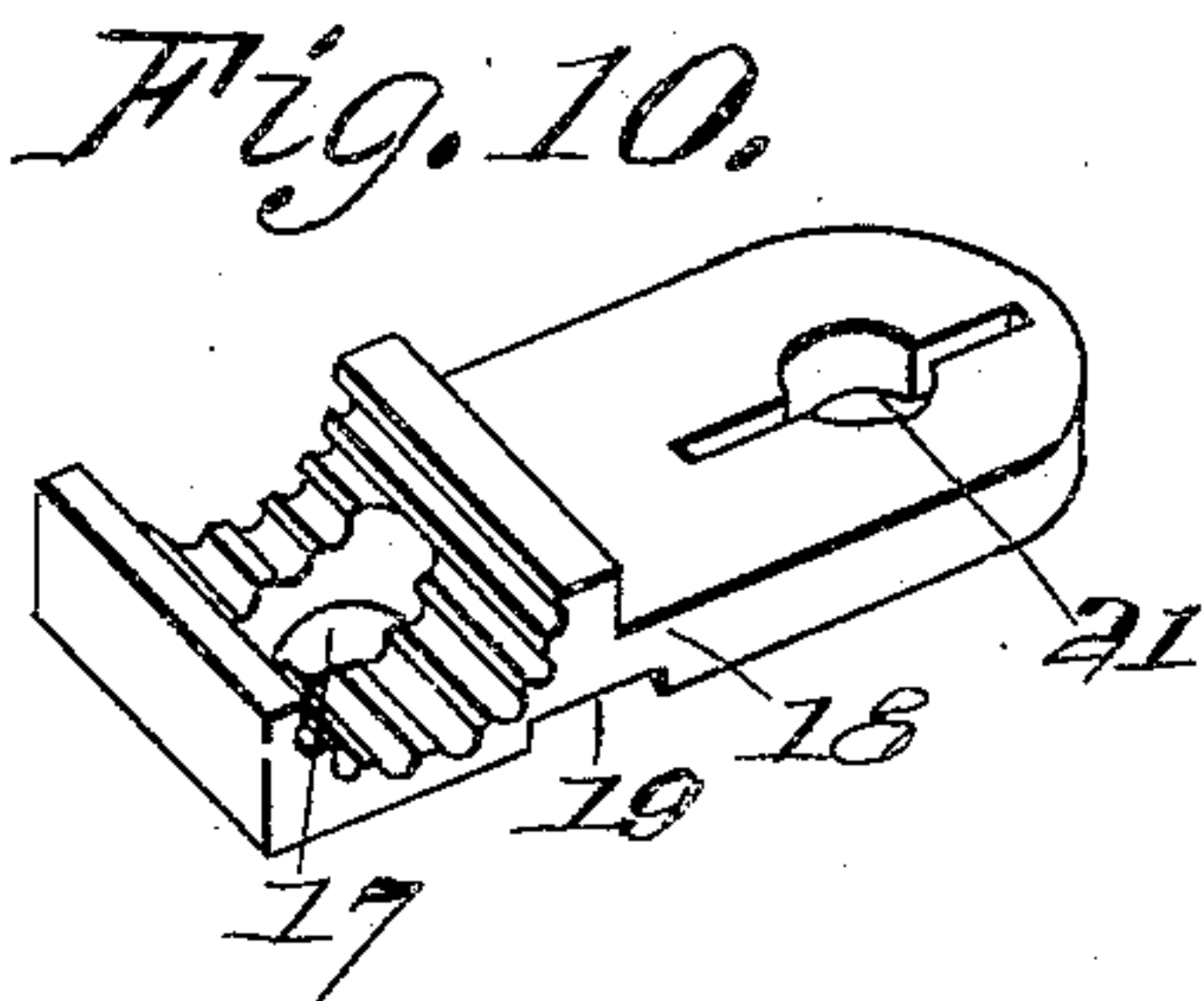
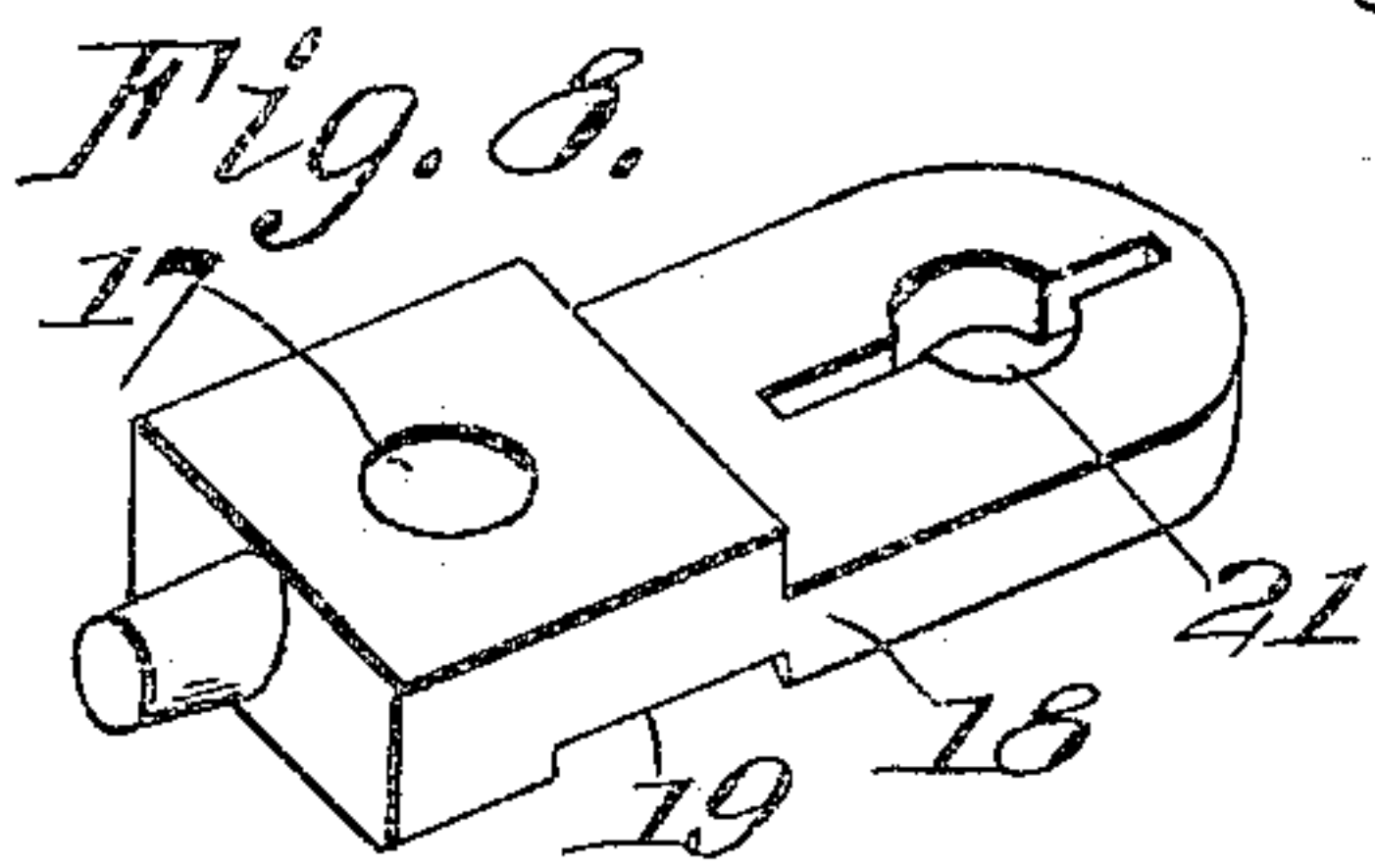
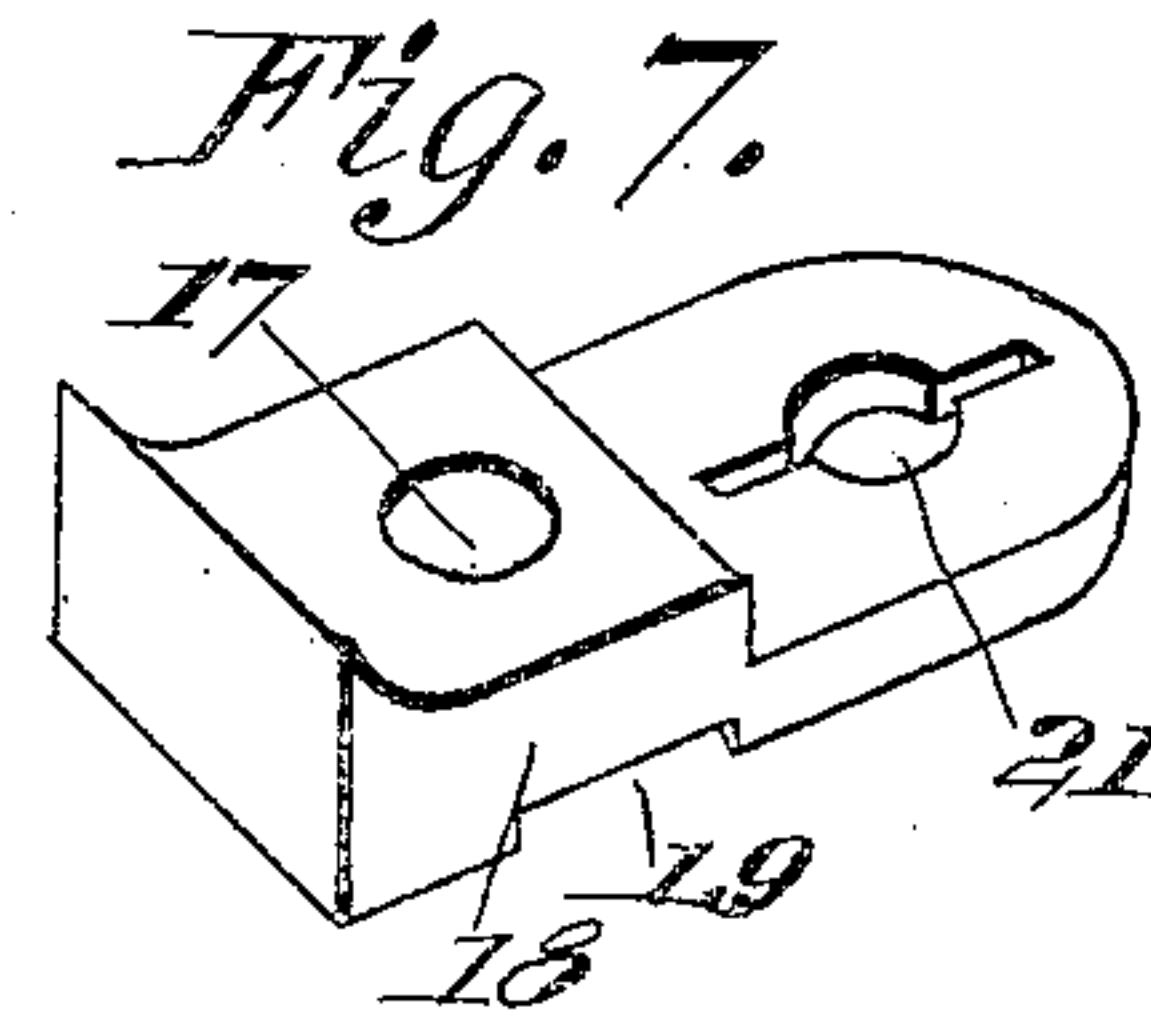
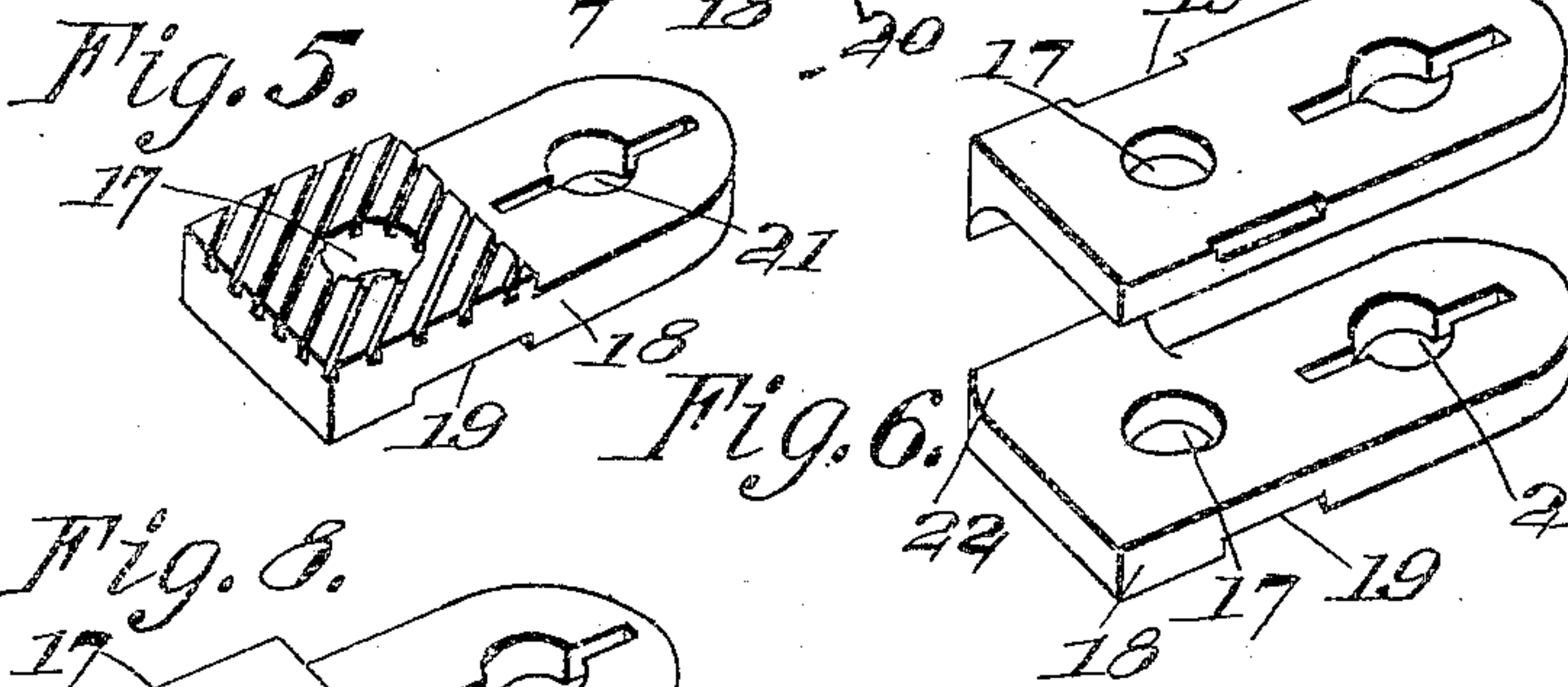
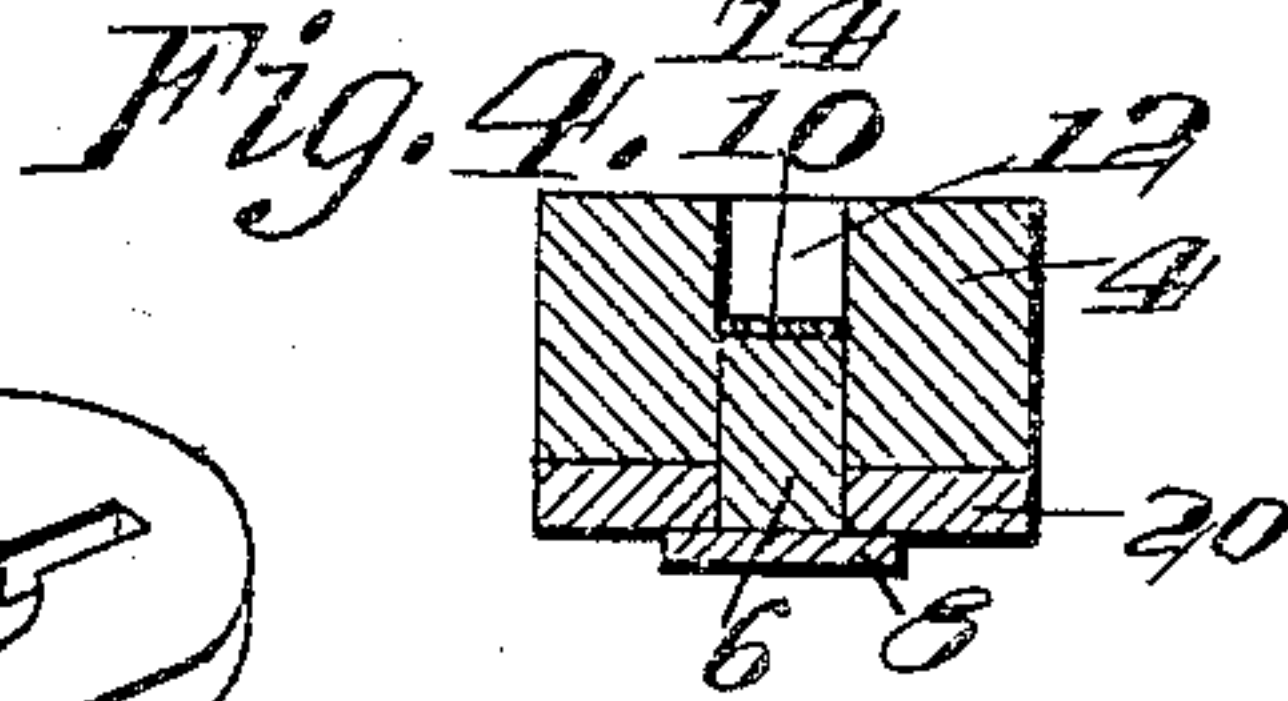
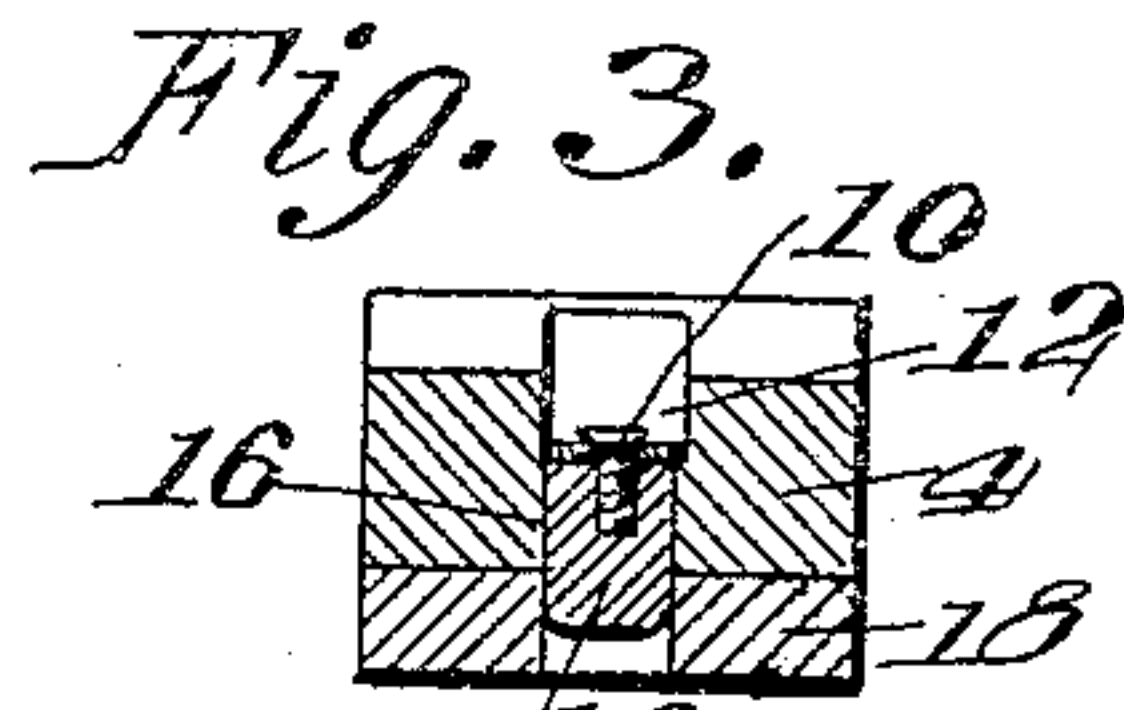
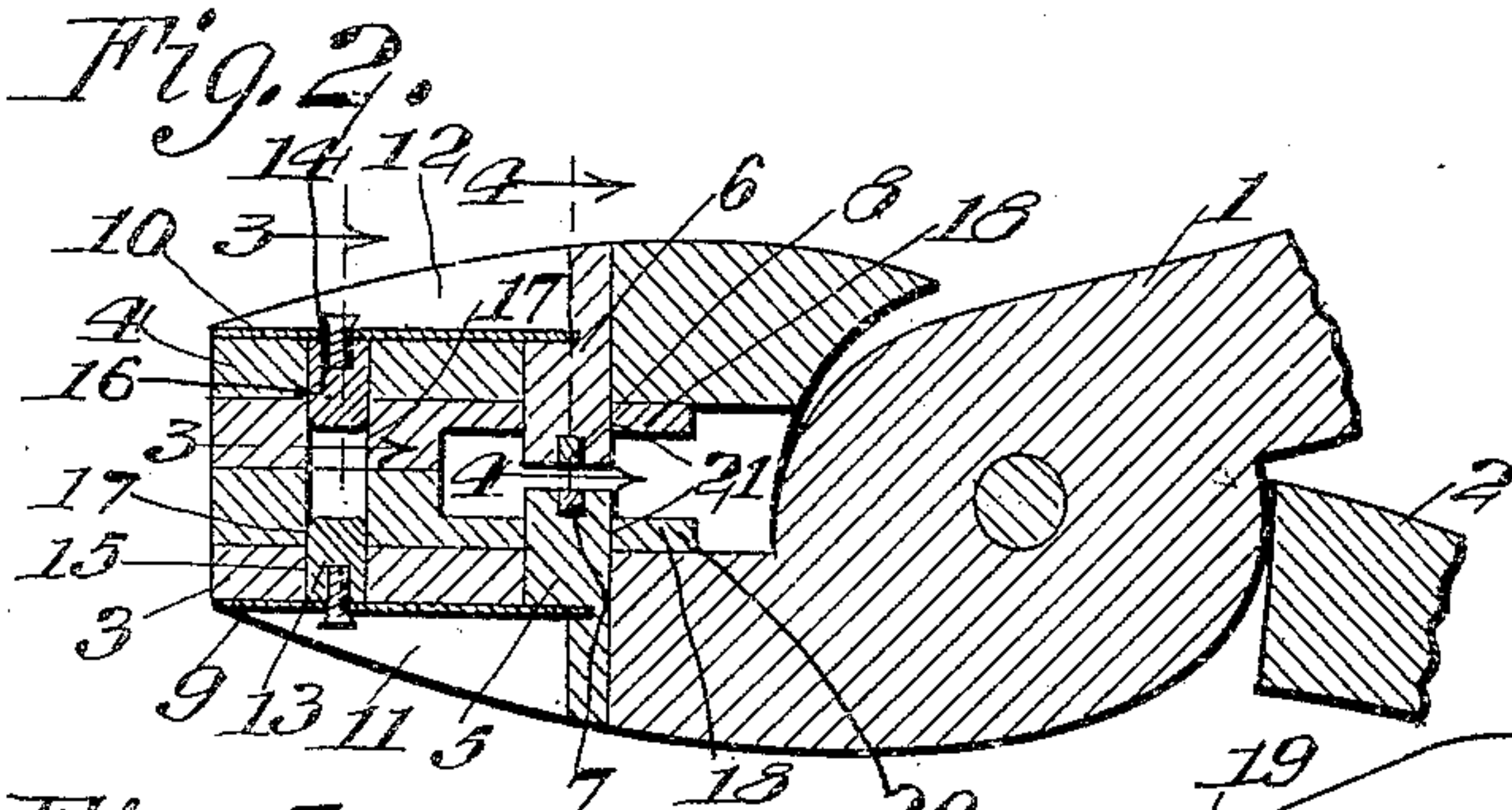
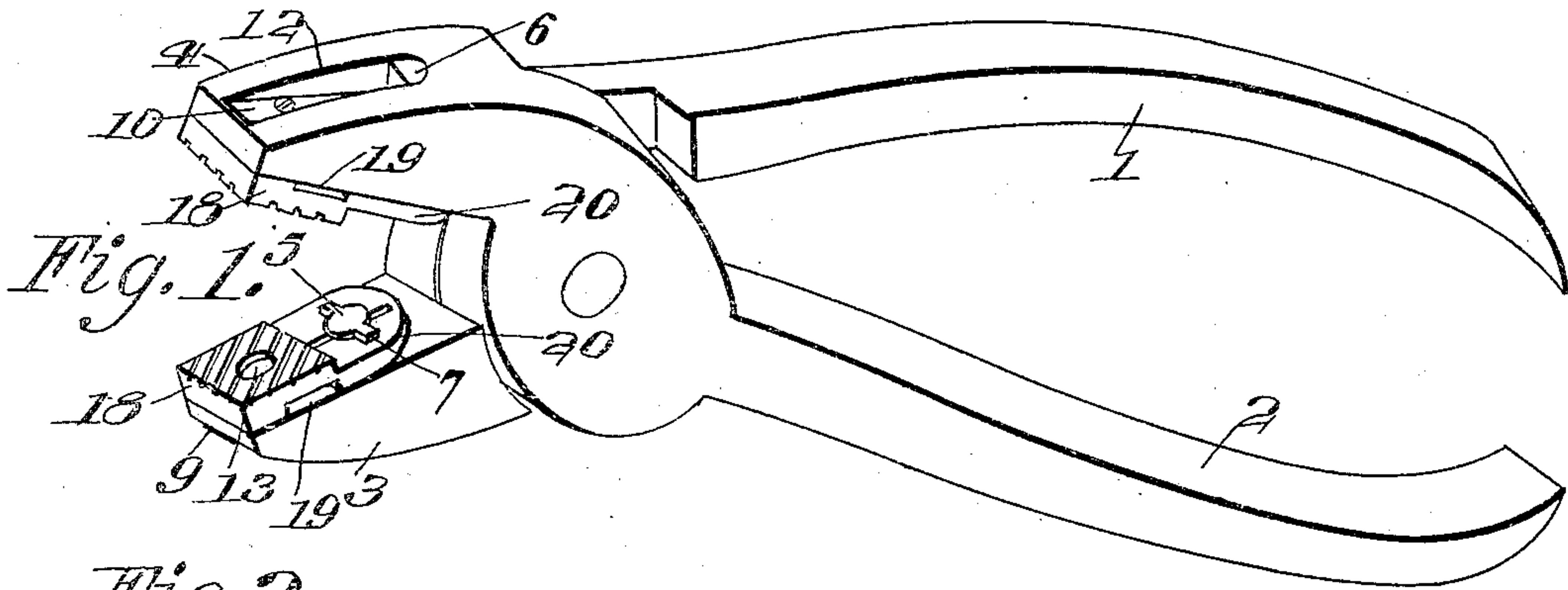


C. L. MUELLER.
DETACHABLE JAW TOOL.
APPLICATION FILED SEPT. 17, 1908.

929,868.

Patented Aug. 3, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

CARL L. MUELLER, OF WAPAKONETA, OHIO.

DETACHABLE-JAW TOOL.

No. 929,868.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed September 17, 1908. Serial No. 453,529.

To all whom it may concern:

Be it known that I, CARL L. MUELLER, a citizen of the United States, residing at Wapakoneta, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Detachable-Jaw Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in pivoted tools, and comprises the production of a pivotal tool provided with means for removably securing jaws thereto.

One of the objects of the invention is the production of a pivotal tool formed with locking means for securing thereto differently-constructed removable jaws.

Another object of the invention is the production of a removable jaw for pivotal tools adapted to be readily secured to a specially-designed tool by a simple spring locking arrangement.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claims, and in the drawings, in which—

Figure 1 is a perspective view of my improved tool; Fig. 2 is a fragmentary longitudinal sectional view thereof; Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 2; Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2; Fig. 5 is a detail perspective view of a removable jaw; Fig. 6 is a detail perspective view of a set of removable jaws formed with a side cutting edge; Fig. 7 is a detail perspective view of an end cutting jaw; Fig. 8 is a detail perspective view of a wire-forming tool or jaw; Fig. 9 is a detail perspective view of an end-receiving gripping jaw; Fig. 10 is a detail perspective view of a side-receiving gripping jaw; and Fig. 11 is a detail perspective view of a doubly-channeled gripping jaw.

Corresponding and like parts are referred to in the following description and in all of the views of the drawings by the same reference characters.

In the drawings, 1 and 2, denote pivotal members, which are formed with jaw-carrying ends 3 and 4. A plurality of lateral

pins, 5 and 6, project toward each other from the ends 3 and 4, and said pins are formed with cross heads, 7 and 8. The pins, 5 and 6, are positioned midway of the ends, 3 and 4, and are recessed at their outer ends to receive the end of flat springs, 9 and 10. The springs, 9 and 10, are seated in longitudinal slots, 11 and 12, and extend to the terminals of the ends, 3 and 4. At a point midway of their ends, the springs, 11 and 12, are connected to movable pins, 13 and 14, which extend through openings, 15 and 16 formed in the jaw-carrying ends, 3 and 4, and project interiorly of the inner faces of said jaw-carrying ends. The pins, 14 and 13 are slightly rounded on their inner ends and are adapted to project through openings, 17, formed in a removable jaw, 18. The removable jaw, 18, is slightly beveled on its sides at 19 and is formed with a reduced end, 20, having an opening, 21, formed therein, said opening being substantially circular in its middle body portion and rectangular at its ends.

The removable jaw, 18, may be readily secured to the jaw-carrying ends, 3 and 4, by passing the reduced end, 20, over the pin, 6 and turning said jaw on said pin so that the opening, 17, in said jaw will register with the inwardly-projecting end of the pins, 13 and 14. When secured in place on the jaw-carrying ends, 3 and 4, the removable jaw 18 will be rigidly locked in place by means of the cross heads formed on the pins, 5 and 6, and the pins 13 and 14, and cannot, of itself, become disengaged from said jaw-carrying ends or turn upon the connecting pins. The springs, 11 and 12, normally press the pins, 13, 14, inwardly through the openings formed in the removable jaws and the lateral pins 5 and 6, which, when provided with the cross heads 7 and 8, are substantially T-shaped in cross section, may be formed integral with said jaws or threaded thereon.

The removable jaw illustrated in Fig. 5 is formed substantially flat and the beveled edges, 19, of said jaw are adapted to engage the rounded ends of the lateral pins, 5 and 6, in such manner that the turning of the removable jaws, 18, upon the T-head pins 5 and 6 will force the pins 13 and 14 outwardly so that the said jaw may readily occupy its locked position.

The removable jaw illustrated in Fig. 6 is

substantially the same as the jaw illustrated in Fig. 5, and designated in the description by the numeral, 18, with the exception that the face of said jaw is formed smooth and is provided with a laterally-projecting edge, 22, which is adapted to engage a similarly-formed edge on an opposing removable jaw. When secured in place, a pair of the removable jaws illustrated in Fig. 6 is adapted to make a scissors cut in the material to be operated on.

The removable jaw illustrated in Fig. 7 is similar to the jaws illustrated in Fig. 6, with the exception that the cutting edge is formed on the end of said jaw, and the cutting edges of two jaws move toward each other with an evenly-opposing movement.

The removable jaw illustrated in Fig. 8 is formed with a rounded end and is particularly adapted to enable an operator to quickly form wires into various shapes, as by twisting and turning.

The removable jaw illustrated in Fig. 9 is longitudinally curved and formed with a plurality of ridges or corrugations and is adapted to receive round material through the end of said jaw.

In Fig. 10 a removable jaw is illustrated, which is similarly formed to the jaw shown in Fig. 9, with the exception that the groove extends laterally across the end of said jaw instead of longitudinally therewith.

In Fig. 11 is illustrated a removable jaw formed with double channels which are shown to extend laterally across the end of said jaw, but as is obvious, may be arranged to extend longitudinally therewith.

It will be seen that by means of my invention a pivoted tool is provided which may be adapted for a wide field of use, and may be used for cutting and gripping differently-shaped articles. It is also obvious that the differently-formed removable jaws may be quickly secured to the pivotal tool ends, 3 and 4, and quickly removed therefrom.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

Having thus described my invention, what

I claim as new and desire to secure by Letters-Patent, is:

1. A pivotal tool having one of its ends provided with an inwardly facing T-headed pin and a lateral sliding pin resiliently forced inward on said end in combination with a jaw removably secured to the pins and said end.

2. The combination with a pivotal tool formed with a lateral pin, of a removable jaw formed with an opening arranged to receive the lateral pin, and resilient means for locking the removable jaw to said pin.

3. The combination with a pivotal tool formed with a T-headed lateral pin, and a resiliently controlled projecting pin, of a removable jaw arranged to be secured in locked position on said pins.

4. The combination with a pivotal tool formed with a plurality of opposing T-headed pins, and a plurality of longitudinal slots, springs seated in the longitudinal slots, pins secured to the springs slidably extending through the pivotal tool, removable jaws formed with openings to receive the ends of the pins, and means for locking the removable jaws to the pins.

5. The combination with a pivotal tool formed with a plurality of projecting T-headed pins and provided with resiliently-controlled laterally-sliding pins, and of a plurality of opposing jaws removably secured to the ends of the tool and in locked position on the pins.

6. The combination with a pivotal tool formed with a plurality of opposing T-headed pins, a plurality of removable jaws formed with openings corresponding to the form of the heads of the pins, a plurality of spring-controlled laterally-sliding pins arranged to project through openings formed in the removable jaws, and means for locking the removable jaws to the tool.

7. The combination with a pivotal tool formed of a plurality of laterally-projecting pins formed with cross pieces, a plurality of spring-controlled laterally-sliding pins, and a plurality of jaws formed with openings adapted to receive the pins and arranged to be secured in locked position thereon.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARL L. MUELLER.

Witnesses:

ARTHUR S. NORTHRUP,
ROY E. LAYTON.