No. 832,200. PATENTED OCT. 2, 1906.

H. F. KELLEMEN, A. J. FASOLDT & E. TRIEBEL.

PLIERS.

APPLICATION FILED NOV. 18, 1905.

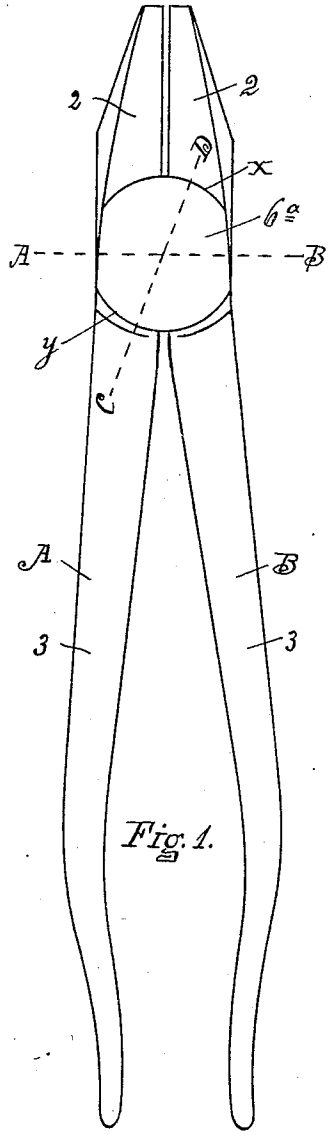


Fig. 1.

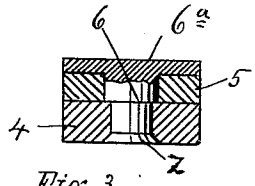


Fig. 3

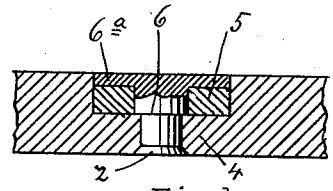


Fig. 4.

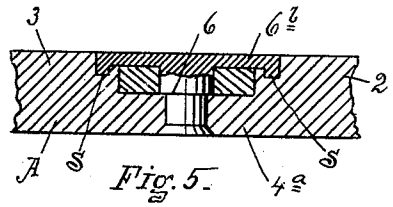


Fig. 5.

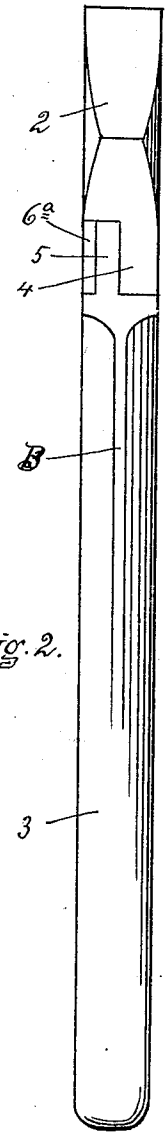


Fig. 2.

WITNESSES
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HENRY F. KELLEMEN, ALVIN J. FASOLDT, AND EDWARD TRIEBEL, OF UTICA, NEW YORK, ASSIGNORS TO UTICA DROP FORGE & TOOL CO., OF UTICA, NEW YORK.

PLIERS.

No. 832,200. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed November 18, 1905. Serial No. 287,957.

To all whom it may concern:

Be it known that we, HENRY F. KELLEMEN, ALVIN J. FASOLDT, and EDWARD TRIEBEL, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Pliers; and we 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, and to the characters of reference marked thereon, which form part of this specification.

The object of our invention is to provide an improved construction of pliers wherein provision is made for reducing the cost of construction to the minimum and in which the parts swing freely on the pivot without tendency to cramp and bind and the pivot is substantially supported and a pliers substantially of the box-joint construction is secured.

In the drawings, Figure 1 shows a side elevation of a pliers of our improved construction. Fig. 2 shows an edge view of the same as seen from the right-hand side of Fig. 1. Fig. 3 shows a section taken on line A B of Fig. 1. Fig. 4 shows a section taken on line C D of Fig. 1. Fig. 5 is a similar section to Fig. 4, showing a modified form of construction.

Referring to the reference letters and figures in a more particular description, A and B indicate the two parts of the pliers, each of which includes the jaw 2 and the lever-handle 3, and the part A includes the joint member 4, while the part B includes the joint member 5. At the joint member 4 the part A is recessed to substantially half the thickness of the jaw to receive the joint member 5 of the opposite part and the enlarged head 6^a of the pivot 6, which, as shown, is also a shouldered rivet. The part B at the joint member 5 is recessed on one side to receive the joint member 4 and recessed on the other side to receive the enlarged head 6^a of the joint-pivot. The arrangement is such that the face of the head 6^a of the joint-pin lies in the plane of the side of the part A and fits snugly between the curved shoulders x and y of the part A, the head of the joint-pin being substantially circular in form. The head fitting snugly between the shoulders x and y and the joint-pin being slightly headed on the opposite side, as indicated at z, the joint-pin turns substantially as an integral part of the part A and the opening through the joint member 5 of the part B is free, so that this member turns freely on the joint-pivot while being accurately held between the head 6^a and the adjacent wall of the joint member 4. By this construction of joint we are able to produce cheaply a pliers which operates very freely, while the parts are hinged together very accurately, and also a pliers which has the appearance of being a box-joint pliers.

In the modified form of construction shown in Fig. 5 the head of the joint-rivet is still more enlarged and provided around its periphery, or substantially so, with a shoulder projection s, adapted to be received in a suitable groove in the member A, so that when in place the head serves as a stay or support across the joint member (indicated by 4^a in this instance) from the lever-handle to the jaw.

Other modifications and changes in and from the construction herein described may be made without departing from the spirit of our invention.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination in a pliers of the two parts, each including a jaw and lever-handle and a joint member, the joint member of one part recessed on one side to receive the joint member and enlarged pivot-head, the other joint member recessed on both sides to receive the other member and pivot-head respectively and the joint-pivot, substantially as set forth.

2. The combination in a pliers of the two parts, each including a jaw, a lever-handle and a joint member, the joint member of one part recessed on one side to receive the joint member and enlarged pivot-head, the other joint member recessed on both sides to receive the other member and pivot-head respectively, the joint-pivot having an enlarged head and locking-shoulder, substantially as set forth.

3. The combination in a pliers of the two parts, each including a jaw, a lever-handle and a joint member, the joint member of one

part recessed on one side to receive the joint member and enlarged pivot-head, the other joint member recessed on both sides to receive the other member and pivot-head respectively, and the joint-pivot shouldered and headed into one part only, substantially as set forth.

In witness whereof we have affixed our signatures, in presence of two witnesses, this 10th day of November, 1905.

HENRY F. KELLEMEN.
ALVIN J. FASOLDT.
EDWARD TRIEBEL.

Witnesses:
A. F. WHITE,
F. A. BAKER.