No. 839,993. PATENTED JAN. 1, 1907.

C. A. FRITZ.

PLIERS.

APPLICATION FILED APR. 24, 1906.

Fig. 1.

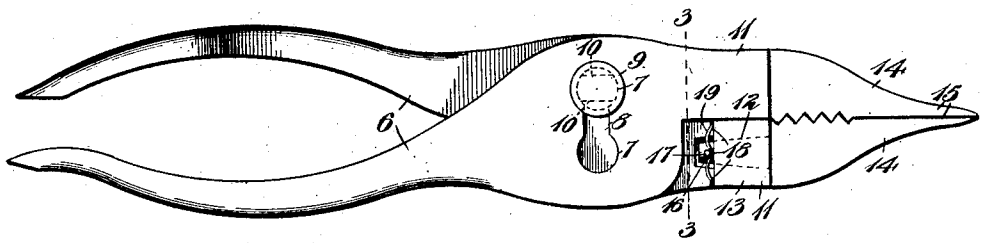
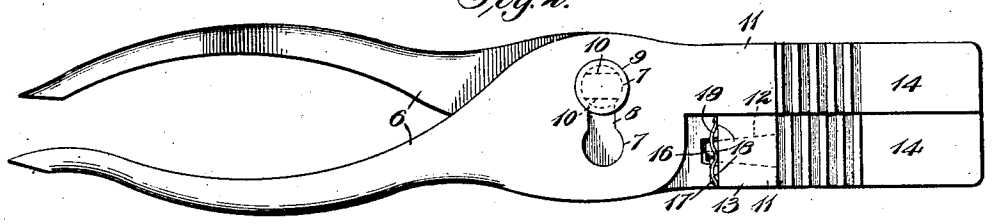


Fig. 2.



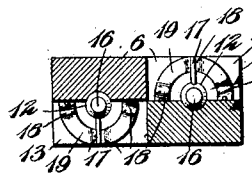


Fig. 3.

Fig. 4.



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PLIERS.

No. 839,993. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed April 24, 1906. Serial No. 313,398.

To all whom it may concern:

Be it known that I, CHARLES ARNOLD FRITZ, a citizen of the United States, residing at Minot, in the county of Ward and State of North Dakota, have invented new and useful Improvements in Pliers, of which the following is a specification.

This invention relates to pliers, and has for its particular object to provide a pair of pliers with jaws which can be set in various positions to operate on work which otherwise could not be reached by the jaws of ordinary pliers.

The pliers have a pair of handles and jaws secured thereto, so that they can be turned to present the flat faces of the jaws toward each other or the narrow side edges of the jaws toward each other, and in the latter position the jaws can reach and take hold of articles in a slot or other narrow quarters, where the jaws of ordinary pliers could not be operated.

In the accompanying drawings, Figure 1 is a side view of the tool with the jaws in one position. Fig. 2 is a similar view with the jaws in the other position. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is an edge view of the tool.

Referring specifically to the drawings, 6 indicates a pair of crossed handles, one of which has a pair of spaced pivot-holes 7 connected by a narrowed slot 8 and the other of which has secured thereto a pivot-pin 9, the opposite sides of which are flattened, as at 10, so that it will pass through the slot 8 when turned to parallel position therewith. The pin is so placed that it normally extends crosswise with respect to the slot, so that it will remain in the proper hole 7 under ordinary use. The handles terminate at the front end in blocks 11, each of which has a longitudinal or axial bore 12, which is tapered or decreased in size from front to rear and opens at the rear end through a shoulder 13 at the rear of the block 11.

The jaws are indicated at 14, and the points thereof are made long and thin, as at 15, whereby they are fitted for comparatively fine work. Each jaw has at the rear end thereof a tapered shank 16, which fits in the bore 12 and may be turned therein. The shank is long enough to extend through and beyond the block 11 and behind the shoulder 13 thereof is provided with a laterally-extending pin 17, arranged to engage in one of a series of notches 18 in a semicircular spring-piece 19, secured behind the shoulder 13. There are three notches, one at the middle and one at each end of the semicircular piece.

The spaced pivot-holes 7 allow the handles and jaws to be moved closer together or farther apart for small or large work. The jaw construction is such that the jaws may be set to present their faces to each other, as shown in Fig. 1, or to present their side edges to each other, as shown in Fig. 2. In the former position the parts are held by the engagement of the pin 17 in the middle notch 18, and in the latter position the pin is engaged in one or the other of the end notches 19. This holds the parts as set. When set in the former position, the pliers are used as ordinary pliers. When set in the latter or edgewise position, the jaws may be entered into slots or other narrow places to grasp articles therein between the edges of the jaws, so that such articles may be picked out or manipulated where they could not be reached by a person's fingers or by the jaws of ordinary pliers. It will be observed that the jaws may be turned either way, so as to bring either pair of edges together, and the opposite edges may be modified, if desired, for special work.

I claim—

1. Pliers having crossed handles with blocks at their front ends and longitudinal bores through the blocks, jaws having pivot-shanks fitting in said bores, on which the jaws may be turned to present either their faces or their edges toward each other, and means engaging the shanks behind the blocks to hold the jaws in either position.

2. Pliers having crossed handles with blocks at their front ends and bores lengthwise through said blocks, jaws having pivot-shanks extending through said bores, pins projecting laterally from said shanks behind the blocks, and spring-pieces on the rear side of the blocks having notches in which the pins engage.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES ARNOLD FRITZ.

Witnesses:

R. A. NESTOS,

R. S. FISK.