W. D. McCULLOUGH.

PLIERS.

APPLICATION FILED APR. 26, 1920.

1,428,600. Patented Sept. 12, 1922.

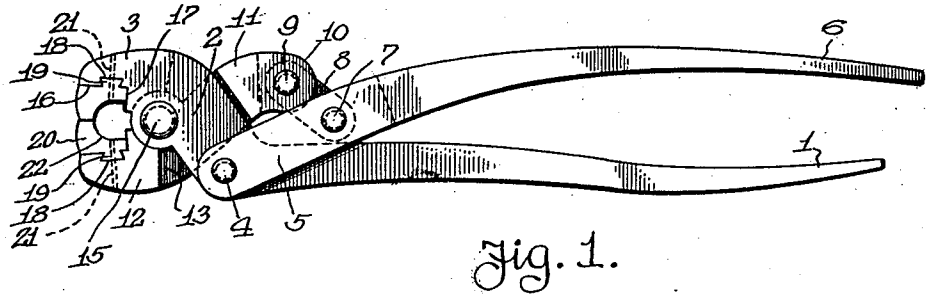



Fig. 1.

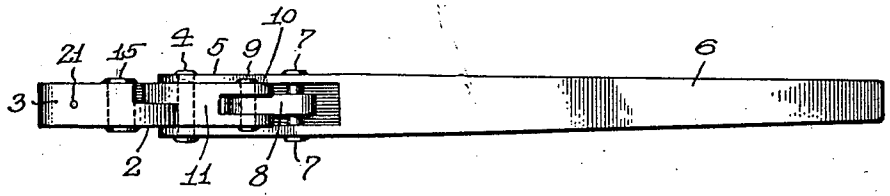



Fig. 2.

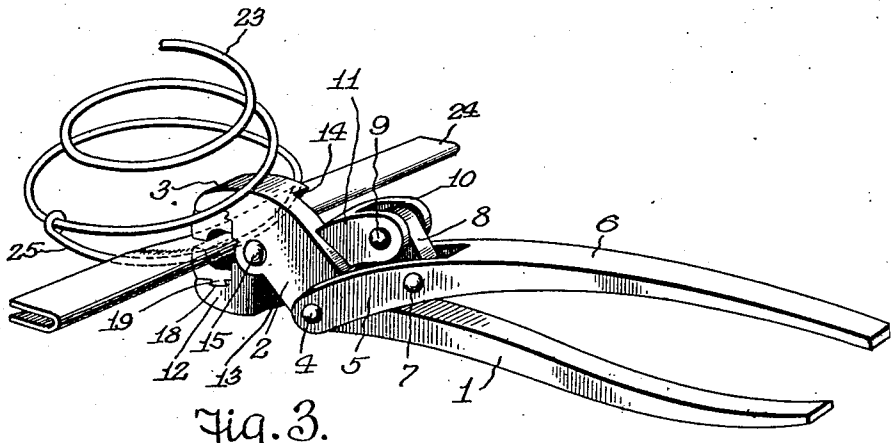



Fig. 3.

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# UNITED STATES PATENT OFFICE.

WILLIAM D. McCULLOUGH, OF DETROIT, MICHIGAN.

## PLIERS.

Application filed April 26, 1920. Serial No. 376,475.

*To all whom it may concern:*

Be it known that I, WILLIAM D. McCULLOUGH, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Pliers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to pliers and the objects of my invention are to furnish plier jaws with removable and renewable gripping members, and to provide pliers that may be advantageously used in the manufacture of spring cushions for anchoring frames, binder strips and connecting members on convolutions of springs.

Further objects of my invention are to provide a pair of pliers for the above purpose which will permit of considerable leverage being attained without any danger of the pliers slipping, and to provide strong, durable and inexpensive pliers that may be easily manipulated and used with various kinds of gripping members.

The above are a few of the objects which may be attained by the mechanical construction that will be hereinafter considered, and reference will now be had to the drawing, wherein

Figure 1 is a side elevation of the pliers;

Fig. 2 is a plan of the same; and

Fig. 3 is a perspective view of the pliers.

Pliers in accordance with my invention comprise a handle bar 1 having an angularly disposed head 2 terminating in a jaw 3. Pivotally connected to the handle bar 1, at the juncture of the head 2 with said handle bar and by a transverse rivet 4 is the bifurcated or forked end 5 of a handle bar 6, said handle bar confronting the handle bar 1 and both being curved and of such a shape as to permit of said bars being hand manipulated similar to tongs.

Pivotally mounted in the forked or bifurcated end of the handle bar 6, by a transverse rivet 7, is a link 8 and pivotally connected to said link by a rivet 9 or other pivotal means is the bifurcated or forked head 10 of a compound curved lever 11 which terminates in a jaw 12. The lever 11 has one side thereof recessed, as at 13 to provide clearance for the head 2 of the handle bar 1 and said head has a recess 14 to receive the lever, so that the head and lever may be moved in the same vertical plane. The head and lever are pivotally connected together by a rivet 15 or other pivotal means, so that the jaws 3 and 12 may be moved to and from each other.

The confronting faces of the jaws 3 and 12 are cut away to provide shoulders 16 and 17, the former being disposed at an angle to the latter. In the shoulders 16 are dove tailed grooves 18 to receive dove tailed tongues 19 of gripping members 20. The gripping members may be placed in engagement with the jaws 3 and 12, from either side of the pliers, and said gripping members are adapted to be fixed against lateral displacement by pins 21 mounted centrally of the jaws 3 and 12. When the gripping members 20 are to be removed or renewed the pins 21 may be knocked out so as to permit of the gripping members sliding out of engagement with the plier jaws.

The gripping members 20 are made of a more indurate material than the jaws 3 and 12, it being preferable to temper the gripping members so that the same will stand up under considerable pressure, and in order that said gripping members may be used for a specific purpose, said gripping members have the confronting faces thereof, at the inner edges, recessed as at 22.

As an instance of the use of the pliers, I show in Fig. 3 a portion of the spring 23 which is having a channel or U-shaped strip 24 anchored or fixed on the lower convolution 25 of the spring. After the convolution 25 is placed in the channel strip 24 the jaws 3 and 12 are slipped between the convolutions of the spring so that the gripping members 20 may bear on the upper and lower faces of the strip 24 at that region of the strip within the circumference of the spring convolution 25, so that the walls of the strip 24 may be pressed towards each other to form a constriction and thus prevent the strip from becoming accidentally detached relative to the spring. It is obvious that the gripping members may be shaped so as to provide a desired depression in the walls of the strip 24 and with said pliers it is possible to quickly assemble the plurality of springs relative to frame, binder strips or connecting members so as to form a spring cushion body, for instance such as used in and for the seats of automobiles.

It is thought that the utility of my invention will be apparent without further description, and while in the drawing there

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is illustrated a preferred embodiment, it is to be understood that the structural elements are susceptible to such changes as fall within the scope of the appended claim.

What I claim is:—

Pliers comprising a handle bar terminating in a jaw, said handle bar having a side wall provided with a recess, a lever pivotally connected to said handle bar jaw and terminating in a jaw, said lever having a recessed wall portion engaging in the recess of said handle bar, a handle bar having an inset link connection with said lever and pivotally connected to both sides of the first mentioned handle bar, and gripping members carried by the confronting faces of the jaws of said lever and said handle bar.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM D. McCULLOUGH.

Witnesses:
ANNA M. DORR,
CHAS. W. STAUFFIGER.