

H. M. KAUFFMAN.
TOOL.
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1,234,906.

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Fig. 1.

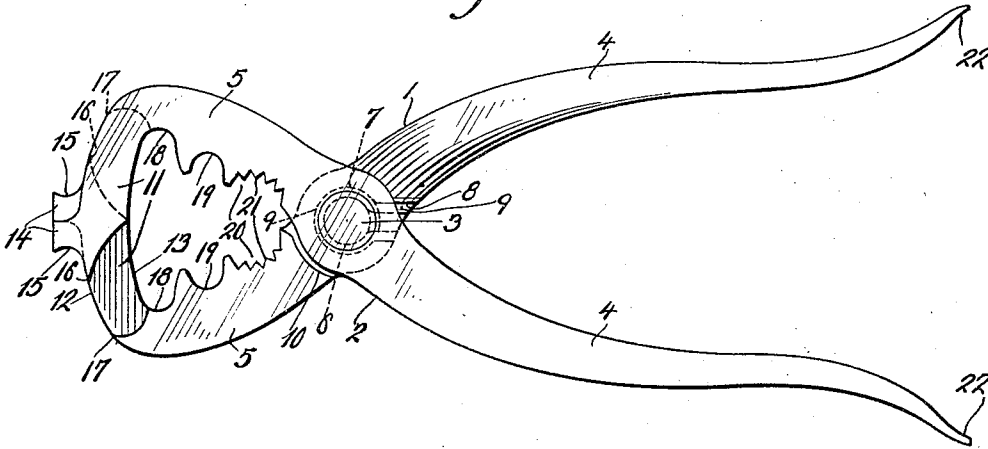


Fig. 2.

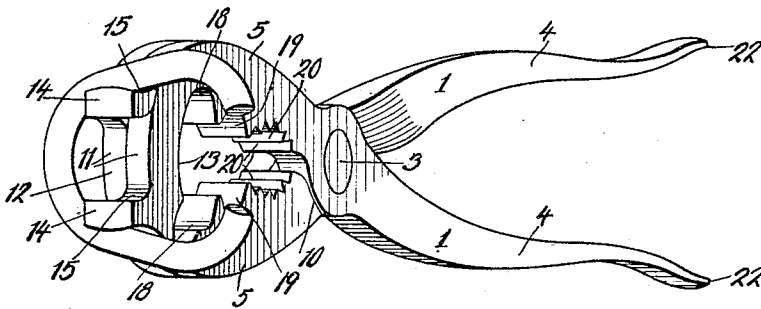
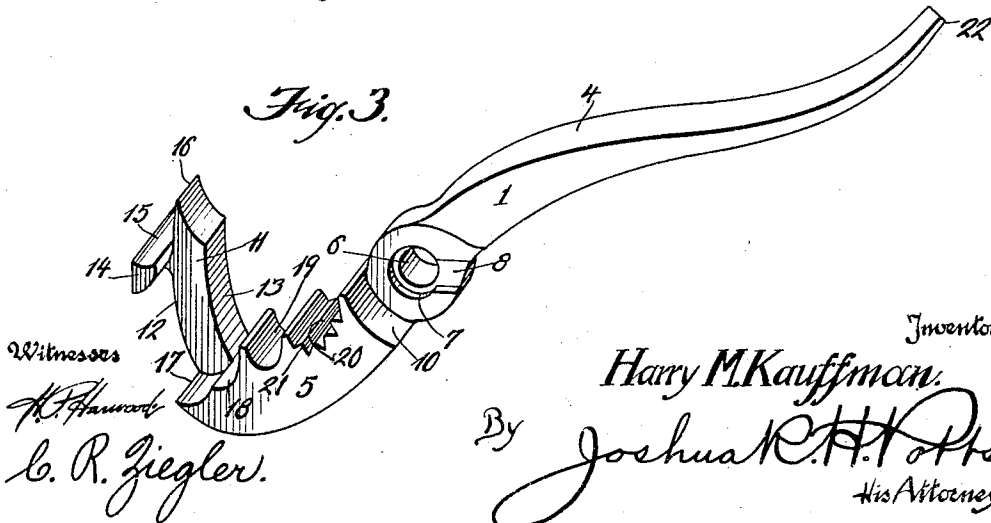


Fig. 3.



UNITED STATES PATENT OFFICE.

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TOOL.

1,234,906.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY M. KAUFFMAN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Tools, of which the following is a specification.

My invention consists of an improved tool. One object of my invention is to provide a tool which will be particularly useful for electricians, plumbers, gas-pipe workmen and others, who install chain-hung chandeliers, and lamps and who are often required to open and close chain links.

Another object is to so construct my improved tool that it can be used to remove the insulation from electric conduit wires and can also be employed to cut wire.

A further object is to make my invention in such manner that it can be used as a wrench for pipes or bars.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which

Figure 1 is a face view of my invention.

Fig. 2 is a perspective view of my invention showing how the same is employed to open or spread a chain link.

Fig. 3 is a perspective view of one of the sections of my invention.

Referring to the drawing, my invention consists primarily of two sections 1 and 2 and are pivoted together by a pivot bolt or pin 3. Since the sections 1 and 2 are exactly alike, it will be only necessary to describe one of said sections in detail.

Each of the sections has a handle 4 and a jaw 5. The handle 4 has a hole 6 extending entirely therethrough, and an annular recess 7 is formed on the inner surface of said handle as clearly shown in Fig. 3. This recess communicates with another recess 8 which is angularly disposed to the recess 7 and is for the purpose of receiving one end of a torsion spring 9 when the sections are pivoted together (see Figs. 1 and 3).

The jaw 5 of each section is of greater width than the handle 4 adjacent to the pivot point of the sections, the extent of this difference in width being shown at 10 in Fig. 3, so that when the sections are joined together, the combined width of the sections

adjacent to their pivot points is substantially equal to the width of one of the jaws, it being noted that both jaws are movable in substantially the same plane.

Each jaw 5 is provided with a finger 11 which is curved at its outer surface 12 and inner surface 13, said curve being substantially concentric with the axis of the pivot pin 3. The finger 11 of each section is narrower than the jaw from which it projects, so that the fingers 11 of both sections overlap and move in close proximity to each other when the sections are moved on their pivot.

Furthermore, each of the fingers 11 is arranged at the side of the jaw from which it projects and each finger has a lip 14 which projects outwardly from the curved surface 12 and laterally to the extent of the width of the adjacent finger. Each of the lips 14 has its outermost surface concaved as shown at 15, said curvature being designed to substantially correspond to the curvature of the cross section of the link so as to hold the link in position when the lips are inserted within the link and then spread apart by the inward movement of the handles 4, such for example, as shown in Fig. 2.

The outermost end of each of the fingers 11 has a knife edge 16 designed to co-act with a knife-edge 17 on the jaw of the adjacent section (see Fig. 1). These knife edges form shears for cutting the wire and also serve as scrapers for removing the insulation from the wire as above noted.

The jaws 5 have recesses 18 and 19 of different depths and these recesses may be used to compress and close the spread links. The deeper recesses 18 accommodate larger links than the recesses 19. Other recesses 20 are formed in the jaws 5, and these latter recesses have ridges or teeth 21 designed to grip a pipe or other member which is inserted between them. The opposite ends of the coiled torsion spring 9 engage the ledges or walls formed by the recesses 8, so that said spring normally acts to keep the handles 4 separated and the lips 14 in contact with each other.

By moving the handles 4 together against the action of the spring 11, the lips 14 are separated and the knife edges 16 are moved toward the knife edges 17, and consequently the jaws 5 are moved toward each other, so that the same movement of the handles

which act to spread a link, also can act to compress links which are inserted between the recesses 18 and 19.

Furthermore, the ends 22 of each of the handles 4 may be flattened and used as screw-drivers. It will thus be understood that my improved tool has a number of practical uses, and while it is particularly serviceable for electricians as above noted, it may also be used with advantage by any mechanic no matter what character his work may be.

While I have described my invention as taking a particular form, it will be understood that the various parts of my invention may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A tool including two similar relatively movable jaws provided with overlapping fingers, said fingers having end portions movable past each other in opposite directions in parallel paths, and forwardly projecting lips on said end portions of the fingers, said lips being movable apart when the jaws are movable together, substantially as described.

2. A tool including two similar relatively movable jaws having overlapping fingers, and forwardly projecting lips on said overlapping fingers, each of said lips having a portion projecting laterally across the plane in which the adjacent finger moves, said lips being moved together, substantially as described.

3. A tool including two similar relatively movable jaws having overlapping fingers, and lips on said overlapping fingers, each of said lips having a portion projecting laterally across the plane in which the adjacent

finger moves, said lips thus being designed to abut each other and prevent the complete separation of the jaws, the oppositely disposed surfaces of said lips being concaved, substantially as described.

4. A tool having two relatively movable jaws, said jaws including projecting fingers each of less width than the portions of the jaws from which they project, said fingers being movable in close proximity to and adapted to overlap each other, each of said fingers having a knife edge at its free end, each of said jaws having a knife edge projecting into the path of movement of the knife edge on the finger of the adjacent jaw, substantially as described.

5. A tool comprising two sections pivoted together, each of said sections including a handle and a jaw portion, and a finger projecting from each jaw, said fingers being of less width than the jaws and movable in close proximity to each other, each of said fingers having an outwardly extending lip, and said lips having portions extended laterally in opposite directions across the path of movement of the adjacent finger, substantially as described.

6. A tool including two similar relatively movable jaws having overlapping fingers, and lips on said overlapping fingers, each of said lips having a portion projecting laterally across the plane in which the adjacent finger moves, said lips thus being adapted to abut each other and prevent the complete separation of the jaws, the oppositely disposed surfaces of said lips being concaved, and means for moving and normally holding said lips in engagement, substantially as described.

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

HARRY M. KAUFFMAN.

Witnesses:

MARY J. O'DONNELL,
CHAS. E. BOSS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."