June 24, 1930. A. A. JOHNSON 1,767,077

WIRE CUTTER

Filed March 5, 1929

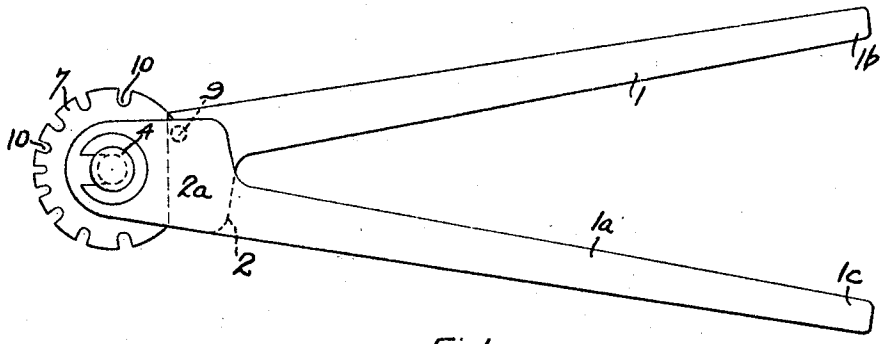


Fig. 1.

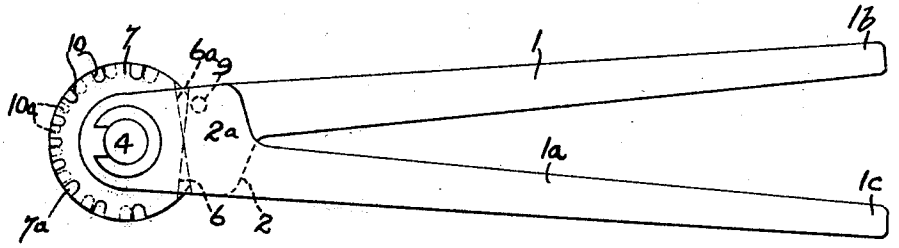


Fig. 2.

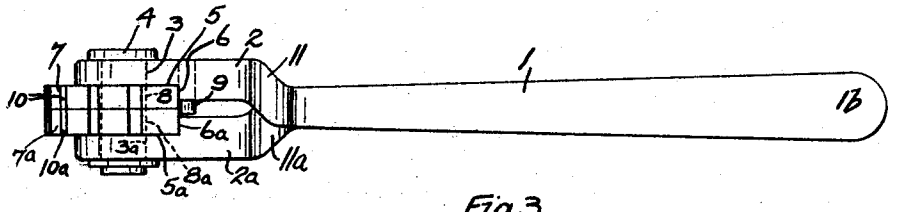


Fig. 3.

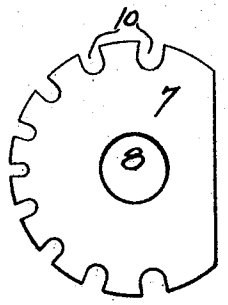


Fig. 4.

INVENTOR.
Axel A. Johnson

BY Gerald W. Baldwin

ATTORNEY.

Patented June 24, 1930 1,767,077

UNITED STATES PATENT OFFICE

AXEL A. JOHNSON, OF HOLLY, MICHIGAN

WIRE CUTTER

Application filed March 5, 1929. Serial No. 344,149.

This invention relates to improvements in wire cutters, and aims to provide a simple and cheap form of cutter having removable cutting dies which are rotatable one on the other, each of which has a plurality of peripheral recesses of different sizes so that when the recesses in both dies are opposite one another wire may be inserted into the pair of recesses of the size that it fits, and the dies turned by movement of the handles in which they are mounted so that the wire is severed.

I am aware that wire cutters have hitherto been manufactured wherein pivotally arranged handles were employed having their inner ends disposed side by side and provided with peripheral recesses. In such a construction, however, it is virtually impossible to make the parts of such material that they may be successfully employed on anything except quite small sized wire, and even then their life can be only of very short duration. In order to stand up for prolonged periods when used for heavier wire the cutting dies must be hard and tough enough to withstand a very severe strain, and the handles should be relatively soft. According to the present invention the dies may be quickly and cheaply made by quantity production methods of tool steel, or other desired material, and hardened, and the handles may be made of a different material entirely.

Another object of the invention is to provide wire cutters wherein a simple stop arrangement is employed by which the opening apart of the outer ends of the handles is arrested when the die recesses are opposite one another.

Having thus briefly stated the major objects and the advantages of the invention, which consists in certain novel construction and combination of parts, I will now describe it more fully with the aid of the accompanying drawings, in which:

Figure 1 illustrates a plan view of the invention with the outer ends of the handles in open position, and the recesses in the dies opposite each other.

Figure 2 is another plan view with the outer ends of the handles in closed position, and the recesses in the dies not in line with each other.

Figure 3 is a side view of Figure 1, and Figure 4 shows an enlarged view of one of the dies.

Referring to the drawings, 1 and 1^a designate a pair of handles having offset ends 2 and 2^a with openings 3 and 3^a respectively therethrough for the passage of a pin 4, by which the said ends 2 and 2^a are pivotally connected. The offset arrangement of the handles permits their outer ends 1^b and 1^c to be relatively so positioned that they move in substantially the same plane. Across the adjacent faces of the ends 2 and 2^a depressions 5 and 5^a are provided which terminate in shoulders 6 and 6^a which extend transversely across their whole width. Cutting dies 7 and 7^a are arranged in the depressions 5 and 5^a with their adjacent sides contiguous to one another. One straight side of each die rests against its shoulder 6, or 6^a, and the dies have apertures 8 and 8^a therethrough through which the pin 4 passes. In this manner the dies are made to turn about the pin 4 with the handles 1 and 1^a, and cannot turn independently of the latter.

Projecting inwardly from the handle 1 just behind the depression 5 is a stop 9 which strikes the inner end of the cutting die 7^a and limits the turning movement of the latter and its handle 1^a. The intermediate portions 11 and 11^a of the handles 1 and 1^a are relatively so arranged that they also meet and limit the inward movement of the outer ends of the handles towards one another.

Around the circumference of the cutting dies 7 and 7^a, which are similar to one another in all respects, a plurality of peripheral slots 10 and 10^a of varying sizes are formed. The slots in the two dies are so positioned as to be opposite one another when the stop 9 strikes the end of the cutting die 7^a, and are so positioned as to cover one another when the outer ends of the handles are moved towards one another as far as the intermediate portions 11 and 11^a of the latter permit.

From the foregoing it is believed that it will be clearly seen that I have devised a simple and inexpensive form of wire cutter in which it is economical to insert cutting dies made of special material which will stand up under prolonged use. While the preferred embodiment of the invention has been described and shown, it is understood that the construction is susceptible to such modifications as fall within the scope of the appended claims.

What I claim as my invention and desire to secure by Letters Patent is:

1. A wire cutter comprising two handles each having an opening therethrough towards one end, a pin extending through said openings, the ends of said handles through which said pin passes having depressions in their adjacent sides extending from their extremities beyond said openings, cutting dies in said depressions of at least as great a thickness as the depth of the depressions so that their adjacent sides are in contact with one another, said dies having holes therethrough through which said pin passes, means for supporting said dies so that each must turn with the handle against which it bears and is held against independent movement, and said dies having peripheral slots formed therein which are so positioned that the slots in one die are over the slots in the other die when the outer ends of the handles are wide apart, and cover each other when the outer ends of the handles are brought nearer together.

2. A wire cutter comprising two handles each having an opening therethrough towards one end, a pin through said openings, the ends of said handles through which said pin passes having depressions on their adjacent sides extending from their extremities beyond said openings, shoulders formed on said handles at the ends of said depressions, cutting dies having apertures through them through which said pin passes, said cutting dies being mounted in said depressions and having their adjacent sides contiguous with one another, each die having one end bearing against the shoulder formed on the handle against which it rests so that each die turns with the handle contiguous to it about said pin, and said dies having slots formed in their peripheries so arranged that the slots in one die are over the slots in the other die when the outer ends of the handles are wide apart, and cover each other when the outer ends of the handles are brought nearer together.

3. A wire cutter comprising two handles each having an opening therethrough towards one end, a pin extending through said openings, the ends of the handles through which the pin passes having depressions in their adjacent sides extending from their extremities beyond said openings, cutting dies in said depressions having their adjacent sides in contact with one another, said dies having holes therethrough through which said pin passes, means for supporting said dies so that each must turn about said pin with the handle against which it rests, a stop extending inwardly from one handle adapted to strike the die carried by the other handle and limit the movement of one handle and its die with respect to the other handle and its die, and said dies having peripheral slots formed therein, said slots being so positioned that the slots in one die register with the slots in the other die when the outer ends of the handles are wide apart and cover each other when the outer ends of the handles are brought nearer together.

4. A tool of the character described comprising two handles having opposed depressions formed in their inner sides, said depressions extending from one extremity of the handles, a cutting die mounted in each depression so that adjacent sides of the dies are substantially in contact with one another, said dies projecting beyond said handles, means holding each die immovable relative its handle, said dies each having an aperture therethrough, a pin extending through said apertures so that the two dies and the two handles may be turned relative to one another, and said dies each having a plurality of peripheral slots formed therein, said slots being so positioned that when the handles are in a predetermined relative position the slots in one die are in registry with the slots in the other die.

AXEL ALFRED JOHNSON.