J. L. MAYHEW.

PLIERS.

APPLICATION FILED APR. 28, 1920.

1,396,863. **Patented Nov. 15, 1921.**

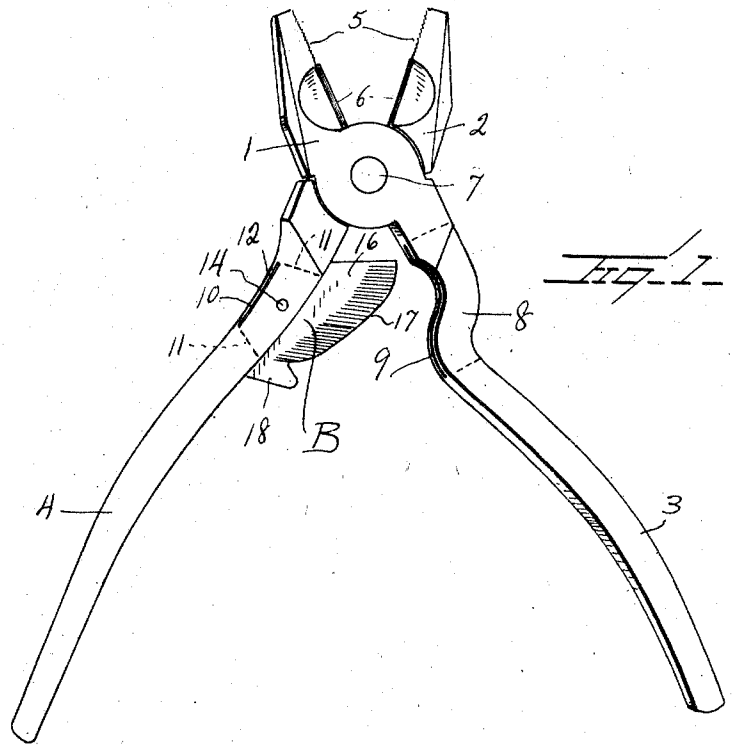

Fig. 1.

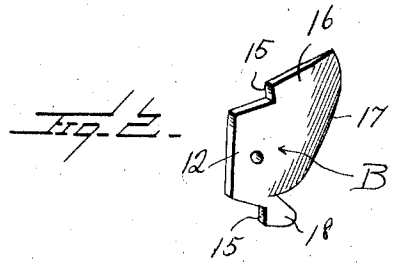

Fig. 2.

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PLIERS.

1,396,863. Specification of Letters Patent. Patented Nov. 15, 1921.

Application filed April 28, 1920. Serial No. 377,331.

To all whom it may concern:

Be it known that I, JOSEPH L. MAYHEW, a citizen of the United States, residing at Williamstown, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Pliers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in pliers and has relation more particularly to a tool of this general character especially designed and adapted for use by electricians, and it is an object of the invention to provide a device of this general character with novel and improved means whereby a flexible non-metallic conduit, cord, or loom may be readily and conveniently severed.

It is also an object of the invention to provide a novel and improved device of this general character wherein one of the handles is provided with a cutting blade and the second handle provided with a groove or pocket in juxtaposition with respect to the cutting blade whereby the requisite severance or cutting of the conduit or loom is effected upon requisite relative movement of the handles of the tool.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved tool whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitley claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in perspective of pliers constructed in accordance with an embodiment of my invention; and

Fig. 2 is a view in perspective of the cutting blade herein embodied detached.

As disclosed in the accompanying drawings, 1 and 2 denotes pivoted jaws provided respectively with the handles 3 and 4. The forward end portions of the opposed faces of the jaws 1 and 2 are serrated or otherwise roughened so that said forward end portions of the jaws may be employed in a convenient manner as in connection with such work wherein pliers may be required. The portions of the opposed faces of the jaws 1 and 2 inwardly of the roughened faces 5 are formed into the coacting knife edges 6 whereby the jaws 1 and 2 may be conveniently employed as a wire cutter, or the like, in a well known manner.

One of the handle members, as 3, at a point in close proximity to the pivotal connection 7 between the jaws 1 and 2 is provided with the arcuate portion 8 co-planer with the handle member 3, said arcuate portion 8 being disposed outwardly. The handle member 3 also has disposed through the arcuate portion 8 and extending a slight distance beyond the opposite ends thereof a slot or recess 9 having one end opening at the inner edge of the handle member 3.

The second handle member 4, at a point in close proximity to the pivotal connection 7 between the jaws 1 and 2, is provided with the recess or slot 10 extending transversely thereof and open at the inner edge of the handle member 4. The end walls 11 of the recess or slot 10 are arranged in convergence toward the outer edge of the handle member 4.

B denotes a cutting blade of a length in excess of the length of the inner or larger end of the slot 10 and the central portion of the inner margin of said blade B is provided with a relatively wide tang or wing 12 which snugly engages within the slot or recess 10 and through which is directed a pin 14, or the like, also extending through the handle member 4 whereby the blade B is securely anchored in applied position yet can be readily removed when the occasions of practice may require and particularly when it is desired to sharpen the same. The portions of the inner marginal edge of the blade B extending beyond the opposite sides of the tang or wing 12 afford shoulders 15 adapted to contact with the inner edge of the handle member 4, so that during a cutting operation the blade B is prevented from being forced through the handle member 4. It is to be understood that under certain conditions, it may be desired that the blade B be integrally formed with the handle member

4, but as this construction is obvious, it is not believed that a detailed description and illustration thereof is necessary.

The inner end 16 of the blade B is disposed on a forward incline in a direction away from the handle member 4 and in a direction toward the jaws 1 and 2, and the outer margin 17 of the blade is formed into a knife edge and is arcuate in form. The inner end of the blade is also preferably of a greater width than the outer end, so that during a cutting operation the knife edge 17 has a rolling or shearing action on the loom or other work to be cut or severed and which results in the desired cutting operation being effected with extreme ease. As is well known, the flexible non-metallic conduit or loom employed in connection with electrical work is fibrous and extremely tough, so that with the use of a knife or kindred tool it is extremely difficult to cut or sever the loom. With my improved tool, this cutting operation is obtained with ease as the portion of the loom to be acted upon by the blade B is positioned within the arcuate portion 8 of the handle member 3; and as said handle members 3 and 4 are forced one toward the other, the cutting edge 17 of the blade B will engage the loom with a rolling action and cut or sever the loom with a shear-like motion. During the cutting operation, the inner or point portion of the blade B first enters within the slot 9 and enters said slot at substantially the beginning of the cutting operation, dependent, of course, upon the size of the loom being acted on. The slot 9 also receives the blade B when the tool is not in use, and the handle members 3 and 4 are in closed position, so that normally the handle member 3 serves as a sheath for said blade B.

I also find it of particular advantage to provide the outer end portion of the blade B with an extension 18 having its outer end substantially smooth. This extension 18 serves as a guard to prevent the fingers from coming in contact with the cutting edge of the blade B and also to hold the larger sizes of loom in cutting position and which last purpose is obtained in view of the fact that said extension 18 extends slightly beyond the adjacent portion of the cuttitng edge 17 so that the same readily serves as a stop.

From the foregoing description, it is thought to be obvious that a tool constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof; and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. A tool of the class described including two members movable one relative to the other, one of said members having an arcuate portion and a recess extending longitudinally thereof and entirely along the arcuate portion, and a cutting blade carried by the second member and movable within the recess of the first-named member when said members are moved one toward the other, the outer end of the blade being provided with an extension serving as a guard and as a stop.

2. A tool of the class described including two members movable one relative to the other, one of said members having an arcuate portion and a recess extending longitudinally thereof and entirely along the arcuate portion, and a cutting blade carried by the second member and movable within the recess of the first-named member when said members are moved one toward the other, the outer end of the blade being provided with an extension serving as a guard and as a stop, said extension being disposed beyond the adjacent portion of the cutting edge of the blade.

3. A tool of the class described including two members movable one relative to the other, one of said members having an arcuate portion and a recess extending longitudinally thereof and entirely along the arcuate portion, and a cutting blade carried by the second member and movable within the recess of the first-named member when said members are moved one toward the other, the cutting edge of the blade being arcuate, the outer portion of the blade being of less width than the inner portion.

4. A tool of the class described comprising two members movable one relative to the other, and a cutting blade carried by one of the members, an end portion of the blade being provided with an extension serving as a guard.

5. A tool of the class described comprising two members movable one relative to the other, and a cutting blade carried by one of the members, said blade being provided with a stop.

6. A tool of the class described comprising two members movable one relative to the other, and a cutting blade carried by one of the members, said blade being provided with a stop, said stop also serving as a guard.

7. A tool of the class described including two members pivotally connected for movement one relative to the other, one of said members having an arcuate portion adjacent the pivotal connection between the members,

said arcuate portion being outwardly disposed, said member having a recess extending longitudinally thereof and entirely along the arcuate portion, and a cutting blade carried by the second member and movable within the recess of the first-named member when said members are moved one toward the other, the cutting edge of the blade being arcuate, the outer portion of the blade being of less width than the inner portion.

In testimony whereof I hereunto affix my signature.

JOSEPH L. MAYHEW.