M. E. JOHNSON.

WIRE PULLER.

APPLICATION FILED OCT. 17, 1910.

**1,068,059.** Patented July 22, 1913.

Fig. 1.

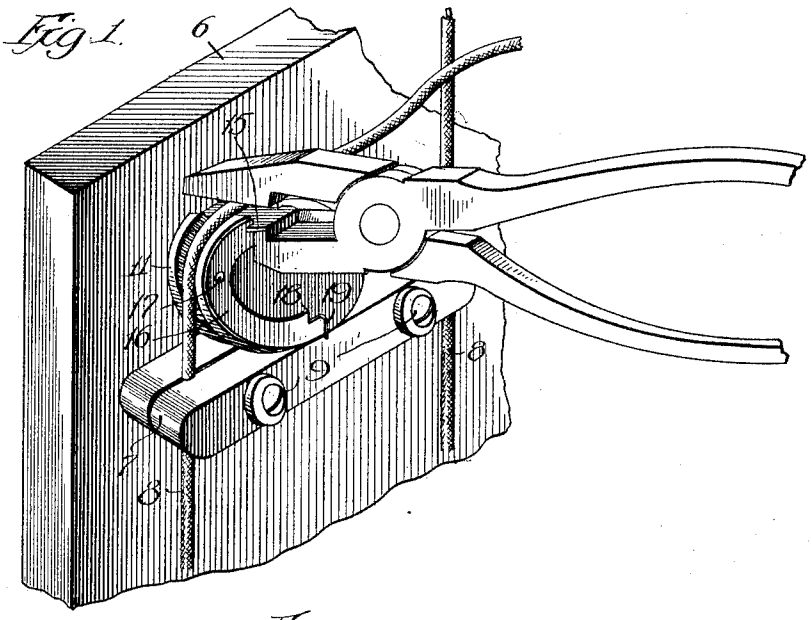



Fig. 2.

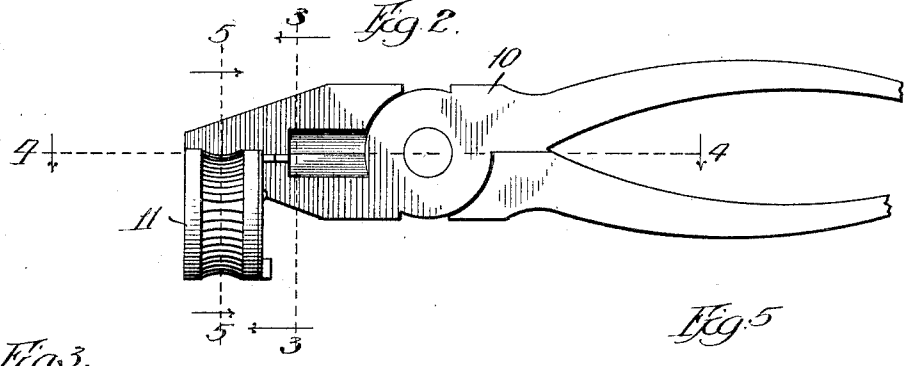



Fig. 3.

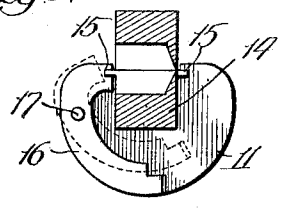



Fig. 4.

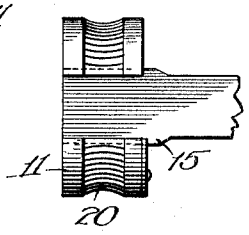
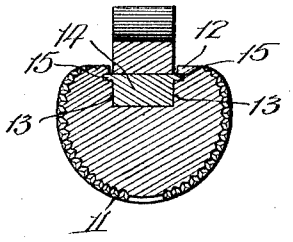



Fig. 5.




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# UNITED STATES PATENT OFFICE.

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## WIRE-PULLER.

1,068,059. Specification of Letters Patent. Patented July 22, 1913.

Application filed October 17, 1910. Serial No. 587,404.

*To all whom it may concern:*

Be it known that I, MARTIN E. JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wire-Pullers, of which the following is a specification.

This invention relates to improvements in wire pullers and aims to produce a simple and efficient puller especially designed for short pulls such as are necessary in interior electrical wiring, and is particularly adapted for electrical workers' use.

It has heretofore been very difficult in interior electrical wiring to draw the wires taut and straight between the retaining cleats, particularly when the cleats are located near the corner of the wall; first, because of the inconvenient location of the wires; and second, because no known implement which was capable of manipulation in the limited space would afford sufficient leverage to draw the wires tight.

One of the features of the present invention resides in the fact that it can be used in a very restricted space to quickly and easily draw the wires to the required tension.

Another feature of the invention is that the puller is capable of application to a pair of pliers such as form an essential tool of every electrician's kit, thereby obviating the necessity of carrying an especially designed tool capable of no other use than pulling wires.

Various other features and advantages of my invention will become apparent as it is better understood by reference to the following description when taken in connection with the accompanying drawings on the various views of which like reference characters refer to similar parts.

On the drawings—Figure 1 is a perspective view of a preferred embodiment of my improved puller showing it in operative position against a cleat. Fig. 2 is a top plan view thereof. Figs. 3, 4 and 5, are sectional views on the lines 3—3; 4—4; and 5—5, respectively, of Fig. 2.

On the drawings, 6 designates one of the side walls or the ceiling of a room, to which it is desired to secure by means of cleats 7 a pair of wires 8. The usual method of stringing wires in this manner is to loosely position the wires between the bars of the cleats, then draw the wires to the required tension between the cleats and hold them in position under tension by tightening up the screws 9.

A pair of pliers 10 of any preferred construction is equipped with my improved pulling cam or block designated generally as 11. In the preferred modification of my invention which is illustrated in this application, the block is constructed to be detachably secured to one jaw of the pliers so that it may be readily removed therefrom when it is not in use, thereby leaving the pliers unencumbered and free for all purposes for which pliers are ordinarily employed. The cam or pulling block 11 as shown on the drawings is made preferably in substantially the shape of a curved cam of regular contour terminating in a flat upper surface 12 which is provided with a groove 13 adapted to fit over one of the jaws 14 of the plier. The jaw is provided near its upper face with laterally projecting beads or ribs 15 which engage in lateral grooves provided in the vertical walls of the jaw-receiving groove 13. When the block is slipped into position upon the jaw with the beads 15 engaged in the longitudinal grooves of the block, the block is prevented from any rotary movement relative to the jaw.

In order that the block may not be accidentally disengaged with the jaw when the tool is in use, I have provided means for locking it in position on the pliers. This means comprises a flat spring 16 pivotally mounted at 17 on the rear face of the block and adapted to have its upper end forced into engagement with a notch in one of the lateral ribs 15. When the end of the locking spring is engaged in this notch, as shown in Figs. 1 and 3, the block is locked against longitudinal movement and displacement on the plier. The locking spring is provided with a downwardly turned portion 18 which frictionally engages the rear face of the block to hold the spring in locking position and also with an outwardly projecting portion 19 which serves as a handle by means of which the locking spring may be manipulated. The rounded surface of my improved puller block is preferably provided with a peripheral groove 20 adapted for the reception of the wire which is being stretched, and in order to prevent the wire from slipping on the block this groove may, if desired, be roughened, as shown.

The manner of using my improved wire puller is as follows: The wires are drawn by

hand through the cleats and held loosely in position therein. A wire is now grasped between the jaws of the pliers close to the cleat through which it is to be drawn; the pliers are then given a turn or twist to the right or left, depending upon which wire is being pulled, as shown in Fig. 1, thus drawing the wire through the cleat and around the periphery of the block. During the pulling operation the block rolls and slides against the cleat to maintain the pulling portion of the block in alinement with the opening through the cleat, so that the wire will not be displaced laterally of the cleat as it is being pulled. After the wire has been pulled to the proper tension in the manner above described, the screws 9 can be tightened up in the usual way to hold the wire in position.

My device is simple in construction, economical to manufacture, and can be used with a high degree of efficiency in restricted places where the employment of other types of pullers is impracticable.

The shape, size and details of construction of my improved puller may be varied materially without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

What I desire to claim is:

1. A wire puller comprising a rounded block having provisions on its periphery for the reception of a wire, and adapted to be detachably secured upon a pair of pliers.

2. A wire puller comprising a cam-shaped pulling block having provisions on its periphery for the reception of a wire and adapted to be engaged with a jaw of a pair of pliers, and locking means for locking said block to the pliers.

3. A wire puller comprising a grooved pulling block adapted to detachably engage with a jaw of a pair of pliers.

4. The combination of a pair of pliers, a cam-shaped pulling block provided with a wire receiving depression, and means for securing said block to one of the plier jaws.

5. The combination of a pair of pliers, one jaw of which is equipped with block retaining means, a pulling block constructed to be engaged with said jaw, and a pivoted locking device for securing said block in position on the jaw.

6. The combination of a pair of pliers, a pulling block having a groove and bead connection with one of the jaws of said pliers, and a lock carried by said block and adapted to engage with the bead on said jaw for locking said block in position.

7. The combination of a pair of pliers comprising a pair of gripping jaws, a pulling block, means for preventing relative rotary movement between one of said jaws and the block, and means carried by said block and adapted to engage in a notch provided in said jaw to prevent relative longitudinal movement between said block and said jaw.

8. A pair of pliers one jaw of which is equipped with a cam-shaped pulling block adapted to receive a wire on its periphery.

9. A pair of pliers one jaw of which is provided with a cam-shaped pulling block having a peripheral groove for the reception of the wire being pulled.

10. A pair of pliers, one jaw of which is provided with a rounded pulling block disposed transversely of the jaw.

11. A pair of pliers, one jaw of which is provided with a rounded pulling block located on the outer side of said jaw.

12. A pair of pliers provided with a curved pulling block projecting from a jaw of the pliers and adapted to receive a wire and exert tension thereon in a direction transverse to the longitudinal axis of the pliers upon rotative movement of the pliers.

13. A pair of pliers one jaw of which is equipped with an elongated pulling block positioned upon the outer face of said jaw in a plane transverse to the axis of the jaw.

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