May 13, 1924.

1,494,170

J. R. KEARNEY

WIRE AND CABLE PULLER

Filed Dec. 27, 1921

Fig. 1.

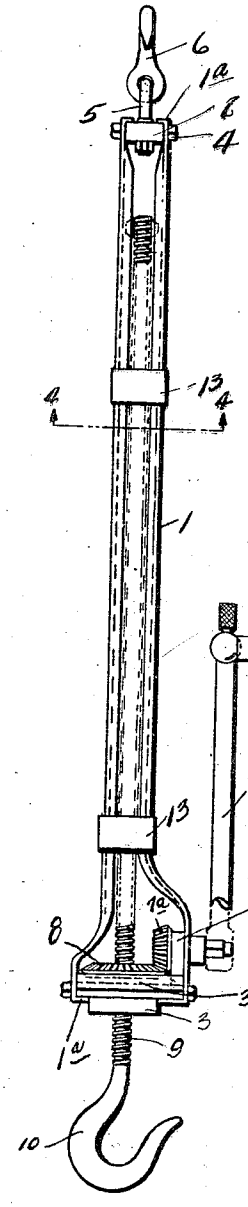


Fig. 3.

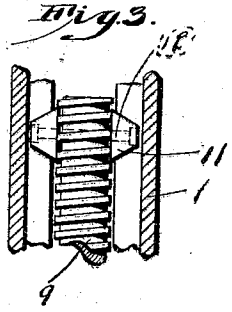


Fig. 4.

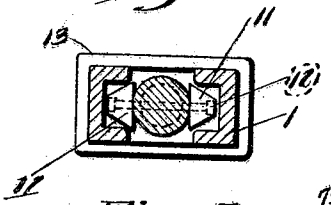


Fig. 5.

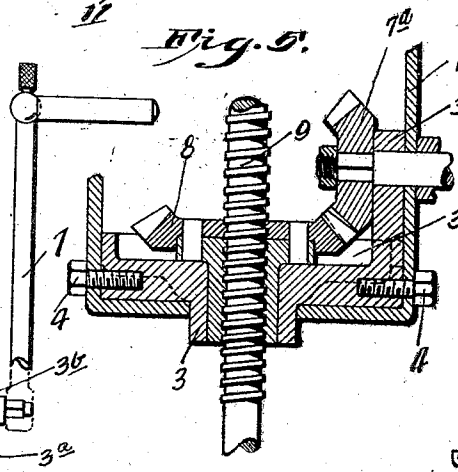


Fig. 6.

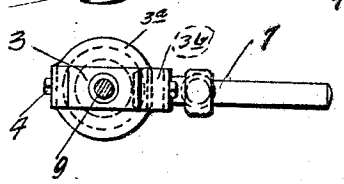
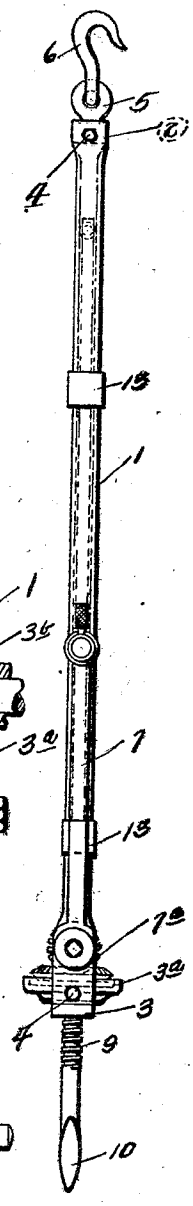


Fig. 2.



Inventor

James R. Kearney

By F. D. Cornwall

Atty

Patented May 13, 1924. 1,494,170

UNITED STATES PATENT OFFICE.

JAMES R. KEARNEY, OF KANSAS CITY, MISSOURI, ASSIGNOR OF FORTY-FIVE ONE-HUNDREDTHS TO VERNON M. McDONALD, OF DENVER, COLORADO.

WIRE AND CABLE PULLER.

Application filed December 27, 1921. Serial No. 525,127.

To all whom it may concern:

Be it known that I, JAMES R. KEARNEY, a citizen of the United States, residing at Kansas City, Jackson County, Missouri, have invented a certain new and useful Improvement in Wire and Cable Pullers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this application, in which—

Figure 1 is a side elevational view of my improved wire and cable puller.

Figure 2 is an edge elevational view of the same.

Figure 3 is an enlarged view showing one end of the threaded rod.

Figure 4 is a cross-sectional view on line 4—4 of Figure 1.

Figure 5 is an enlarged sectional view through the nut and conjoined miter gear.

Figure 6 is a bottom plan view.

This invention relates to a new and useful improvement in wire and cable pullers, and is designed particularly as an improvement upon the construction shown in McDonald Patent No. 1,378,702, dated May 17, 1921.

The object of my present invention is to simplify the construction and cheapen the cost of manufacture of cable pullers such as shown in the McDonald patent, utilizing commercially rolled shapes, such as channels for the main longitudinal members, which add greatly to the strength of the structure.

In the drawings, 1 indicates channel members arranged parallel to each other and whose flanges, at each end, are flattened or bent, so as to lie in the plane of the web, thereby forming widened ends, whereby frame blocks 2 and 3 may be secured in position between the widened ends of the channel and held securely in place by means of bolts 4. The block castings 2 and 3 thus serve as spacers, and the widened and flattened channel ends are preferably bent, as at 1^a, over these blocks to add rigidity to the construction.

What I shall designate as the upper block 2 forms a mount for a swivel eye 5 which supports a hook 6. The lower block 3 is provided with laterally extending guard wings 3^a and an upwardly extending arm 3^b, the latter providing the mount for a miter pinion 6 whose outer end is provided with a squared shaft whereby a removable handle 7 may be applied thereto for the purpose of rotating the pinion 6.

Pinion 6 meshes with a miter gear 8 whose hub portion finds a bearing in block 3 and whose interior bore is threaded so as to form a nut which engages with the threads of a rod 9. Rod 9 carries a hook 10 at its outer end and its inner end is provided with two conically shaped rollers 11 (see Figure 4) held in position by a pin 12, said rollers operating between the flanges of the channels 1 to prevent rotation of the threaded rod 9 though permitting longitudinal movement of said rod relative to the channels 1.

The lower ends of the channels are preferably bent outwardly (as shown in Figure 1) to accommodate the block 3. In order to space and support the channels 3 at one or more intermediate points, bands 13 may be employed as shown. These bands may be riveted or soldered to the channels.

The cable puller shown in the accompanying drawings is intended for use particularly in stretching and holding telegraph and telephone wires, trolley wires, guy ropes, etc., where it is necessary or desirable in connecting two ends of such wires or cables to draw them together tightly, and then after the connection is made, to remove the instrument.

In operation, the wires or cables to be connected or joined together are looped or otherwise secured to the hooks 6 and 10 when the rod 9 is in an extended position. By operating the handle 7, the hooks 6 and 10 are caused to be drawn toward each other, thus tightening or stretching the wires or cables to be connected.

Of course, the tool can also be employed in pulling automobiles, or auto trucks, out of sand or mud, excavations, and the like.

The purpose of the guard wings 3^a is to keep the wires, cables or the like from becoming entangled with the miter gears when the device is in operation.

Instead of using commercially rolled channels as the frame members, it is obvious that pressed metal could be employed or strap iron could be used, the marginal edges thereof being flanged for the purpose of reinforcement and providing guide grooves.

What I claim is:

1. In a device of the character described, a frame, a threaded rod extending longitudinally of said frame and having an anti-friction engagement therewith which prevents rotation of the rod in the frame while permitting relative longitudinal movement, a nut on said rod held against movement longitudinally of said frame, and means for rotating said nut.

2. In a device of the character described, the combination of a frame composed of two parallel flanged members, bands arranged around said members intermediate their ends, spacing blocks between the ends of the members, hooks and hook-retracting mechanism.

3. In a device of the character described, the combination of parallel frame members, a casting arranged between the ends thereof, said casting having guard wings on each side and an upstanding arm at one end thereof, a miter gear, and a miter pinion mounted in said casting and said arm, respectively, and a threaded hook-bearing rod co-operating with said miter gear.

4. In a device of the character described, the combination of a frame composed of commercially-rolled channel members whose flanges are flattened to the planes of the webs, respectively, at each end, spacing blocks between said flattened ends, a threaded rod provided with means for engagement in the channels of said frame members, and means co-operating with said rod for imparting longitudinal movement thereto relative to said frame.

5. In a device of the character described, the combination of parallel frame members provided with guideways, a threaded rod having projections extending into said guideways, rollers on said projections and operating in said guideways, a nut co-operating with said rod, and means for rotating said nut.

6. In a device of the character described, the combination of a frame consisting of parallel members secured together at their ends, a threaded rod arranged between said frame members and provided with means co-operating with a groove in the inner face of a frame member, a nut engaging said rod, a miter wheel conjoined to said nut, a pinion meshing with said miter wheel, a non-circular shaft connected to said pinion, and attachable means for engaging said non-circular shaft to rotate said pinion, miter wheel and nut.

In testimony whereof I hereunto affix my signature this 19th day of December, 1921.

JAMES R. KEARNEY.