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STOPE JACK

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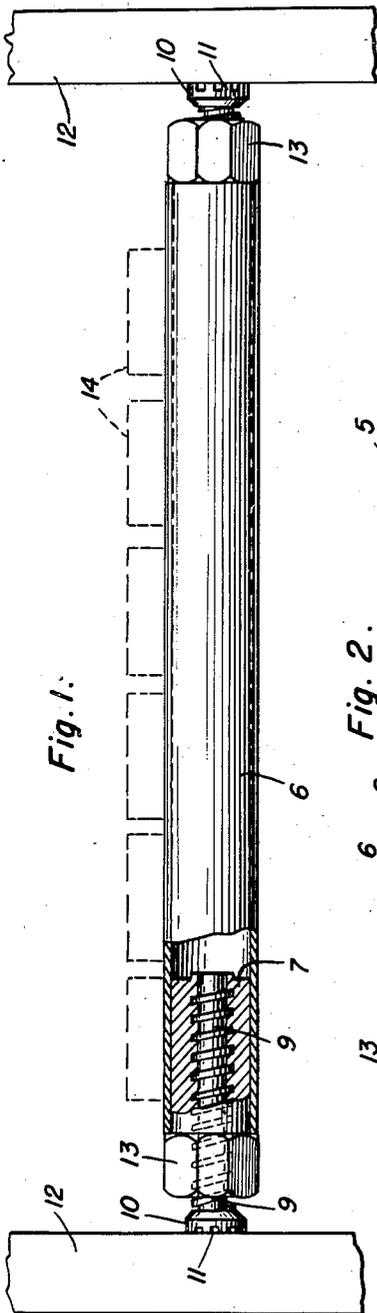


Fig. 1.

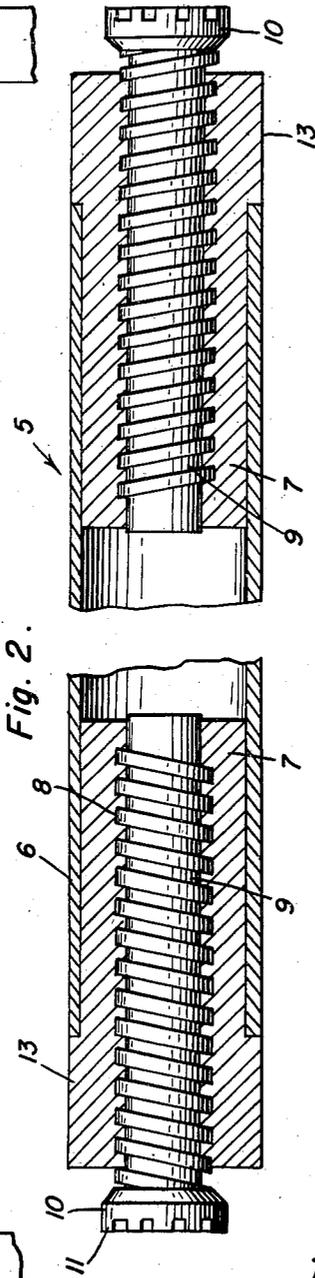


Fig. 2.

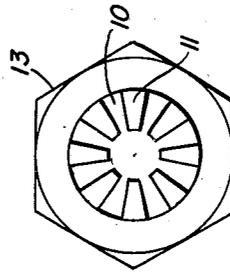


Fig. 3.

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STOPE JACK

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2 Claims. (Cl. 248—351)

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This invention relates to an improved jack such as may be specifically classified as a miner's stope jack and which is adapted to be used in mining underground and for different purposes of mining such as making a raise, driving a drift, driving spiling and for other uses well known in this line of endeavor.

The purpose of the invention is to provide a simple jack which will replace timbers such as are commonly used for the above stated purposes in present day mining work.

In carrying out the principles of the invention I contemplate the adoption and use of augmented metal tubes of predetermined diameters and lengths ranging, for example, two-feet, four-feet, six-feet, eight-feet, etc. These tubular sections are preferably of a prescribed diameter so as to accommodate standardized bushings, the bushings having portions telescoping into the ends of the tube section in use, said bushings being internally screw threaded and provided with projectible and retractable jack screws, the jack screws having specially constructed heads to securely grip the excavation walls for platform building and other wanted results.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawing.

In the drawing, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a view partly in section and partly in elevation showing a platform in the process of construction and showing how the stope jack is utilized to assist in attaining the desired ends;

Figure 2 is an enlarged fragmentary sectional view showing the jack per se; and,

Figure 3 is an end view of the structure seen in Figure 2.

Referring now to the drawing by distinguishing reference numerals the jack, as a unitary structure, is denoted by the numeral 5 and is characterized by an augmented cylindrical tube or pipe section 6. As stated, I intend to use a series or group of such pipe sections and they will all be the same in diameter but will vary in lengths ranging from two to eight feet, etc. Having these pipe sections handy whichever one is needed may be picked up and brought into use. Telescopically and removably fitted into each end of the tube is a bushing 7 which is centrally bored and internally screw threaded, as at 8. These screw threads serve to accommodate the screw

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threaded shank of a jack screw. The outer end of the jack screw is provided with a so-called rosette head 10, that is a head of suitable diameter having anti-slipping ribs 11 to securely grip the jagged surface of the mine or other equivalent wall or support 12. The outer end of the bushing is enlarged into a head and the periphery is of flat faced formation and defines a hex-nut 13 to accommodate a wrench or other tool for installation and adjustment accomplishments. Any number of these devices are set up and used as illustrated in Figure 1 to accommodate and support boards, planks or other timbers 14 used in the construction of a platform.

As stated the purpose of the jack is to replace timbers in making a raise or a stope in mines. A stope jack is placed on the raise and is fastened securely against each wall by adjusting the projectible and retractable jack screws. Then the planks or timbers are placed across the thus erected jacks to make a platform for the miner to work from. Heretofore cross pieces used for platform construction work have been of timber.

The widths of excavation vary and therefore it will be necessary to have a plurality of tubes or pipe sections 6. These will all be of the same diameter, as stated, but will vary in length so that the one most convenient may be brought into use. The bushings will be standard and the only difference will be that the jack screw at one end will be formed with left hand screw threads while the other at the opposite end will be formed with right hand screw threads.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawing will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

Having described the invention, what is claimed as new is:

1. A jack structure adapted to take the place of a conventional wooden cross-timber which is usually employed in building mine stopes comprising a rigid open ended tube of a predetermined length and predetermined cross sectional diameter, duplicate jack units fitted removably into the opposite open ends of said tube, each unit comprising a cylindrical bushing having an outside diameter corresponding to the inside di-

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iameter of said tube, said bushing fitting snugly, telescopically and firmly into the adjacent end portion of the tube and being of a length in relation to the length of the tube to extend a substantial distance into said tube to fill and reinforce the coating end portion of the tube, said bushing having a central bore and said bore screw threaded, the outer end of said bushing, immediately beyond the corresponding end of said tube being enlarged and having flat faces formed into a tool nut, a jack screw threaded into said bore, the outer end of said jack screw having a head projecting beyond the tool nut and the wall contacting surface of said head being roughened.

2. A jack structure adapted to take the place of a conventional wooden cross timber which is usually employed in building mine stopes comprising a rigid open ended tube of a predetermined length and predetermined cross sectional diameter, duplicate jack units fitted removably into the opposite open ends of said tube, each unit comprising a cylindrical bushing having an outside diameter corresponding to the inside diameter of said tube, said bushing fitting snugly, telescopically and firmly into the adjacent end portion of the tube and being of a length in relation to the length of the tube to extend a

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substantial distance into said tube to fill and reinforce the coating end portion of the tube, said bushing having a central bore and said bore screw threaded, the outer end of said bushing, immediately beyond the corresponding end of said tube being enlarged and having flat faces formed into a tool nut, a jack screw threaded into said bore, the outer end of said jack screw having a head projecting beyond the tool nut and the wall contacting surface of said head being roughened, and said head being of a diameter less than the diameter of the tool-nut and the latter being of a diameter substantially equal to the outside diameter of said tube.

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