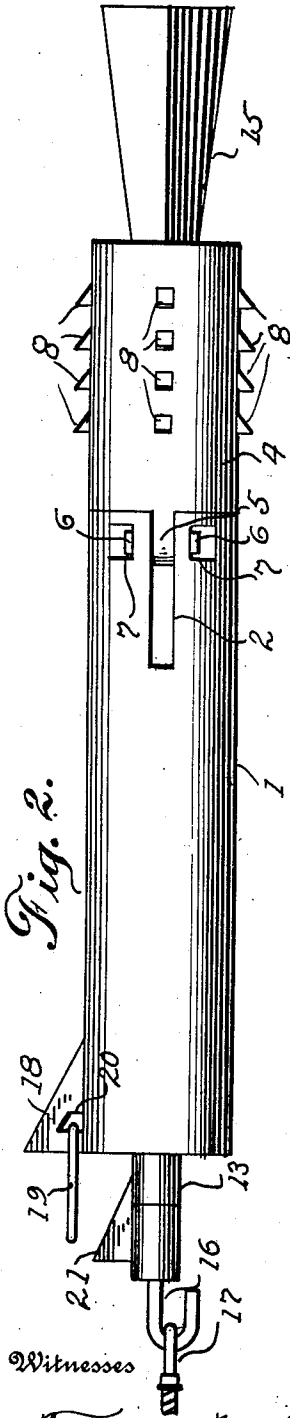


J. TUCK.
MACHINE JACK.

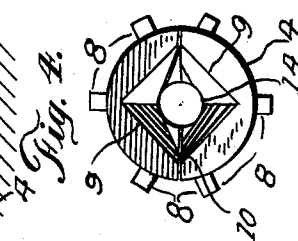
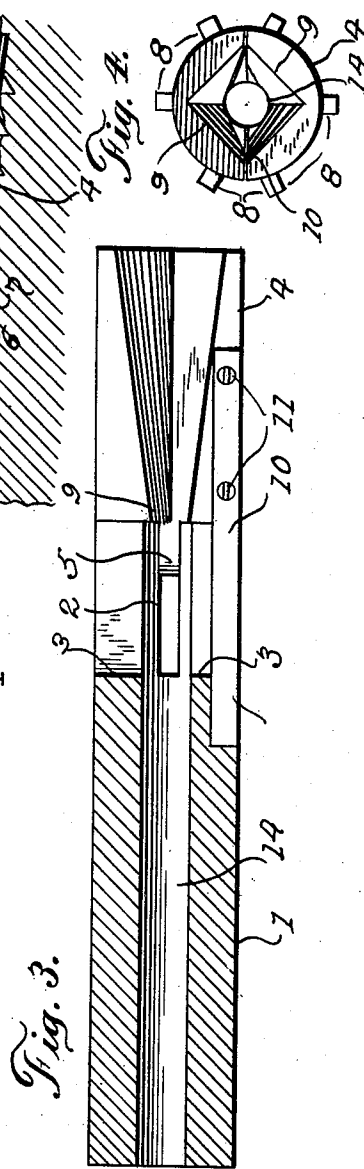
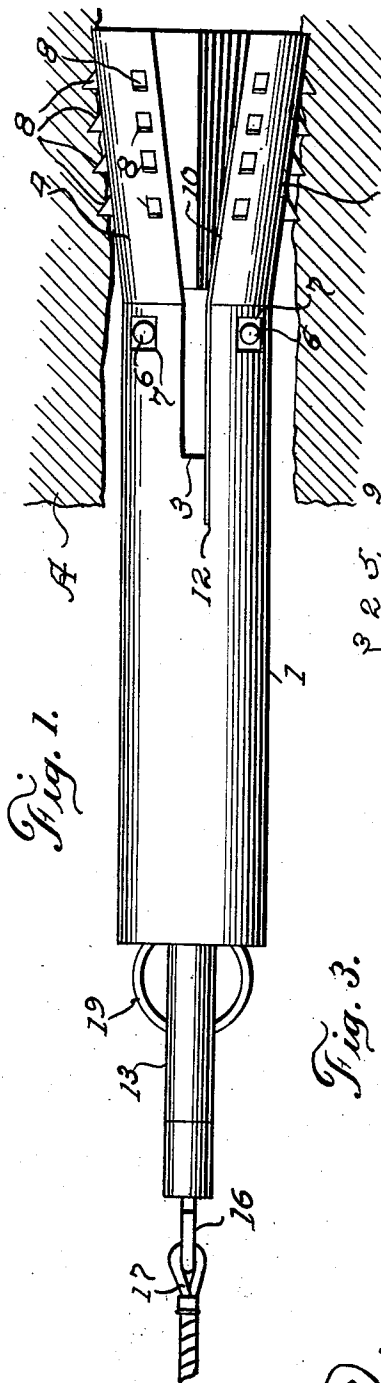
APPLICATION FILED OCT. 3, 1912.

1,065,747.

Patented June 24, 1913.



Witnesses
Francis Mac Nerhaney.
W. M. Cullman.



Inventor
Joseph Tuck.

By *Handwritten Signature*
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH TUCK, OF HAWKS NEST, WEST VIRGINIA.

MACHINE-JACK.

1,065,747.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed October 3, 1912. Serial No. 723,747.

To all whom it may concern:

Be it known that I, JOSEPH TUCK, a citizen of the United States, residing at Hawks Nest, in the county of Fayette and State of West Virginia, have invented certain new and useful Improvements in Machine-Jacks, of which the following is a specification.

My invention relates to devices to form securing means for mining machines and the like, and has for its object the provision of an improved expandible gripping device comprising two normally retracted jaws having angular grooves therein and a plunger having a pyramidal head that engages the angular grooves in the jaws to expand them when force is exerted on said plunger.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings, in which,

Figure 1 is a view of my improved machine jack showing it in position in a boring in a breast of coal; Fig. 2, a view in elevation of the jack, the jaws being shown retracted and the plunger head extending out of the same; Fig. 3, a longitudinal sectional view of the body of the jack; and Fig. 4, an end view showing the plunger removed.

In the drawings similar reference characters will be used to designate corresponding parts throughout the several views.

My improved machine jack consists of a tubular body portion 1 having one of its terminals provided with slots 2 diametrically opposite one another and other slots 3 having their median lines 90° removed from the median lines of the slots 2. The jaws of my improved jack consist of segmental blocks 4 having one of their terminals provided with a central longitudinally extending lug 5 that is seated in the slots 2 and pivotally mounted on the tubular member 1 by means of a pivot pin 6, the tubular member 1 being provided with recesses 7 at the two sides of each slot 2 to permit the pivot pin 6 to be inserted and removed in engagement with said lug 5. The outer surface of the segmental blocks 4 are provided with integral teeth 8 and the inner surface of each plate is formed with an angular groove 9 that is wider at the front terminal of each plate than at the pivoted terminal, as clearly shown in Fig. 3; in other words, said grooves 9 taper inwardly from the outer terminals of said blocks 4 to the pivoted terminals.

A strip of spring material 10 is secured to each of the blocks 4 by means of suitable fastenings and extended through the slots 3 and into a reduced slot 12 in the tubular body member 1, a single strip engaging one of the blocks 4 being shown in the drawings Figs. 1 and 3, but it will be understood that a similar strip is secured to the other block in a manner similar to that shown in these figures.

13 indicates a plunger that is slidably mounted in the bore 14 of the tubular member 1 and has its outer terminal provided with a pyramidal head 15 that is adapted to engage the grooves 9 in the blocks 4 when the plunger 13 is actuated.

16 indicates a hook or its equivalent mounted on the opposite terminal of the plunger 13 to which may be secured the draft cable 17 as shown.

18 indicates an angular lug or extension on the terminal of the tubular member 1 farthest removed from the blocks 4 and having a ring 19 mounted in an orifice 20 therein, said block 18 being adapted to be struck by a hammer or other implement in driving the jack into a boring such as shown in Fig. 1 at A in a breast of coal or other mineral, either in placing the jack in position or in knocking it loose from said boring.

21 indicates a similar lug or extension on the plunger 13 to be used to receive the blows of a hammer or other suitable implement in displacing the head 15 of said plunger from the angular grooves 9 in the blocks 4.

In use it will be apparent that after a boring has been made in the coal or other mineral such as shown at A the jack is inserted in position when the plunger head 15 is out of engagement with the grooves 9 and the device is as shown in Fig. 1, said insertion being assisted if necessary, by driving the tubular member 1 and the plunger 13 into the boring by striking the lugs 18 and 21 with a hammer or other suitable implement. After the machine jack is in position in the boring the draft cable 17 is placed in engagement with the hook 16 and the plunger 13 pulled outwardly. By the outward movement of the plunger 13, the head 15 thereon is moved into engagement with the grooves 9 in the inner sides of said blocks 4 and said blocks are swung outwardly against the resistance of the springs 10 until the teeth 8 thereon engage the walls

of the boring. It will be understood that a continued pull on the draft cable 17 will serve to spread the blocks 4 outwardly so that the jack will be held more firmly in engagement with the walls of the boring.

When it is desired to remove the jack from the boring, the plunger 18 is driven inwardly by striking the lug 21 with a hammer or other suitable implement and the springs 10 will move the blocks 4 toward one another, so that the teeth 8 thereon will be released from engagement with the walls of the boring to be released by the springs. 10, the tubular member 1 may be driven inwardly by striking the lug 18 and by such inward movement the teeth 8 will be released from engaging the walls of the boring and the springs 10 will then return the blocks to their original positions. The jack may then be removed from the boring by manual or other power engaging the ring 19.

Having thus described my invention what I claim is:—

1. In a machine jack, a tubular member, clamping blocks pivotally secured to said tubular member, springs secured to said clamping blocks and to the tubular member, said springs normally tending to move said clamping blocks into close proximity to one

another, the inner sides of said clamping blocks being formed with tapered angular grooves, a plunger slidably mounted in said tubular member, and a pyramidal head on said plunger and adapted to engage said grooves to expand the blocks outwardly.

2. A machine jack comprising a tubular member having slots in one of its terminals diametrically arranged, clamping blocks, a longitudinally extending lug on each clamping block engaging one of the slots aforesaid, a pivot pin engaging said tubular member and longitudinally extending lug, springs secured to said clamping blocks and engaging the tubular member to normally hold said clamping blocks in close proximity to one another, the inner sides of said clamping blocks being provided with tapered angular grooves, a plunger slidably mounted in said tubular member, and a pyramidal head secured to said plunger and adapted to engage said angular grooves to expand the blocks against the resistance of said springs.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH TUCK.

Witnesses:

C. W. TYNER,

A. J. TAYLOR.