H. M. THOMAS.

GUY ANCHOR.

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Fig. 1.

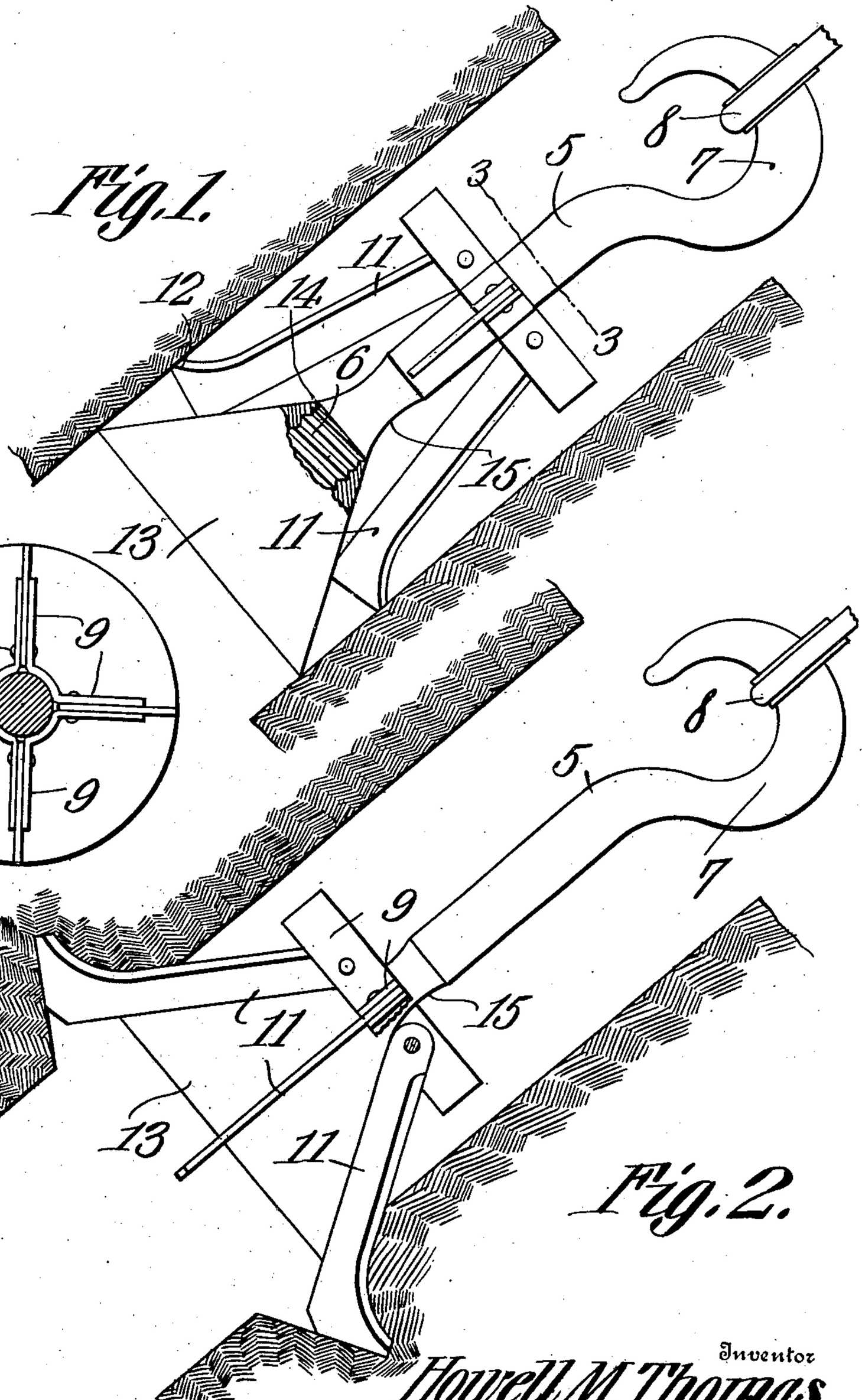

Fig. 3.

Fig. 2.

Witnesses

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GUY-ANCHOR.

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To all whom it may concern:

Be it known that I, HOWELL M. THOMAS, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Guy-Anchor, of which the following is a specification.

This invention relates to anchors for guy wires and the like and more particularly to an anchor especially designed for use in coal mines for anchoring the guy wires of cutting machines, drills and similar machinery.

The object of the invention is to provide an anchor including a stem having a supporting member slidably mounted thereon and carrying a plurality of anchoring spurs or arms, said arms or spurs being adapted to be embedded in the coal by a cone shaped block or expander when a longitudinal pull is exerted on the stem.

A further object is to form the stem with a circumferential groove or depression to permit free lateral movement of the arms or spurs when the same are moved to expanded position.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation partly in section of an anchor constructed in accordance with my invention showing the arms in position to be embedded in the ground. Fig. 2 is a side elevation showing the anchoring arms or spurs in expanded position. Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved anchor forming the subject matter of the present invention includes a shank or stem 5 having one end thereof threaded at 6 and its opposite end provided with a hook 7 for engagement with a guy wire 8. Slidably mounted on the stem 5 is a supporting frame having a plurality of sets of spaced arms 9 between each set of which is pivotally mounted at 10 an anchoring arm or member 11, the free end of which is extended laterally to form a spur 12 adapted to be embedded in the ground when a longitudinal pull is exerted on the hooked end of the stem.

Detachably secured to the threaded end of the stem 5 is a cone shaped member 13 having a socket formed in the reduced end thereof, the interior walls of which are threaded for engagement with the threads 6 on the stem.

Disposed at the threaded portion 6 of the stem is an annular stop shoulder 14 which bears against the adjacent end of the cone or expander 13 and serves to limit the longitudinal movement of the same.

That portion of the stem 5 near the threaded end 6 is provided with a circumferential groove or depression 15 which accommodates the pivoted end of the arms 11 when the supporting frame registers with the groove 15 and the arms 11 are swung outwardly for engagement with the ground, thereby to prevent binding or wedging action of the arms against the stem when said arms are moved to extended position.

In operation a hole or excavation is formed in the coal by means of a drill or other suitable tool and the supporting frame moved longitudinally of the stem in the direction of the hook 7 so that the bills of the spurs 12 will be disposed within the lines of the cone or expander 13. The device is then inserted in the hole or excavation and a longitudinal pull exerted on the guy wire 8 to tighten or regulate the tension of said wire. The longitudinal pull exerted by the guy wire 8 on the stem or shank 5 causes the inclined face of the cone 13 to engage the inclined or beveled portion 17 of the arms and force the spurs 12 of said arms into the walls of the excavation thereby effectually anchoring the guy wire and preventing accidental displacement of the anchoring device.

While the device is principally designed for anchoring the guy wires of cutting machines it is obvious that the same may be used with equally good results for anchoring derricks, telegraph poles and the like or wherever a device of this character is found desirable.

It will also be understood that as many

pivoted arms may be employed as is found desirable or necessary to secure a firm anchorage for the guy wire.

Having thus described the invention what is claimed is:

1. A device of the class described including a stem having one end thereof provided with means for attachment to a guy wire, a frame slidably mounted on the stem, anchoring arms pivotally connected with the frame, and an expander carried by the opposite end of the stem for moving the arms to expanded position when a longitudinal pull is exerted on the guy wire, there being a circumferential groove formed in the stem to permit free lateral movement of the anchoring arms.

2. A device of the class described including a stem having one end thereof threaded and its opposite end bent to form a hook for engagement with a guy wire, a frame slidably mounted on the stem, anchoring arms pivotally mounted in the frame and provided with laterally extending spurs, and a cone engaging the threaded end of the stem and adapted to engage the anchoring arms for moving the same to expanded position when a longitudinal pull is exerted on the guy wire, there being a circumferential groove formed in the stem at the threaded end of the latter for registration with the sliding frame when the arms are moved to expanded position.

3. A device of the class described including a stem having one end thereof bent to form a hook for engagement with a guy wire and its opposite end provided with a threaded extension defining an annular stop shoulder, a frame slidably mounted on the stem, anchoring arms pivotally mounted in the frame and provided with laterally extending spurs, a cone bearing against the stop shoulder and having a threaded socket formed therein for engagement with the threaded end of the stem, said cone being adapted to expand the arms when a longitudinal pull is exerted on the guy wire, there being an annular groove formed in the stem at said shoulder to permit free lateral movement of the anchoring arms.

4. A device of the class described including a stem cylindrical in cross section and having one end thereof bent to form a hook for engagement with a guy wire and its opposite end provided with a threaded extension defining a stop shoulder, there being an annular groove formed in the walls of the stem at said stop shoulder, a frame slidably mounted on the stem between the stop shoulder and hooked portion thereof and having a plurality of sets of spaced arms, anchoring arms pivotally mounted between the arms of the frame and having their free ends extended laterally to form spurs, the free ends of the arms at said spurs being inclined or beveled; and a cone bearing against the shoulder and provided with a threaded socket for engagement with the threads on the shank, said cone being adapted to engage the inclined portions of the anchoring spurs for moving the latter to expanded position when a longitudinal pull is exerted on the guy wire.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HOWELL M. THOMAS.

Witnesses:
T. E. THOMAS,
JOHN FERGUSON.