

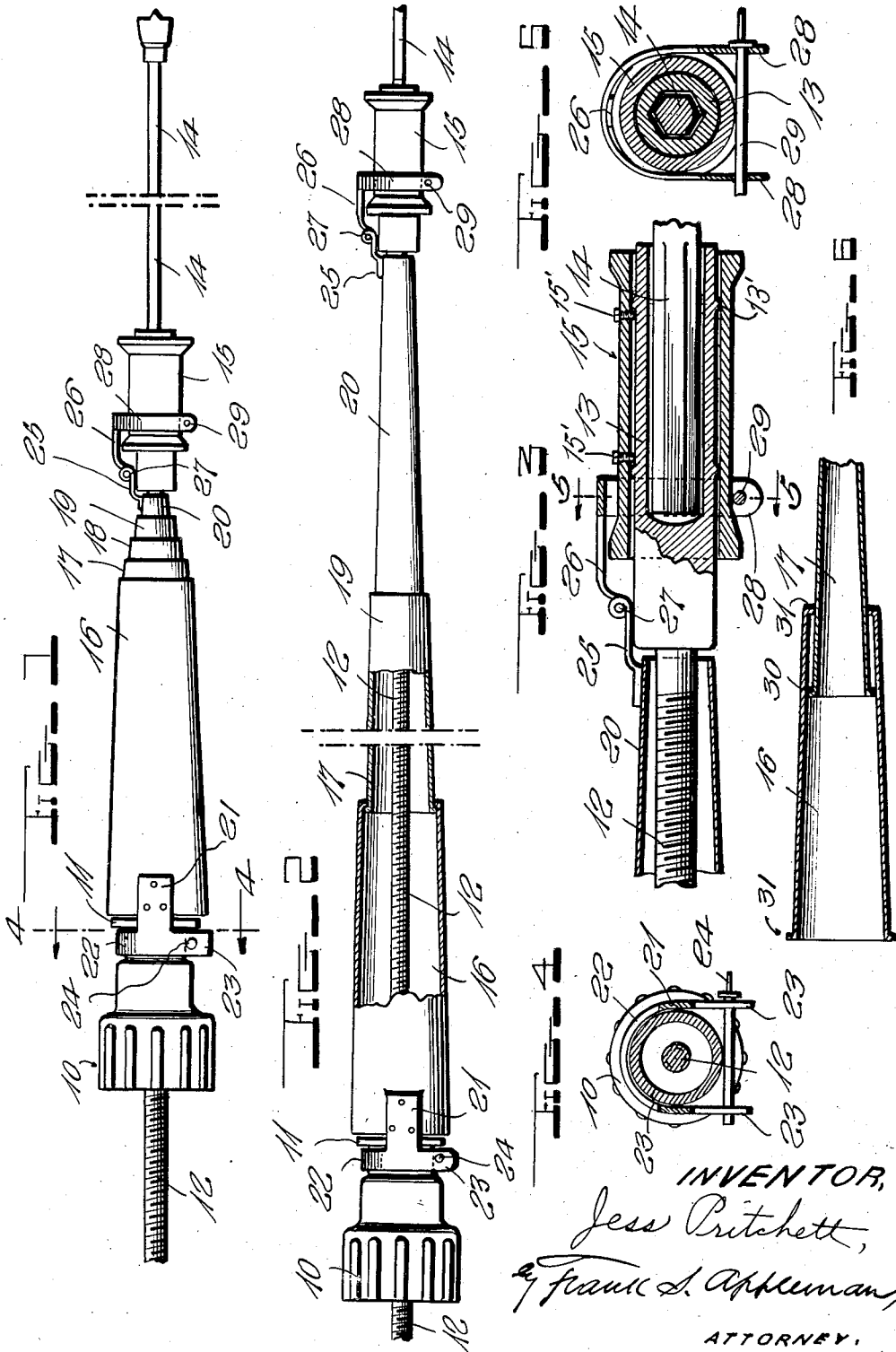
Oct. 11, 1949.

J. PRITCHETT

2,484,731

SAFETY ATTACHMENT FOR DRILLING MACHINES

Filed April 10, 1945



INVENTOR,
Jess Pritchett,
Frank S. Appelman,
ATTORNEY.

UNITED STATES PATENT OFFICE

2,484,731

SAFETY ATTACHMENT FOR DRILLING MACHINES

Jess Pritchett, Eldorado, Ill.

Application April 10, 1945, Serial No. 587,461

3 Claims. (Cl. 255—36)

1

This invention relates to drilling machines for mining purposes in general, and to rock drilling machines in which a threaded feed shaft is employed for projecting and retracting a drill.

It is an object of this invention to provide novel means for covering the feed screw with a shield which is extensible as the feed screw is moved outwardly and the shield is furthermore retracted when the feed screw is moved inwardly.

It is a further object of this invention to provide a safety guard of the character indicated which may be associated with and anchored at one end to the boxing housing of a drill and a sleeve on the drill socket at the opposite end of the thread bar, novel means being provided by which the aforesaid attachments are effected.

A still further object of this invention is to provide a guard of the character indicated which may be attached to or removed from drilling machines now in common use so that a durable and comparatively inexpensive assembly results.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which:

Figure 1 illustrates a view in side elevation showing a boxing housing of a drilling machine associated with the thread bar and drill socket;

Figure 2 illustrates a similar view with the guard in section and extended;

Figure 3 illustrates an enlarged detail view of the thread bar and drill socket, with the guard attached thereto;

Figure 4 illustrates a sectional view on the line 4—4 of Fig. 1;

Figure 5 illustrates a sectional view of the assembly on the line 5—5 of Fig. 3; and

Figure 6 illustrates a detail view in section of two of the telescopic sections of the guard.

In these drawings 10 denotes the boxing housing having a conventional flange 11 at its outer end, and it is understood that the thread bar 12 is rotatably mounted through the said housing and is driven in known manner, as found in mining drills. The outer end of the thread bar is fitted with a drill socket 13 having an annular cuff 13' adjacent each end thereof and a longitudinal bore in which the ends of drills 14 are removably fitted, and the drills are changed, as

2

the drilling progresses, by the substitution of drills of different lengths. The drill sockets are generally of conventional design and, in order to provide means for attaching the guard, to which reference has been made, to the drill socket, a sleeve 15 surrounds the drill socket and a threaded bolt or the like 15' extends through an aperture in the sleeve adjacent each end thereof at a point inwardly of the cuffs 13'. Hence, the drill socket may rotate freely within the sleeve and the sleeve can move with the socket longitudinally.

The screw guard, in the present embodiment of the invention, comprises a plurality of telescopic tubular sections 16, 17, 18, 19, and 20 which are gradually tapered so that one may slide within the other and be so retracted and nested as shown in Figure 1. A bracket 21 is attached at the inner end of the largest section and it carries a clip 22 which partially embraces the reduced end of the boxing housing, as at 23, and the apertured ends of this clip are connected by a bolt or fastening 24 which serves to draw the clip into firm engagement with the housing to retain the inner end of the guard anchored in place. The smallest of the telescopic sections has its outer end provided with an arm 25 secured to it in any appropriate way, and the said arm is connected to another arm 26 by a pivot joint 27 so that the arm 26 may swing vertically. A clip 28 on the arm 26 embraces the sleeve 15, and the clip is secured thereon by a bolt 29 which serves to bind the clip on the sleeve. Hence, as the thread bar is moved outwardly during the drilling operation, the telescopic sections are successively extended and caused to protect the thread bar as it moves outwardly and, of course, the inward movement of the thread bar causes the collapse or nesting of the telescopic sections, wherefore the automatic protection of workmen against their clothes or person being injured by the operation of the thread bar is effected.

While the tubular section 16 is shown as being anchored to the boxing housing, it is evident that the said attachment may be made to other parts of a housing of a drilling machine in which the thread bar operates.

It is shown that the ends of the telescopic sections are provided with interengaging annular flanges 30 and 31, the former of which extends outwardly from the large end of the telescopic section and the latter of which extends inwardly from the small end of the telescopic section, and it is obvious that when the sections are fully ex-

3

tended, the flanges 30 and 31 will engage to prevent the disengagement of the section.

The number of telescopic tubular sections may be increased or diminished according to the requirements in practice and the diameters thereof will likewise be determined by the particular work to be performed.

I claim:

1. In a drilling machine, in combination with a thread bar, a guard for the thread bar comprising a plurality of telescopic tubular sections surrounding the thread bar, means for anchoring the free end of the largest section of the guard in a fixed position with relation to the thread bar, a drill socket on the outer end of the thread bar, and a means on the outer end of the smallest telescopic section of the guard for connecting the said guard to said drill socket, the said second mentioned means comprising a sleeve encircling the socket, complementary means on the socket and sleeve for supporting the sleeve on the socket for longitudinal movement therewith yet enabling the socket to rotate relative to the sleeve, and a clip connected at one end to the outer end of the smallest telescopic section and at the other end to the sleeve whereby the movement of the thread bar inwardly and outwardly collapses and extends the telescopic sections.

2. In a drilling machine, in combination with a thread bar, a guard for the thread bar comprising a plurality of telescopic tubular sections surrounding the thread bar, means for anchoring the free end of the largest section of the guard in a fixed position with relation to the thread bar, a drill socket on the outer end of the thread bar, an arm attached to the outer end of the smallest telescopic section of the guard, a second arm piv-

4

oted to the first named arm, a clip secured to the second named arm, a sleeve encircling the drill socket, complementary means on the socket and sleeve for supporting the sleeve on the socket for longitudinal movement therewith yet enabling the socket to rotate relative to the sleeve, and additional means for clamping said clip to the sleeve, whereby the movement of the thread bar inwardly and outwardly collapses and extends the telescopic sections.

3. In a drilling machine, in combination with a thread bar, a guard for the thread bar comprising a plurality of interconnected telescopic tubular sections surrounding the thread bar, means for anchoring the free end of the largest tubular section in a fixed position with relation to the thread bar, a drill socket carried by the outer end of the thread bar, an arm mounted on the outer end of the smallest telescopic section, a second arm pivoted to the first named arm, and a clip secured to said second named arm encircling said socket whereby movement of the thread bar outwardly extends the telescopic sections while inward movement of the said bar collapses the telescopic sections.

JESS PRITCHETT.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
314,755	Tracy	Mar. 31, 1885
859,637	Adams	July 9, 1907
1,919,622	Dodds	July 25, 1933
2,061,331	Roberts	Nov. 17, 1936