

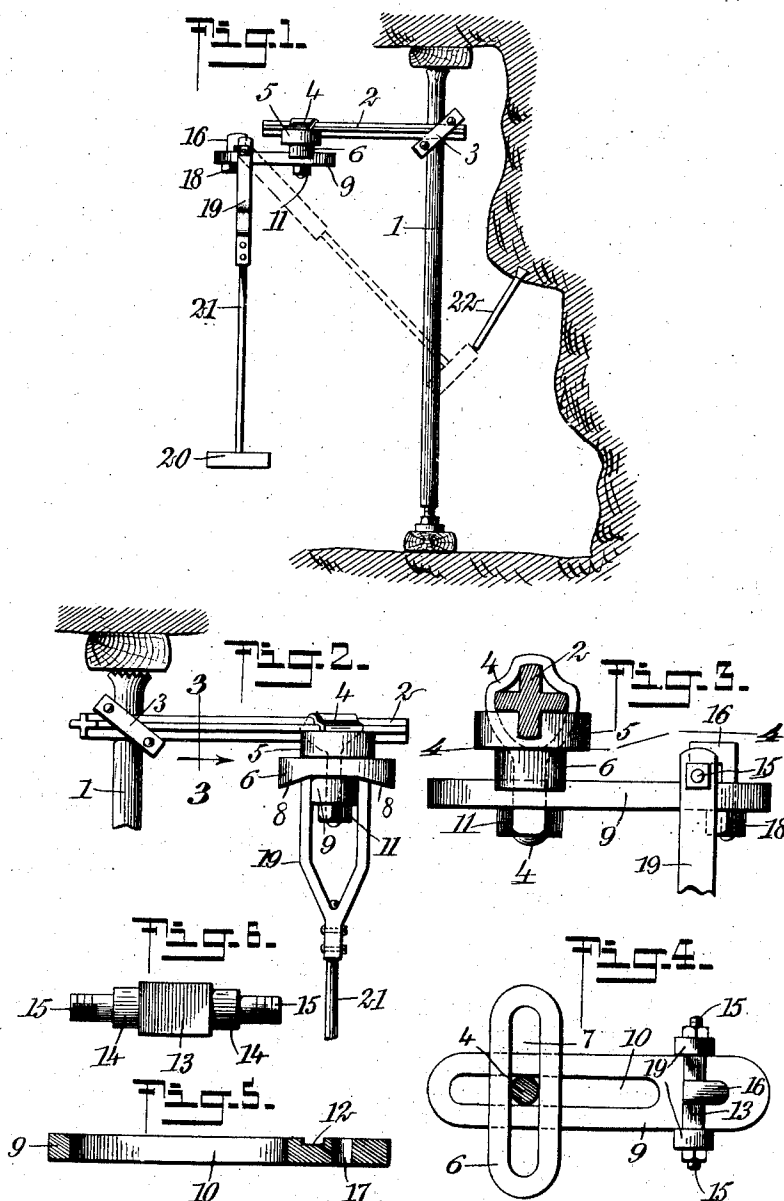
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E. W. EVANS.

ROCK DRILL.

APPLICATION FILED JAN. 2, 1907.



WITNESSES

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EVAN WILLIAM EVANS, OF GREENWOOD, BRITISH COLUMBIA, CANADA.

ROCK-DRILL.

No. 865,174.

Specification of Letters Patent.

Patented Sept. 3, 1907.

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To all whom it may concern:

Be it known that I, EVAN WILLIAM EVANS, a subject of the King of Great Britain, and a resident of Greenwood, in the Province of British Columbia, Dominion of Canada, have invented a new and Improved Rock-Drill, of which the following is a full, clear, and exact description.

This invention is an improvement in rock drills of the character described in my application serially numbered 295,878, filed January 13, 1906.

The object of this invention, primarily, is to simplify the construction of hand-operated rock drills, and to provide for the sliding adjustment of the hammer-suspending mechanism, whereby the same may be readily shifted to any position and permit the striking of the drill with accuracy.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the invention set up in a mine; Fig. 2 is a fragmentary, upper end elevation on an enlarged scale; Fig. 3 is a cross section on the line 3—3 of Fig. 2, looking in the direction of the arrow; Fig. 4 is a sectional plan view on the line 4—4 of Fig. 3; Fig. 5 is a longitudinal, central section through the supporting bar, and Fig. 6 is a plan of the pivot-pin on an enlarged scale.

In carrying out my invention, I employ a column 1 of the usual or other preferred construction, which, when in position, is applied to the walls of a mine, as indicated in Fig. 1, and carries, usually near its upper end, an arm 2 adjustably held at substantially right angles thereto by a clamp 3. The bar 2 is cross-shaped in cross section, as best shown in Figs. 2 and 3, and has slidably mounted thereon the eye of an eye-bolt 4, the eye of said bolt fitting the cross-bar in a manner to prevent it from turning thereon, preferably as shown in Fig. 3. On the bolt 4 is placed a washer 5 having an opening therein of such shape as to receive the lower portion of the eye of the eye-bolt 4, and also having a slot diametrically passing through its upper face to receive the lower rib of the arm 2, admitting of the upper face of the washer contacting with the under face of the horizontal ribs of said arm, as best shown in Fig. 3. Positioned next to the washer 5 of the bolt 4 is a cross-bar 6, provided with a long slot 7 through which the bolt 4 passes, and having its under face formed with reversely-inclined wedges 8 at each end with a central flattened portion.

Arranged on the bolt 4 adjacent to the crossbar 6 is a supporting-bar 9 having a slot 10 adapting its position on the bolt to be shifted longitudinally. A nut 11 threaded on the lower end of the bolt binds the arm supporting-bar and intermediate parts together after the same have been adjusted. As shown in Figs. 4 and

5, the slot 10 in the supporting-bar 9 terminates some distance from one end thereof, in which is cut or otherwise formed a cross-groove 12 of such size as to receive the squared, central portion of a pivot-pin 13, the latter having trunnions 14 at each side and reduced threaded portions 15 projecting therefrom.

For detachably securing the pivot 13 to the supporting-bar, a bolt 16 is provided, which passes through an opening 17 in the bar, said bolt having an overhanging upper end for clamping the pivot and bar together when a nut 18 threaded on its lower extremity is pulled up.

Swingly suspended on the trunnions 14 of the pivot 13 is a fork 19 rigidly attached to a hammer 20 through the intermediary of its handle 21. From this construction it is obvious that the angular relation of the hammer may be shifted by the wedges 8 of the crossbar 6 irrespective of the position assumed by the arm 2 on the column 1. This adjustment of the suspending mechanism on the arm 2, as well as the sliding adjustment of the supporting-bar 9, adapts the hammer 20 to be swung to strike a tool 22 held by the hand, against any point of the wall of the mine and permitting the swinging movement of the hammer with ease and accuracy.

Although I have described the preferred construction and its operation in detail, the precise embodiment is not material provided its essential characteristics are employed as pointed out in the annexed claims.

Having thus described my invention I claim as new and desire to secure by Letters Patent:

1. A rock drill comprising an arm, a supporting-bar, means slidable on the arm connecting it with the supporting bar, a hammer swingingly supported from said bar, and a wedge member intermediate said arm and supporting-bar adapted to change their angular position with respect to each other.

2. A rock drill comprising a cross-shaped arm, an eye-bolt slidable on said arm, a supporting-bar carried on said eye-bolt, a cross-bar having wedge-shaped ends interposed between said arm and supporting-bar, and a hammer swingingly suspended at one end of said bar.

3. A rock drill comprising an arm, an eye-bolt slidable mounted on said arm, a slotted supporting-bar carried on said bolt, a slotted crossbar having means to shift the angular position of the supporting-bar with respect to said arm and interposed between said arm and bar on said bolt, and a hammer swingingly suspended from said supporting-bar.

4. A rock drill comprising a hammer having a pivot on which the hammer is mounted to swing, a slotted support on which the pivot is removably secured by a clamping-bolt, a slotted crossbar having wedge-shaped ends adapted to slide lengthwise and transversely on said support, and means for securing said slotted support and crossbar in position.

5. A rock drill comprising a cross-shaped arm, an eye-bolt slidable on said arm, a slotted supporting-bar carried by and adjustable on said bolt, a pivot having trunnions detachably secured near one end of said bar, and a hammer

having a fork rigidly secured to the handle thereof and swingingly mounted on said trunnions.

5 6. A rock drill comprising a column, a cross-shaped arm adjustably secured on said column, an eye-bolt slidable on said arm, a slotted supporting-bar carried by and adjustable on said bolt, a washer positioned on said bolt adjacent to said arm, a crossbar interposed between said arm and said washer, having each end of the under face thereof reversely inclined, a pivot-bolt detachably secured near one
10 end of the supporting-bar and having trunnions, and a hammer having a fork rigidly attached to the handle thereof swingingly mounted on said trunnions.

7. A rock drill comprising an arm, a slotted supporting-bar slidably connected with said arm, said arm having
15 a cross-slot therein, a pivot having a square central portion to fit said slot, trunnions at each end of the pivot, means detachably securing the pivot and bar together, and a hammer having a fork rigidly attached to the handle thereof and swingingly suspended on said trunnions.

20 8. A rock drill comprising an arm, an eye-bolt slidable

on said arm, a slotted supporting-bar carried by and slidable on said bolt, a slotted crossbar arranged on said bolt and interposed between said arm and supporting-bar, said crossbar having wedge-shaped ends adapting the angular position of the arm and crossbar to be changed with respect to each other, and a hammer swingingly suspended from the supporting-bar. 25

9. A rock drill comprising an arm, a slotted supporting-bar, means slidably connecting the supporting-bar with the arm, a slotted crossbar having wedge-shaped ends carried by said means and interposed between the arm and supporting-bar, a pivot detachably connected to the supporting-bar, and a hammer swung from said pivot. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 35

EVAN WILLIAM EVANS.

Witnesses:

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CHARLES G. EVANS.