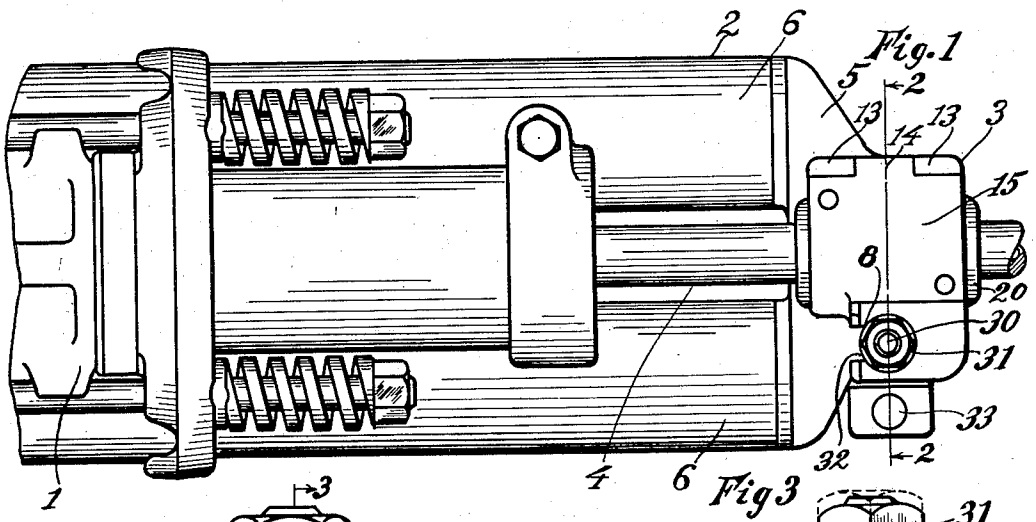
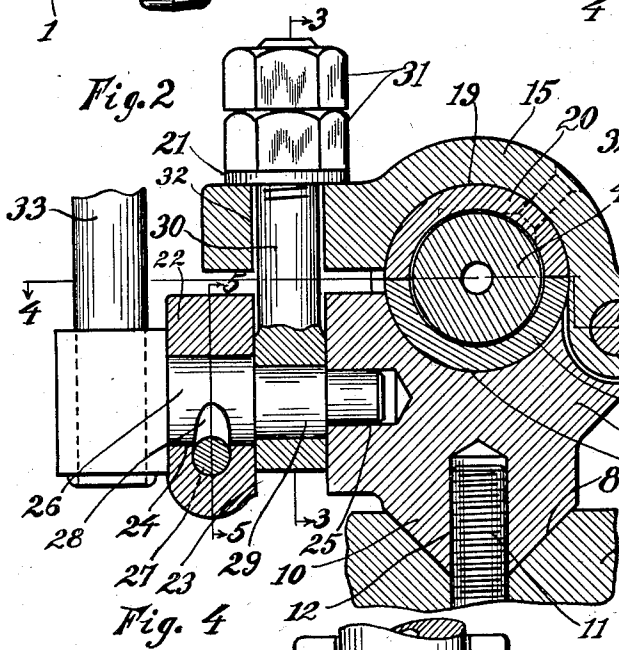
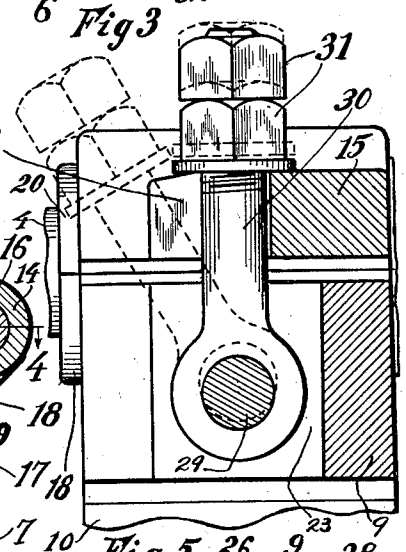
Dec. 31, 1935. M. C. HUFFMAN 2,026,313

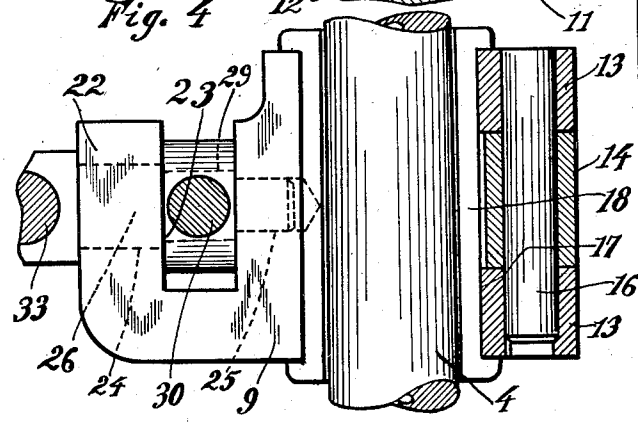
DRILL STEEL GUIDE

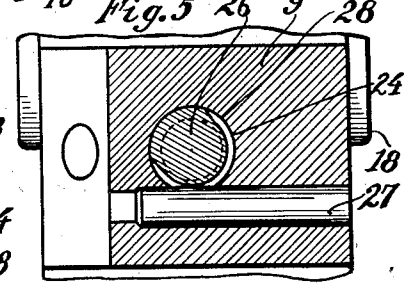
Filed May 29, 1934











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DRILL STEEL GUIDE

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Application May 29, 1934, Serial No. 728,136

4 Claims. (Cl. 255—45)

This invention relates to rock drills, and more particularly to an improved guiding means for the drill steel of a hammer rock drill.

An object of this invention is to provide an improved drill steel guiding means. Another object is to provide improved guiding means for the drill steel of a hammer rock drill of the mounted "drifter" type whereby the drill steel is guided in an improved manner during starting of a drill hole. A further object is to provide an improved means for holding the guiding part of a drill steel guide in adjusted position and for quickly and expeditiously releasing the guiding part. These and other objects will, however, more fully appear.

In the accompanying drawing there is shown for purposes of illustration one form which the invention may assume in practice.

In this drawing,—

Fig. 1 is a fragmentary plan view of a drifter type rock drill with which the illustrative form of the improved guiding means is associated.

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a longitudinally extending vertical sectional view taken substantially on line 3—3 of Fig. 2.

Fig. 4 is a horizontal sectional view taken on line 4—4 of Fig. 2.

Fig. 5 is a detail sectional view taken on line 5—5 of Fig. 2.

In the drawing there is shown a mounted "drifter" type hammer rock drill and of which only the forward end portion thereof is shown. The rock drill is mounted on a guide shell 2 which guides the drill during the drilling operation and has on its forward end the improved guiding or centralizing means generally designated 3, for the drill steel of the rock drill. The rock drill and guide shell may be of a type similar to that disclosed in my Patent No. 1,955,744 granted April 24, 1934, although it will be evident that the improved steel guiding means may be utilized with rock drills and drill guide shells of various other types. As described in the patent above mentioned, the rock drill is fed along the shell guides by pneumatic feed cylinder and piston means.

Now referring to the improved guide means for the drill steel 4 it will be noted that the front head 5 for the feed cylinders 6, 6 has formed thereon a forward projection 7; and this projection has formed therein a V-shaped recess 8. The guide 3 has a body portion 9 having a V-shaped inner portion 10 adapted to fit in the recess 8 and to be held therein by a screw 11 passing through an opening in the head portion 7 and threaded at 12 within the body portion 9. The guide body has formed thereon spaced ear portions 13 and an ear portion 14 of a pivoted clamp 15 is receivable between these ear portions 14, the latter carrying a pivot pin 16 on which the clamp is pivotally mounted. The guide body is formed with a concave seat 17 for receiving a semi-circular guide bushing 18 and the clamp 15 is provided with a similar seat 19 for receiving a similar semi-circular guide bushing 20, and these guide bushings, when the clamp is in closed position, cooperate to provide a continuous bearing surface completely surrounding and embracing the outer periphery of the drill steel 4, in the manner shown in Fig. 2. These bushings 18 and 20 are secured to the guide body and clamp respectively in any suitable manner as by riveting. The clamp 15 is held in the desired closed position by a suitable bolt mechanism 21 having release means of an improved design.

Now referring to the improved quick release means for the bolt mechanism 21 whereby operation of the guide clamp is facilitated, it will be observed that the guide body is provided with an ear 22 spaced therefrom to form a transverse opening or slot 23 between the ear portion and the guide body. This ear and the guide body are provided with alined bores 24 and 25, and rotatably mounted in these bores is an operating shaft 26 held in position against axial displacement, within the bores, by a pin 27 engaging a circumferential groove 28 formed on the shaft 26. This shaft is formed with an eccentric portion 29 on which is pivotally mounted an eye-bolt 30 arranged in the slot 23 and having threaded hereon nuts 31. The clamp 15 is slotted at 32 to receive the bolt body when the bolt is swung into operative holding position with respect to the clamp as shown in Fig. 3. As illustrated, fixed to the shaft 26 is an operating handle 33 whereby the shaft may be rotated to swing the eccentric portion 29 and thereby tighten the bolt 30 in its holding position. When it is desired to release quickly the guide clamp 15, the handle 33 is thrown over to move the eccentric 29 to loosen the eye-bolt 30 and the latter is then thrown outwardly from the clamp slot and the clamp swung open. Conversely, the guide clamp 15 may be quickly adjusted into guiding relation with respect to the drill steel by swinging the eye-bolt 30 into the clamp slot and then swinging the eccentric into its bolt tightening position.

As a result of this invention it will be noted that an improved drill steel guide is provided which may be quickly released and quickly moved into guiding relation with the drill steel. It will further be noted that the improved quick releasing means is of a simple and rugged nature which may be quickly opened or closed as desired. These and other uses and advantages of the improved drill steel guide will be clearly apparent to those skilled in the art.

While there is in this application specifically described one form which the invention may assume in practice, it will be understood that this form of the same is shown for purposes of illustration and that the invention may be modified and embodied in various other forms without departing from its spirit or the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent is:

1. In a drill steel guide, a guide body, a clamp member pivotally hinged to the guide body and cooperating with the latter in the guiding of a drill steel passing therethrough, said clamp member having a slot in the side thereof opposite from its pivot, said slot extending parallel with the longitudinal axis of the drill steel, an eccentric rotatably mounted on said body on an axis at right angles to the pivotal axis of said clamp member, a bolt pivotally mounted on said eccentric to swing relative thereto and swingable into holding position in said clamp member slot, and means for rotating said eccentric to tighten quickly said bolt when the latter is in its holding position in said clamp member slot.

2. In a drill steel guide, a guide body, a clamp member pivotally hinged to the guide body and cooperating with the latter in the guiding of a drill steel passing therethrough, said clamp member having at the side thereof opposite from its pivot a longitudinal slot extending parallel with the longitudinal axis of the drill steel, an eccentric rotatably mounted on the guide body on an axis at right angles to the pivotal axis of said clamp member, a bolt pivotally mounted on said eccentric to swing relative thereto and swingable into holding position in said clamp member slot, and a lever swingable in planes parallel to the planes of swinging movement of said bolt for rotating said eccentric to tighten quickly said bolt when the latter is in its holding position in said clamp member slot.

3. In a drill steel guide, a guide body, a clamp member pivotally hinged to the guide body and cooperating with the latter in the guiding of a drill steel passing therethrough, said clamp member pivotally connected to the guide body on a longitudinal axis parallel with the drill steel axis, said clamp member having at the side thereof opposite from its pivot a longitudinal slot extending parallel with said pivot axis, an eccentric rotatably mounted in said guide body to turn about a transverse axis at right angles to the pivotal axis of said clamp member, an eye bolt pivotally mounted on said eccentric to swing relative thereto and swingable in longitudinal planes into holding position in said clamp member slot, and means for rotating said eccentric to tighten quickly said bolt when the latter is in holding position in said clamp member slot.

4. In a drill steel guide, a guide body, a clamp member pivotally hinged to the guide body and cooperating with the latter in the guiding of a drill steel passing therethrough, said clamp member pivotally connected to the guide body on a longitudinal axis parallel with the drill steel axis, said clamp member having at the side thereof opposite from its pivot a longitudinal slot extending parallel with said pivot axis, said guide body having a longitudinal slot parallel with said clamp member slot and formed between parallel portions integral with the guide body, said parallel portions having alined bores, a shaft journaled in said bores and having an eccentric portion between said parallel portions, an eye bolt pivotally mounted on said eccentric portion between said parallel portions and swingable in longitudinal planes relative to said guide body into holding position in said clamp member slot, and a handle fixed to a projecting end of said shaft for rotating said eccentric to tighten quickly said bolt when the latter is in holding position in said clamp member slot.

MERVIN CHESTER HUFFMAN.