

J. G. HUNTLEY.
COAL DRILL.
APPLICATION FILED SEPT. 3, 1912.

1,055,464.

Patented Mar. 11, 1913.

Fig. 1.

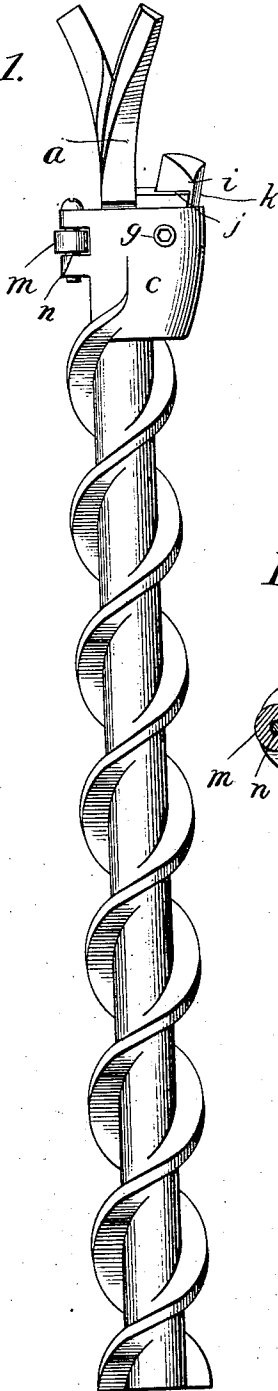


Fig. 2.

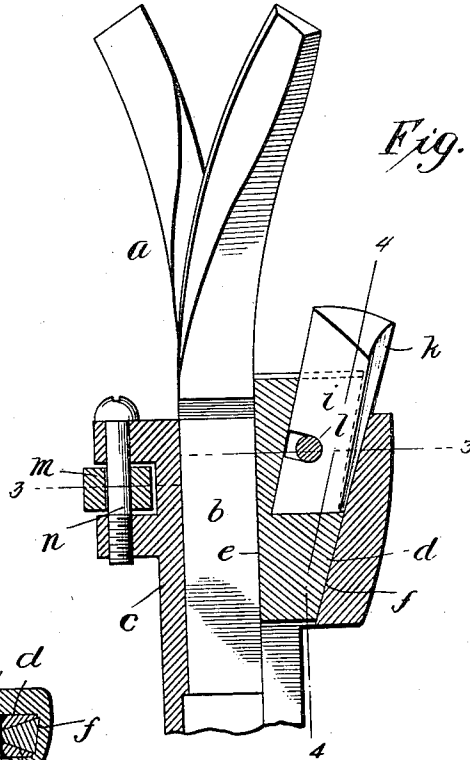


Fig. 3.

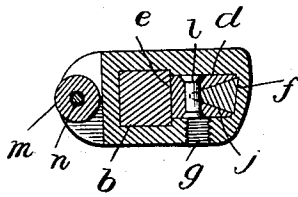
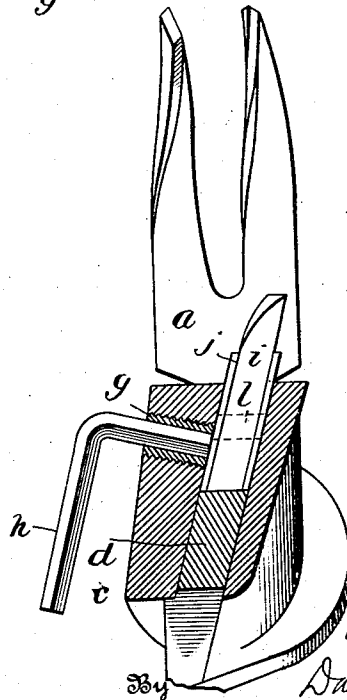


Fig. 4.



Witnesses

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JOHN GEORGE HUNTLEY, OF WEST PITSTON BOROUGH, PENNSYLVANIA.

COAL-DRILL

1,055,464.

Specification of Letters Patent.

Patented Mar. 11, 1913.

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To all whom it may concern:

Be it known that I, JOHN GEORGE HUNTLEY, a citizen of the United States, and a resident of the borough of West Pittston, county of Luzerne, State of Pennsylvania, have invented certain new and useful Improvements in Coal-Drills, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a well known form of drill provided with my invention; Fig. 2 a longitudinal sectional view of the bit end of the drill; Fig. 3 a horizontal sectional view taken on line 3—3 on Fig. 2; and Fig. 4 a longitudinal sectional view taken approximately on the line 4—4 of Fig. 3.

This invention has special reference to that well known class of coal drills in which a large main bit is supplemented in its action of a smaller bit arranged back of and outside of the main drill, and the object of the present improvement is to improve and simplify the manner of attaching the supplemental bit to the drill head to the end that the supplemental bit may be readily removed for sharpening and renewal and for the further purpose of reducing this supplemental bit to minimum size and thus decrease the cost thereof.

A further object is to so attach this supplemental bit to the drill that this attaching means shall serve the purpose of locking the shank of the main bit in the drill head.

A still further object is to provide a simple device for causing the drill to bore a straight hole, as more fully hereinafter set forth.

The main bit *a* may be constructed in any suitable manner so long as it is provided with a shank *b* shaped to be removably inserted in a square longitudinal hole in the head *c* of the drill. One wall of this recess or socket opens into a supplemental socket in which is fitted a block *d* whose inner longitudinal edge *e* is straight and flat so as to have a broad frictional bearing on the adjacent side of the shank *b* and whose outer edge *f* tapers backwardly from the cutting edges of the bits and bears against a similarly inclined wall of this supplemental socket, so that when this block *d* is inserted in this supplemental socket the inclined wall *f* tends to wedge it against the shank *b*. This block *f* is held in place in its socket

by means of a set screw *g* or other suitable means. This set screw *g* is tapped through the drill head *c* so as to bear directly upon one of the side faces of the block *d*, so that when this block *d* is inserted in its socket and the screw *g* is tightened up, the drill shank *b* will be rigidly clamped in the drill head. A suitable wrench *h* may be employed for rotating the set screw *g*.

The supplemental bit *i* is detachably attached to the block *d* in such manner that when this block *d* is locked in place in the drill head this bit *i* also will be removably locked in proper position in the drill head with respect to the main bit. One way of accomplishing this is to provide the block *d* with a longitudinal V-shaped groove *j* along its outer edge and insert the shank of the bit therein, the bit being triangular or V-shaped in cross section to nicely fit the groove and for the further purpose of affording a cutting edge which may be readily sharpened. The cutting edge of course projects beyond the block *d* and the drill head, and its outer edge or face *k* bears against the inclined wall of the socket so as to be thereby held rigidly in the socket-groove *j* in the block when the block is locked in the drill head. To removably lock the bit in its socket-groove I preferably employ a transverse pin *l* which extends across the socket groove and engages a notch in the inner edge of the bit shank *i*.

With the construction above described it will be observed that the supplemental bit will have a rigid support and may be readily removed for renewal and sharpening and furthermore may be reduced in size to the minimum dimensions and thus save greatly in the amount of steel put into these bits. It will be observed also that the same means employed for locking the supplemental bit in place serves to lock the main bit removably therein.

To guide the drill and compel it to bore a straight hole, I provide a roller *m* on the drill head at a point at the side of the main bit opposite the supplemental bit, the axis of the pin or shaft *n* on which this roller is free to rotate lying parallel with the axis of the drill and the flat periphery of this roller also lying parallel with the same axis and projecting beyond the face of the drill head.

In operation the roller will as the drill rotates bear upon the wall of the drill hole

at a point opposite the point of cutting of the supplemental bit and the drill will therefore be directed in a straight line.

This is a very important device since the boring of a crooked hole frequently results in serious disaster during the insertion of the blasting charge thereinto since the blasting charge frequently gets stuck and is prematurely exploded in the act of inserting.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. A drill, a main bit fitted in the head of the drill, a movable wedge block fitted into the head of the drill along side the shank of the main bit and adapted to lock the same in the drill head, means for holding this

block movably in place in the head, and a supplemental bit carried by this removable block.

2. In combination, a drill head having a socket for the shank of the main drill, an adjacent socket tapering in a direction away from the shank of the bit, a wedge block adapted to be removably inserted endwisely in said socket, means for locking the block in the socket, and a drill bit carried by the block.

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

J. GEORGE HUNTLEY.

Witnesses:

BENJ. A. CROWTHER,
LEWIS SMITH.