

No. 695,388.

Patented Mar. 11, 1902.

R. H. HAMILL.  
CHUCK FOR ROCK DRILLS.  
(Application filed Dec. 4, 1900.)

(No Model.)

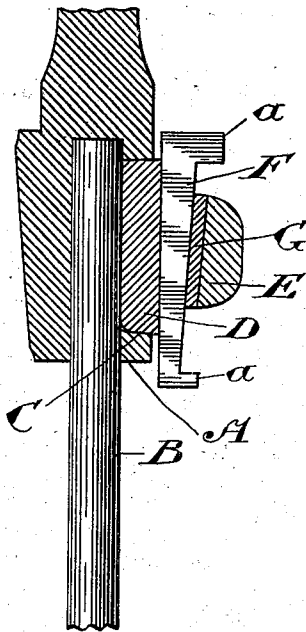


Fig. 2.

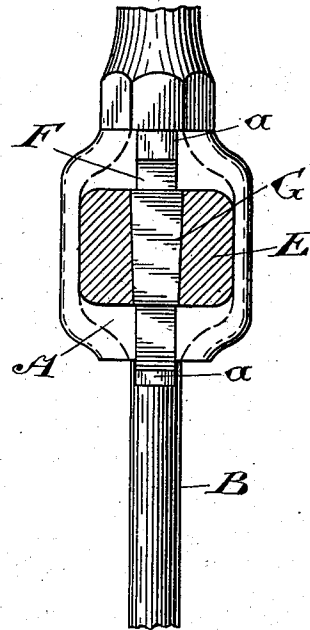


Fig. 3.

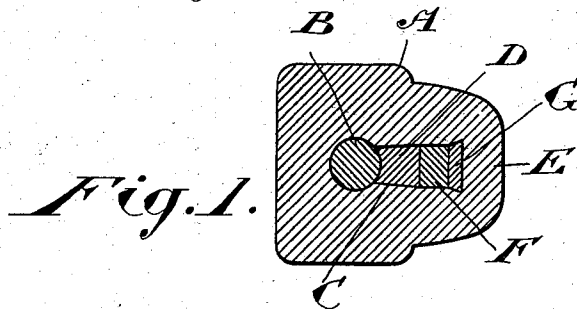


Fig. 1.

Witnesses

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# UNITED STATES PATENT OFFICE.

ROBERT H. HAMILL, OF SALMO, CANADA.

## CHUCK FOR ROCK-DRILLS.

SPECIFICATION forming part of Letters Patent No. 695,388, dated March 11, 1902.

Application filed December 4, 1900. Serial No. 38,656. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. HAMILL, of the Yellowstone Mine, Salmo, British Columbia, Canada, have invented certain new and useful Improvements in Chucks for Rock-Drills, of which the following is a specification.

The object of my invention is to devise a chuck for rock-drills which will hold the shank of the drill very securely and which will permit of the drill being taken out or replaced much more easily and conveniently than is possible with the chucks ordinarily in use; and it consists, essentially, in the construction of the parts hereinafter more particularly described.

Figure 1 is a cross-section of my improved chuck. Fig. 2 is a longitudinal section of the same. Fig. 3 shows in detail the key holding the wedge in place.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is the head of the chuck, suitably bored to receive the shank B of the drill. In the side of the head is formed a rectangular slot C, having its sides tapered inwardly, as indicated in Fig. 1. In this slot is located the chuck-key D, shaped similarly to the slot. Its inner side is curved to fit against the shank of the drill and its lower end is preferably beveled off, as shown, to prevent it catching the end of the drill-shank when the latter is placed in position. The sides of the slot and chuck-key being beveled, as described, the key is prevented from falling through the slot and is thus always retained in position whether the drill-shank is in place or not.

The bridge E is formed on the side of the head extending over the slot C. A recess is formed in the bridge to receive the wedge F. The ends of the wedge are preferably provided with lugs *a* to prevent the wedge being drawn out of the recess in the bridge. The upper side of the recess is formed by the dovetailed key G, fitted into a similar slot in the bridge. When it is desired to remove the wedge, the dovetailed key is driven out and the recess in the bridge is thus enlarged sufficiently to permit of the smaller end of the wedge with its lug being withdrawn.

The chuck-key D is so proportioned that

when a drill-shank is in position its upper surface projects above the outer surface of the head, so that by driving in the wedge the chuck-key is forced against the shank of the drill, thus holding it securely in position. When it is desired to remove the drill-shank, the wedge is loosened, when the shank may be readily drawn out.

It will be noticed that the key G is tapered slightly, as shown in Fig. 3, so that when driven home it cannot be shaken loose, but must be knocked out with a hammer or other suitable tool. It will also be noticed that the key G takes up all the wear caused by the wedge F and that when worn it can easily be replaced.

The parts are so proportioned that when the key G has been removed and the wedge withdrawn the chuck-key D may be removed through the bridge.

What I claim as my invention is—

1. A drill-chuck comprising a head, bored to receive a drill-shank and formed with a slot communicating with the bore, in combination with a chuck-key inserted in the said slot; a bridge crossing the slot and formed with a dovetail groove in its under side; a dovetailed key fitted into the said groove; and a wedge adapted to engage the dovetailed key and the chuck-key, substantially as and for the purpose specified.

2. A drill-chuck comprising a head, bored to receive a drill-shank and formed with a slot communicating with the bore in combination with a chuck-key inserted in the said slot; a bridge crossing the slot and formed with a dovetail tapered groove in its under side; a tapered dovetail key fitted into the said groove; and a wedge adapted to engage the dovetailed key and the chuck-key, substantially as and for the purpose specified.

3. A drill-chuck comprising a head, bored to receive a drill-shank and formed with an inwardly-tapering slot communicating with the bore, in combination with a similarly-tapered chuck-key inserted in the said recess; a bridge crossing the slot and formed with a dovetail groove in its under side; a dovetail key fitted into the said groove; and a wedge adapted to engage the dovetailed key and the chuck-key, substantially as and for the purpose specified.

4. A drill-chuck comprising a head, bored to receive a drill-shank and formed with an inwardly-tapering slot communicating with the bore, in combination with a similarly-  
5 tapered chuck-key inserted in the said recess; a bridge crossing the slot and formed with a dovetail tapered groove in its under side; a tapered dovetail key fitted into the

said groove and a wedge adapted to engage the dovetailed key and the chuck-key, substantially as and for the purpose specified. 10

Salmo, British Columbia, November, 1900.

ROBERT H. HAMILL.

In presence of—

H. E. T. HAMILTON,

W. F. HAMILTON.