

J. A. THOMPSON & E. M. MACKIE.
ROCK DRILL.

APPLICATION FILED NOV. 21, 1908.

1,000,130.

Patented Aug. 8, 1911.

FIG. 1

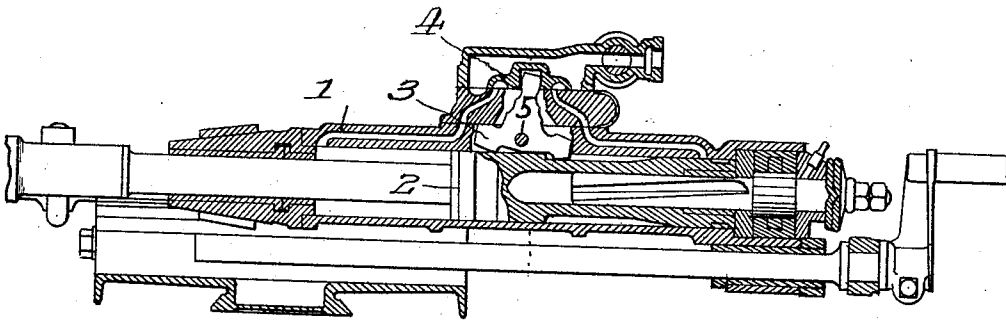


FIG. 2

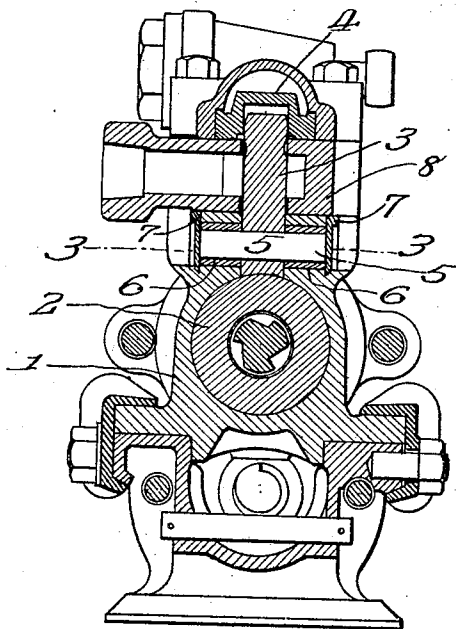
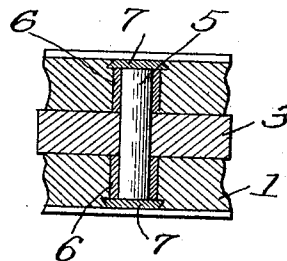


FIG. 3



Witnesses:
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James A. Thompson
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UNITED STATES PATENT OFFICE.

JAMES A. THOMPSON AND EDWIN M. MACKIE, OF FRANKLIN, PENNSYLVANIA, ASSIGNORS TO CHICAGO PNEUMATIC TOOL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

ROCK-DRILL.

1,000,130.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Original application filed November 22, 1906, Serial No. 344,568. Divided and this application filed November 21, 1908. Serial No. 463,871.

To all whom it may concern:

Be it known that we, JAMES A. THOMPSON and EDWIN M. MACKIE, citizens of the United States, formerly residing at Chicago, Cook county, Illinois, but now residing at Franklin, Venango county, Pennsylvania, have invented certain new and useful Improvements in Rock-Drills, of which the following is a specification.

10 Our invention relates to rock drills and the main object is to improve the construction thereof by providing means for sealing the ends of the usual and well-known rocker pins of such drills and thereby locking the same in place, but permitting their ready removal whenever desired.

15 In the drawing, Figure 1 is a central longitudinal section illustrating the rock drill in which our invention is embodied; Fig. 2 a detail section of the rocker plates and associated parts; and Fig. 3 a section on the line 3—3 of Fig. 2.

20 Inasmuch as our invention is concerned with certain parts only of a rock drill, it will be unnecessary to describe such drill in all its details but such description will be confined to those parts which are more or less associated with the features or parts constituting our invention. Therefore in referring to the old parts it will be sufficient to say that the cylinder 1 is provided with the usual piston 2, tappet-actuated rocker 3 and distributing valve 4 which is operated by such rocker and which controls the admission and exhaust of fluid pressure to and from opposite ends of the cylinder for the proper reciprocation of the piston and the working tool or drill carried thereby.

30 The rocker 3 is mounted as usual upon a pin 5 extending transversely through a portion of the cylinder, but in the present instance the pin is made somewhat shorter and provided with means for sealing the ends and for locking it in place. As clearly shown in Figs. 2 and 3, this rocker pin which passes through the lower end of the rocker is fitted with two bushings 6 made preferably of steel and arranged at opposite sides of the rocker and in the cylinder portion of the machine on either side of the slot provided in such cylinder to accommo-

date the rocker. In order to seal the ends of the rocker pin against the leakage of air pressure and to also prevent any sidewise movement of such pin, we provide a novel form of sealing and locking device which comprises plates 7 removably arranged at the ends of such pin. As herein shown, these plates 7 are provided with beveled edges so as to fit into corresponding grooves or rabbets in the cylinder itself and moreover the arrangement is such that these plates are insertible and removable from above but only when the valve block 8 of the drill is removed, so that the plates 7 are themselves locked in place when the parts of the machine are assembled and in working condition. However, when the valve block is removed, the locking plates 7 may be readily withdrawn from place and the rocker pin 5 conveniently removed for any desired purpose.

We claim:

1. In a rock drill, the combination with the cylinder thereof and with the usual rocker for operating the distributing valve, of a rocker pin which is mounted in the cylinder, plates removably secured to the cylinder at the ends of the rocker pins to seal and lock the latter, and a member secured to the cylinder over said plates to hold them in place.

2. In a rock drill, the combination, with the cylinder thereof and with the usual rocker for operating the distributing valve, of a rocker pin which is mounted in the cylinder, plates dovetailed in the cylinder but removable therefrom, said plates being arranged at the ends of the pin to seal and lock the latter, and a member secured to the cylinder over said plates to hold them in place.

3. In a rock drill, the combination with the cylinder thereof and with the usual rocker for operating the distributing valve, of a rocker pin which is mounted in the cylinder, said cylinder having grooves at the ends of the rocker pin, plates insertible in said grooves, and a valve block secured to the cylinder over said plates and grooves and preventing the removal or displacement of the former.

4. In a rock drill, the combination with

the cylinder thereof and with the usual
 rocker for operating the distributing valve,
 of a rocker pin mounted in the cylinder and
 connected with the said rocker, bushings 6
 5 on the ends of said pin and on either side of
 said rocker, removable plates 7 secured to
 the cylinder and bearing against the ends
 of the rocker pin and bushings, and a valve

block 8 secured to the cylinder over said
 plates and holding the latter in place. 10

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Witnesses:
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 PERCIVAL F. DOYLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
 Washington, D. C."
