No. 649,547. Patented May 15, 1900.

P. H. REARDON.

ROTARY ATTACHMENT FOR ROCK DRILL PISTONS.

(Application filed Sept. 20, 1899.)

(No Model.)

Fig. 1.

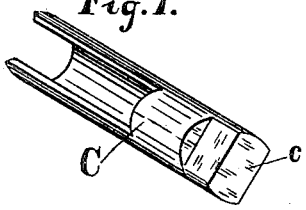
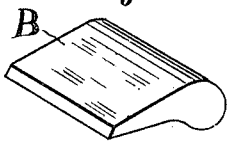


Fig. 2.



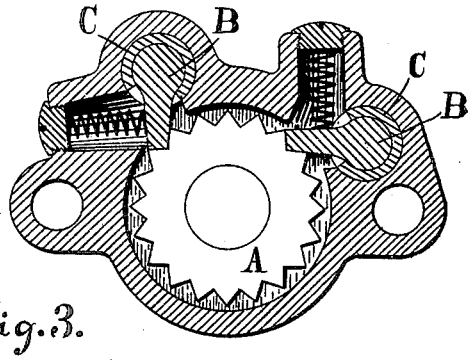


Fig. 3.

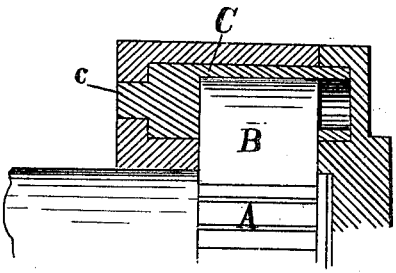
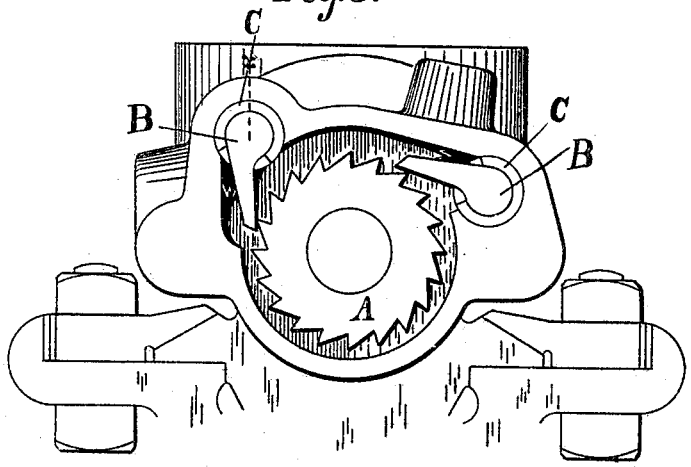


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

PATRICK H. REARDON, OF SAN FRANCISCO, CALIFORNIA.

ROTARY ATTACHMENT FOR ROCK-DRILL PISTONS.

SPECIFICATION forming part of Letters Patent No. 649,547, dated May 15, 1900.

Application filed September 20, 1899. Serial No. 731,074. (No model.)

To all whom it may concern:

Be it known that I, PATRICK H. REARDON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Rotary Attachments for Rock-Drill Pistons; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to a sleeve, socket, or bearing for a rock-drill pawl.

It consists in the novel construction and combination of the several parts hereinafter fully described and claimed.

The device is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the slotted sleeve for the reception of the pawl. Fig. 2 is a perspective view of one form of pawl. Fig. 3 is a cross-section showing one form of the pawls and ratchet. Fig. 4 is a cross-section through line *x* of Fig. 5. Fig. 5 is a cross-section showing Fig. 2 form of pawl in position and its appropriate ratchet.

This class of devices, owing to the character of their work, are subjected to excessive wear and tear. The ratchet-chamber casting, a comparatively-expensive piece of construction, has heretofore been short-lived, owing to the excessive duty necessarily imposed upon the pawls and their seat.

It is obvious that improvements in the form and construction of rock-drills and their component parts which will obviate the difficulties and provide for the requirements thus referred to will add materially to the life and effective utility of such devices. To accomplish this end, is, stated generally, the object of the present invention.

More specifically stated, one of the objects is to provide against breakages incident to the excessive duty required of the pawls in turning the drill.

The device consists of any drill-rotating mechanism actuated by the reciprocation of the piston and having a suitable ratchet-head A. (Shown in Figs. 3, 4, and 5.) The pawls B may be of any suitable form. I have shown two such in Figs. 2, 3, 4, and 5; but in whatever form they are made I place them in a sleeve. (Shown in Fig. 1 and illustrated in Figs. 3, 4, and 5.)

The sleeve C preferably consists of a cylindrical pin bored for a portion of its length to fit the back or cylindrical side of the pawl; which in the forms shown embraces it for more than one-half its diameter. It is slotted to allow the pawl to slide endwise into it, the pawl-lip projecting outward through the slot; as shown in Figs. 3, 4, and 5. This sleeve is shown clearly in Fig. 1. It is longer than the pawl, extending beyond the length of the pawl on each end. It is provided with means for preventing its turning when in place, which is preferably, as shown, a flattened extension *c*, adapted to fit in a similarly-formed socket at the end of the pocket in which it is located, Figs. 1 and 4. The sleeve where it projects beyond the pawl is socketed in the ratchet-chamber end, on one end, and in the ratchet-chamber cover on the other end.

The functions of the slotted sleeve are twofold. It serves to secure the pawl in the main casting of the drill and at the same time protects the casting from the rapid wear which usually takes place in this part of a drill, as the sleeve may be made of more resistant material than the ratchet-chamber. Furthermore, it forms an easily-renewable wearing part of but little value relatively to the ratchet-chamber. Apart from the advantage derived from its being readily renewed, it increases the area of the surface affected by the thrust of the pawl.

I do not desire to confine myself to the exact form or proportion of parts herein shown; but

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

1. A slotted sleeve socketed in the walls of a drill ratchet-chamber having a ratchet-pawl movably fitted therein.

2. A removable slotted sleeve socketed in the walls of a drill ratchet-chamber having a ratchet-pawl movably fitted therein.

3. A ratchet-drill pawl provided with an exterior removable wearing-piece adapted to receive the thrust of said pawl.

4. A removable socket forming a renewable wearing-piece for the thrust of a drill ratchet-pawl exterior to said pawl.

5. In a rotary attachment for a rock-drill provided with a pawl in an inclosed chamber, a wearing-piece in said chamber of other than

the normal material of said chamber exterior and adapted to receive the thrust of said pawl.

6. A removable slotted sleeve, located in the ratchet-chamber of a drill, having a ratchet-pawl movably fitted therein said sleeve extending beyond the width of the pawl and having its projecting ends socketed in the walls of the ratchet-chamber.

7. A removable slotted sleeve, located in the ratchet-chamber of a drill, having a ratchet-pawl movably fitted therein said sleeve extending beyond the width of the pawl and having its projecting ends socketed in the walls of the ratchet-chamber and provided with means adapted to prevent axial movement thereof.

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