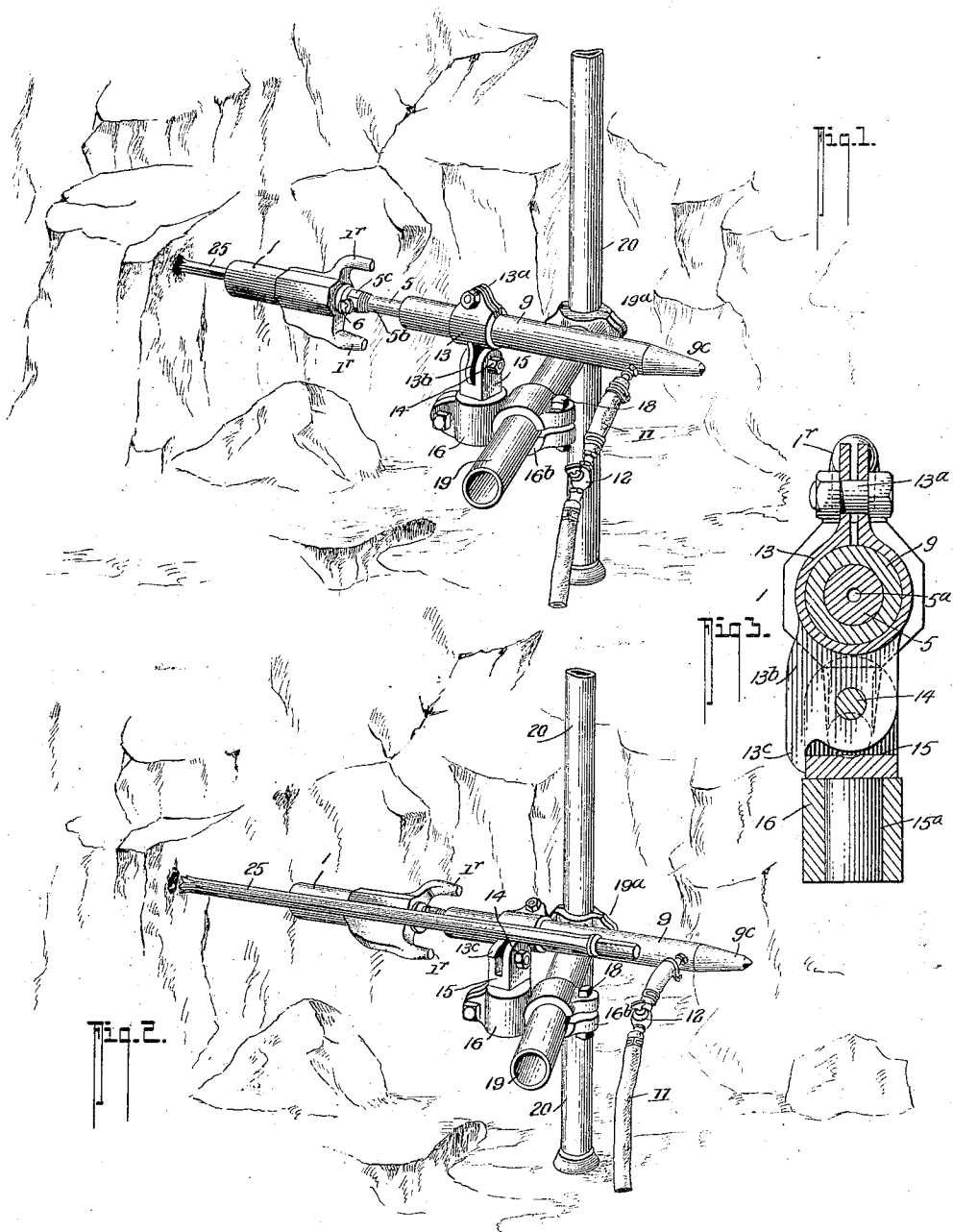


No. 812,774.

PATENTED FEB. 13, 1906.

C. J. SMITH.
ROCK DRILL.

APPLICATION FILED SEPT. 2, 1905.



WITNESSES:
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ROCK-DRILL.

No. 812,774.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Original application filed August 12, 1905, Serial No. 273,930. Divided and this application filed September 2, 1905. Serial No. 276,876.

To all whom it may concern:

Be it known that I, CLARK J. SMITH, residing at Ottumwa, in the county of Ottumwa and State of Iowa, have invented certain new and useful Improvements in Rock-Drills, of which the following is a specification.

My invention relates to certain new and useful improvements in rock-drills of the type disclosed in my copending application, Serial No. 273,930, filed August 12, 1905; and it particularly seeks to provide an improved mount for the drill so arranged that the operative mechanism of the drill can be swung clear of the drill and drill-aperture when it is desired to change bits; and this application forms a divisional part of my copending application hereinbefore referred to, and I make no claim in this application to the drill structure and drill-feeding devices, as the same *per se* form a part of my copending application before referred to.

With other objects in view than have been heretofore enumerated the invention also comprises certain novel construction, operation, combination, and arrangement of parts, all of which will be first described in detail and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view showing my invention as applied for use. Fig. 2 is a similar view showing the position of the parts just after the mechanism has been swung clear of the drill to pull the drill out of the hole to change drills. Fig. 3 is a cross-section through the clamp member.

Referring now to the accompanying drawings, in which like numerals of reference indicate like parts in all of the figures, 1 designates the hammer-casing, which carries the drill 25 and is of the type disclosed in my copending application hereinbefore referred to, the casing 1 having a piston 5 screwed thereto, which piston moves in the piston-casing 9, which terminates in the center 9^c, as shown.

11 designates the air-supply pipe for the piston-casing 9, which is controlled by the valve 12, and the air supplied to the drill-casing 1, controlled by the valve 6. The piston 5 has a nut portion 5^c and a threaded portion 5^b, whereby it can be screwed into the pis-

ton-casing 9 to hold the drill-casing and piston-casing locked together, as set out in my copending application before referred to. The drill-casing 9 can be turned on its longitudinal axis by the arms 1^a 1^b, as shown. The rear end of the casing 9 is formed with a center 9^c to abut a fixed support when the drill is to be used unmounted.

13 designates a clamp screwed to the casing 9 by a bolt 13^a, which clamp has a wing 13^b, provided with a lug 13^c, as shown, to be received between the ears 15 of the clamp member to which it is secured by the bolt 14, as shown, the connection between the wing 13^b and the clamp member 15 being such as to permit the clamp 13 being swung on the bolt 14 when in one direction, as shown.

The clamp 15 has a bearing portion 15^a to fit into the socket portion of a clamp 16, which is held thereon by a bolt 17, as shown, and the clamp 16 is in the nature of a double clamp having a squared clamping portion 16^a at right angles to the clamping portion 16, and the clamping portion 16^b is clamped around the horizontal support 19 and held secured by a bolt 18, as shown. The support 19 is in turn secured to a vertical support 20 by a clamp 19^a, as clearly shown in Figs. 1 and 2 of the drawings.

The manner in which my present invention operates is as follows: The parts are first placed in the position shown in Fig. 1 until the drill has gone into the rock as far as it can go and it is desired to change drills. The operator then shuts off the valve 12, leaving the valve 6 open, and pulls back the casing 1 toward the casing 9 to release the drill 25 from the casing 1. He then moves the drill-casing on the pivot 14 into the position shown in Fig. 2 and out of alignment with the drilled aperture, after which he pulls out the drill 25, as shown in Fig. 2, the clamp portion 13^b serving as a rest for the drill when pulled partially out of its aperture. A new drill of greater length can be placed in the drilled aperture and the drill mechanism swung back into the position shown in Fig. 1 and pushed into connection with the drill, so that the drilling operation can be again proceeded with in the usual manner, it being understood that by reason of the connection between the clamp 13 and the member 15 the drilling-ma-

chine will be always swung up in the same alinement with the hole regardless of how many changes of drills are made.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the complete construction, operation, and many advantages of my invention will be readily understood by those skilled in the art to which it appertains.

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

1. In an apparatus of the class described, the combination with a drill-casing and a drill carried thereby, of a clamp for receiving said drill-casing, said clamp including means whereby the drill-casing can be swung clear of the drill and back again without changing the alinement of the drill-casing substantially as shown and described.

2. An apparatus of the class described, comprising in combination with a drilling-engine and a drill detachably held therein, of a support for said engine comprising a hinged clamp member whereby the drilling-engine can be swung clear of the drill, substantially as shown and described.

3. A holder for rock-drills and the like comprising a receiving-clamp, a bearing member for receiving said clamp, and means carried by the clamp for engaging the bearing member to prevent the clamp being swung out of alinement with the drilled aperture in one direction.

4. An apparatus of the class described, comprising in combination with a rock-drilling mechanism, of a supporting-clamp adjustably secured thereto, a bearing member to which said clamp is pivotally connected to be swung on its pivot-axis in one direction substantially as shown and described.

5. An apparatus of the class described, the combination with the drilling mechanism, of a clamp for receiving the same, said clamp having a wing provided with a heel, a bearing member for receiving said wing to which it is pivotally secured, a double clamp for receiv-

ing said bearing member, a supporting-rod for receiving said double clamp, a second clamp on said supporting-rod and a second supporting-rod for receiving said second clamp substantially as shown and described.

6. An apparatus of the class described, comprising in combination with a drilling mechanism, of a clamp for receiving the same, said clamp having a wing provided with a heel, a bearing member for receiving said wing to which it is pivotally secured.

7. An apparatus of the class described, comprising in combination with a drilling mechanism, and a drill carried thereby, of a supporting member therefor, said supporting member comprising a body portion having a pair of parallel ears and a stud portion, a clamp having a heeled wing held between the ears of the body portion, and pivotally connected thereto with its heel adapted to engage the body portion, said clamp adapted to receive the drilling mechanism substantially as shown and for the purposes described.

8. An apparatus of the class described, comprising a rock-drill, a clamp for mounting said rock-drill in alinement with the aperture to be drilled, said clamp having means whereby said rock-drill may be swung in a direction at right angles to its longitudinal axis to move the same out of alinement with the drilled aperture, substantially as shown and described.

9. A supporting mechanism for rock-drills comprising in combination with a supporting-arm, and a double clamp member secured thereto, of a supplemental supporting member held by said double clamp member and consisting of a clamp-engaging portion and a drilling-machine-receiving portion pivotally connected together, the drilling-machine-receiving portion adapted to be swung on its pivot-axis, and means for limiting said movement, substantially as shown and described.

CLARK J. SMITH.

Witnesses:

J. T. HACKWORTH,
W. A. WORK.