

W. PRELLWITZ.
HAMMER DRILL.
APPLICATION FILED JAN. 11, 1909.

1,015,509.

Patented Jan. 23, 1912:

Fig. 1.

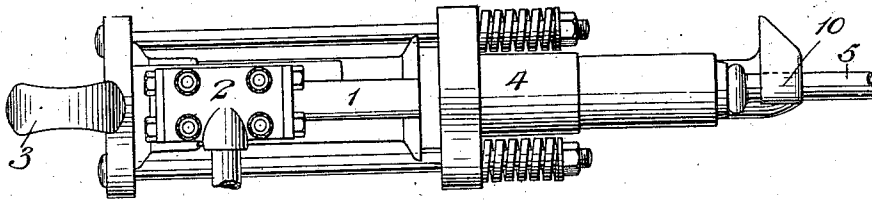


Fig. 2.

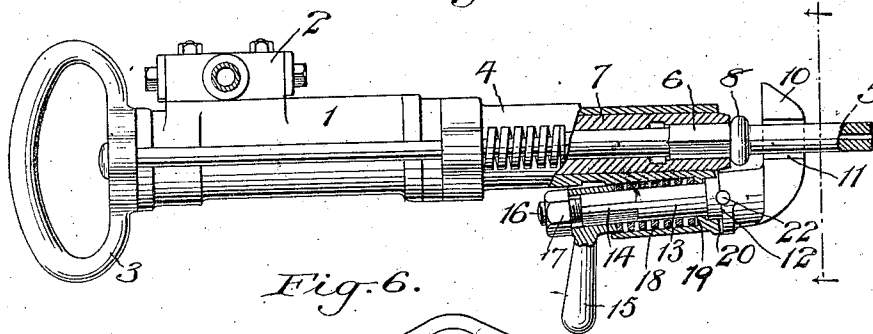


Fig. 6.

Fig. 4.

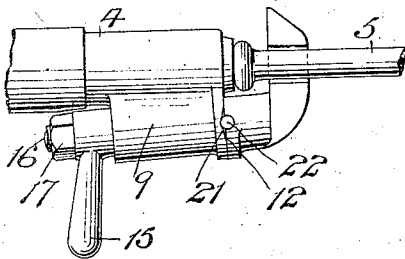


Fig. 5.

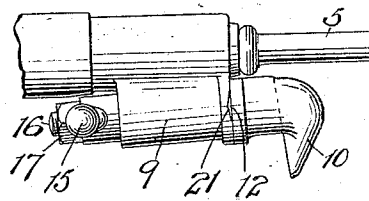
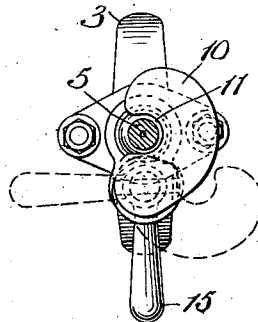


Fig. 3.



Witnesses:
F. George Barry.
Henry Thime.

Inventor:-
William Prellwitz
by his attorneys
Brown & Seward

UNITED STATES PATENT OFFICE.

WILLIAM PRELLWITZ, OF EASTON, PENNSYLVANIA, ASSIGNOR TO INGERSOLL-RAND COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

HAMMER-DRILL.

1,015,509.

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed January 11, 1909. Serial No. 471,735.

To all whom it may concern:

Be it known that I, WILLIAM PRELLWITZ, a citizen of the United States, and resident of Easton, in the county of Northampton and State of Pennsylvania, have invented new and useful Improvements in Hammer-Drills, of which the following is a specification.

This invention relates to hammer drills and has for its principal object to provide an attachment for the drill which may be readily brought into and out of position for use as a stop for limiting the outward movement of the drill steel when it is not striking its work.

A further object is to provide an attachment of the above character which may be used as a foot support when the drill is in use.

A still further object is to provide certain novel features in the construction, form and arrangement of the several parts of the attachment whereby it is rendered particularly well adapted to the use for which it is intended.

In the accompanying drawings, Figure 1 represents a hammer drill in top plan with my attachment applied thereto, Fig. 2 is a view of the same partly in side elevation and partly in longitudinal central section, Fig. 3 is a front end view of the drill, the stop piece being shown in full lines in its position when used as a stop to limit the outward movement of the drill steel when it is not striking its work and in dotted lines in the position which it occupies when the drill steel is striking its work, Fig. 4 is a detail side view of the front end of the drill, showing the stop piece swung into position to limit the outward movement of the drill steel, Fig. 5 is a similar view showing the stop piece swung out of its steel retaining position, and Fig. 6 is a detail front end view of the integral front head and casing for the stop piece shank for showing more clearly the recesses arranged to coact with a spring and projections on the shank of the stop piece for yieldingly holding the stop piece in either of its positions.

The hammer drill in connection with which I have chosen to illustrate my invention comprises a cylinder 1, valve box 2, handle 3 and front head 4.

The hollow drill steel 5 is provided with an angular portion 6 arranged to be engaged

by the drill chuck 7. The hollow drill steel is provided with an abutment which, in the present instance, is in the form of a collar 8 which serves the double function of limiting the inward movement of the drill steel with respect to its chuck and also as the means for engaging the stop piece, to be hereinafter described, for limiting the outward movement of the drill steel when it is not striking its work. The attachment to the drill for limiting this outward movement of the drill steel is constructed, arranged and operated as follows:—The front head 4 of the drill is provided with a longitudinally arranged hollow casing 9 off-set from the front head and located at its front end. A stop piece is hinged to swing into and out of position to engage the shoulder on the drill steel, which stop piece has a foot 10 provided with an open recess 11 so that the foot may be swung into position to partially embrace the drill steel at a point beyond the collar 8 which forms the abutment on the drill steel. The shank of this stop piece is reduced to form a shoulder 12 engaging the front end of the casing 9. The reduced portion 13 of this shank extends through the hollow casing 9 and is provided with an angular portion 14 for the reception of a handle 15 which projects laterally in the opposite direction from the foot 10 so that when the stop piece is swung into its position to release the drill steel, as when the drill is in use, the foot will project laterally on one side of the drill and the handle laterally upon the other side of the drill so as to form foot rests for the operator upon both sides of the drill. This handle is secured to the shank of the stop piece by providing the shank with a screw threaded inner end 16 which is engaged by a nut 17.

The stop piece is permitted a short yielding movement so that when the collar 8 strikes the foot 10 when the drill steel is not striking its work, the said blows will be absorbed by the yielding stop piece and not transmitted to the drill. This result is accomplished by interposing a coil spring 18 between the handle 15 and a shoulder 19 in the bore of the hollow casing 9. This stop piece is yieldingly held in either of its positions by this same spring 18 and the provision of notches 20, 21, in the front end of the hollow casing 9 and a projection or projections 22 on the inner face of the shoulder 12.

When the drill is in operation and the drill steel is striking its work, the stop piece may be swung out of its position to be engaged by the collar on the drill steel. When the stop piece is in this position, the operator may use either the foot 10 or the handle 15 as a rest for either one of his feet.

When the operator wishes to withdraw the steel partially from the hole, as, for instance, for the purpose of permitting the air to blow any material out of the hollow steel, he will first swing the stop piece around into position to limit the outward movement of the steel by bringing the foot 10 into position to be engaged by the collar 8. He may then withdraw the drill, thus permitting the collar 8 to strike against the foot as the drill is operated.

From the above description, it will be seen that this attachment is very simple and complete in its construction and operation and that it may be instantly brought into and out of position thus permitting the ready insertion and removal of the drill steels.

What I claim is:—

1. A hammer drill, a stop piece movably mounted thereon, a drill steel having an abutment fitted to engage said stop piece for limiting the outward movement of the steel when it is not striking its work, said stop piece being movable into and out of position to be engaged by the abutment on the drill steel, and separate means for yieldingly retaining the stop piece in either of its positions against unintentional removal.

2. A hammer drill, a laterally swinging stop piece hinged thereto, a foot and a handle projecting from the stop piece, and a drill having an abutment fitted to engage said stop piece for limiting the outward

movement of the steel when it is not striking its work.

3. A hammer drill, a drill steel having an abutment thereon, and a laterally swinging stop piece hinged to the drill, said stop piece being provided with a foot arranged to be swung into and out of position to be engaged by the abutment on the drill steel, and also with a handle whereby either the foot or the handle may be used as a foot rest when the stop piece is swung into a position away from the drill steel.

4. A hammer drill, a drill steel having an abutment, a hollow casing on the drill and a stop piece having its shank located within said hollow casing, said shank being provided with a laterally extended foot and a handle, said foot being arranged to be brought into and out of the path of the abutment on the steel by the swinging movement of the stop piece.

5. A hammer drill, a drill steel having an abutment, a hollow casing on the drill and a stop piece having its shank located within said hollow casing, said shank being provided with a laterally extended foot and a handle, said foot being arranged to be brought into and out of the path of the abutment on the steel by the swinging movement of the stop piece, and a spring for permitting a limited longitudinal yielding movement of the stop piece.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this eighth day of January A. D. 1909.

WILLIAM PRELLWITZ.

Witnesses:

WARD RAYMOND,
CHARLES T. MILLER.