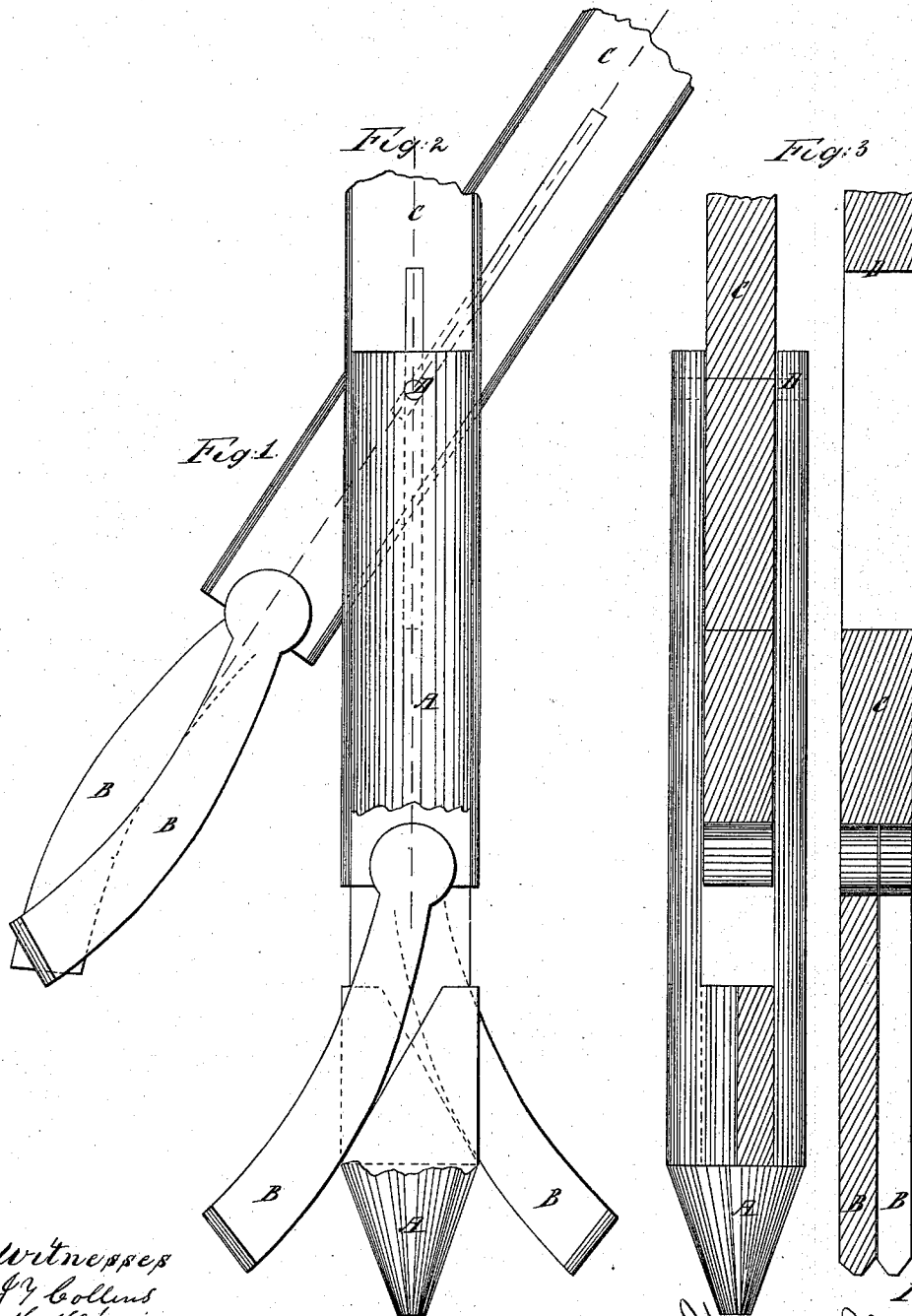


H. M. Storr,
Expanding Rock Drill.

N^o 62,160.

Patented Feb. 19, 1867.



Witnesses
J. Collins
W. H. Stain

Inventor
H. M. Storr

United States Patent Office.

HENRY M. STOW, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 62,160, dated February 19, 1867.

IMPROVED ROCK-CHAMBER DRILL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY M. STOW, of the city and county of San Francisco, in the State of California, have invented a new and useful Chamber Drill; or machine for drilling out or making a chamber at the bottom of any hole drilled in rock or other hard mineral substance; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 is the drill or machine when placed in the hole before the chamber is made.

Figure 2 is the drill or machine after the chamber is finished.

Figure 3 is the machine in sections or in separate pieces.

Letter A is the double guideways or slides, and wedges constituting the lower portion of the drill or machine that holds the chisels or cutters to their places at the bottom, and forces them out as the chisels are driven down to drill or make the chamber.

Letter B are the chisels or cutters—the two pieces that drill or make the chamber.

Letter C, the upper portion or handle of the machine on which the blow of the hammer or sledge is struck to force out the chisels to make the chamber.

Description of the Construction and Operation of the Drill or Machine.

Letter A is the double guideway or slide and wedge; the wedge part is made of a solid piece of steel, and hardened; the two pieces extending up to and connecting with the handle, marked C, by the rivet D, are made of Norway iron. Letter B are the two chisels or cutters that cut or drill out or make the chamber; they are made of cast steel, and in form as represented in the drawings 1, 2, and 3, and hardened at both ends. Letter C is the handle, made of cast steel, in form as represented by the drawings, numbers 1, 2, and 3, and letter C; the lower portion is made to fit into the guides marked A. Near the lower end there is a hole drilled to receive the two chisels or cutters in a manner that they will withstand the effect of the blows of the hammer upon the upper end of the handle, and also to hold the chisels or cutters when the machine is lifted up after the blows have been struck. There is a mortise in the handle for the rivet marked D to move up and down in as the machine is worked, connecting the portion marked A with the handle, so that after the chamber is made the machine can be taken out of the hole without trouble.

The manner of using the chamber drill or machine is as follows: It is placed in the drill hole, and either by using it as a churn-drill or by striking on the upper end of the handle with a hammer or sledge, according to the size of the machine, and turning the machine after each blow until the chamber is made; then, on lifting the handle, the chisels or cutters come back to their original position, allowing the machine to be taken out of the hole—the chamber being at the bottom from five to ten times the area of the original hole—giving room for burning more powder and obtaining a lifting surface of from four to twelve times that of the original hole without a chamber. With such a chamber there is no tamping required; it will be impossible to have a premature discharge. The machine or drill can be made to make a chamber in any hole three-fourths of an inch in diameter, or any size larger that may be desired, always making a chamber from two to four times the diameter, and from five to ten times the area of the original hole.

Your petitioner made the above invention from the first to the tenth day of June, 1865, and has been experimenting with the same up to the present time.

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

The chisels B, connected with handle C, in the manner described and for the purpose specified.

HENRY M. STOW.

Witnesses:

J. Y. COLLINS,

M. McNAIR.