J. H. BONDY.

PNEUMATIC DRILLING MACHINE.

APPLICATION FILED JUNE 27, 1912.

1,067,500. Patented July 15, 1913.

FIG. 3.

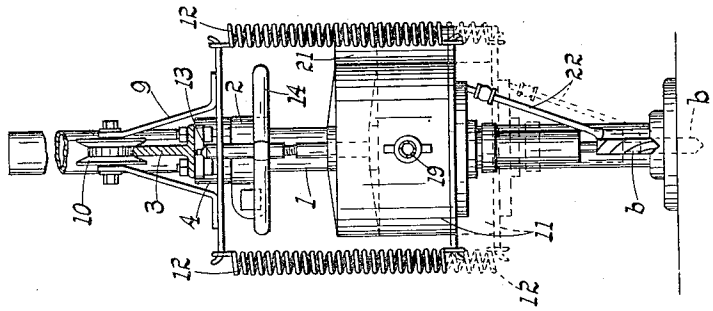


FIG. 1.

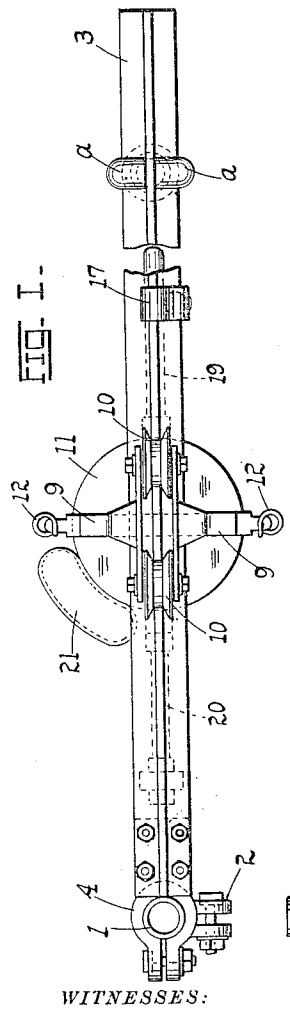
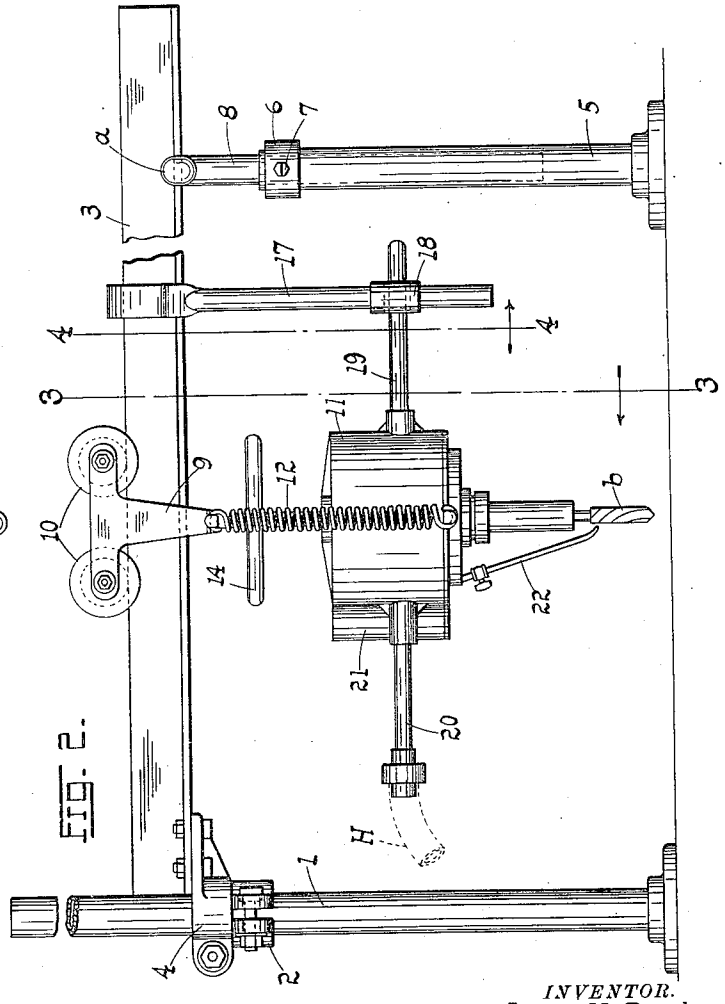


FIG. 2.



WITNESSES:

Harry A. Beimes.

Jos. A. Michel

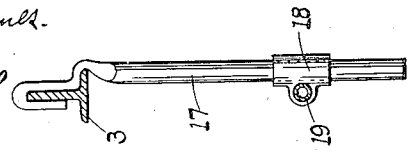
INVENTOR.

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ATTORNEY

FIG. 4.



UNITED STATES PATENT OFFICE.

JAMES H. BONDY, OF GREAT FALLS, MONTANA, ASSIGNOR OF ONE-HALF TO ARCHER E. WHEELER, OF GREAT FALLS, MONTANA.

PNEUMATIC DRILLING-MACHINE.

1,067,500. Specification of Letters Patent. Patented July 15, 1913.

Application filed June 27, 1912. Serial No. 706,222.

To all whom it may concern:

Be it known that I, JAMES H. BONDY, citizen of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Pneumatic Drilling-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in pneumatic drilling machines; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a top plan of my invention; Fig. 2 is a side elevation thereof; Fig. 3 is a vertical cross-section on the line 3—3 of Fig. 2; and Fig. 4 is a vertical cross-sectional detail on the line 4—4 of Fig. 2.

The object of my invention is to construct a drilling machine which may be moved to and from the stock to be operated on; one which can be readily adjusted to any size or kind of stock; one which automatically retracts the tool from the stock upon conclusion of the drilling operation; one in which special provision is made against possible rotary displacement of the drill while the work is going on; one making special provision for the automatic cooling of the tool or bit; one whose principle of construction is susceptible of specific modifications without a departure from the spirit of the invention; and one possessing further and other advantages better apparent from a detailed description of the invention which is as follows:—

Referring to the drawings, 1 represents a standard or post fastened to the floor, to the piece on which the work is being done, or in any other suitable and convenient place, depending on circumstances. Adjustable along the standard is a clamp collar 2 which supports one end of a drill-supporting beam or horizontal structural member 3 here shown as a T-bar, the end of the beam supported by the clamp-collar being preferably secured to the standard by a split clamp-casting 4. The opposite end of the beam 3 is supported by an adjustable column comprising an outer member 5 terminating at the top in a collar 6 provided with a set screw 7, and an inner telescoping member 8 engaged by the screw 7 and held in any adjusted position to the member 5. The upper end of the movable member 8 is provided with a pair of claws or equivalent formations *a* which envelop the basal flange of the T-bar 3. The base of the column 5 is clamped or fastened down the same as the column 1.

The web of the member 3 is adapted to be traversed by a trolley frame 9 which runs along the edge of the web preferably by means of trolley-wheels 10, although the wheels 10 are not absolutely indispensable, a sliding connection being a full equivalent. The drill machine 11 is supported from the frame 9 by means of the compression springs 12 as shown, the details of connection being immaterial. The beam 3 while serving as a drill-support, at the same time serves as an abutment to take the thrust of the drill, by engaging the stem 13 of the usual hand-wheel 14 and its connections, a turn of the wheel in proper direction forcing the drill downward and feeding the bit *b* into the stock or wood operated on. In thus feeding the drill, the springs 12 are obviously extended or expanded (Fig. 3); and when the wheel is reversed the springs automatically contract and thus raise the drill and its bit away from the work. The springs likewise prevent the bit from dropping through the hole after it is drilled, thereby preventing injury to the operator and to the drill. Hooked over the web and one of the flanges of the beam 3 is a hanger 17 through a sliding collar or sleeve 18 of which is received the arm 19 leading from the wall of the drill. This arrangement while preventing rotary displacement of the drill during the boring operation, at the same time allows for the necessary feeding of the drill. Opposite the arm 19 there leads from the drill a pipe 20 to which a hose H supplying compressed air from any suitable source (not shown) may be attached. The drill is provided with a receptacle 21 for holding soap-water, oil or other liquid which is supplied automatically to the bit *b* for purposes of cooling the same, through a tube 22 as shown.

It will be seen from the foregoing that the beam or drill-supporting member 3 may be adjusted vertically to suit any height or thickness of work; the drill may be moved over the work along the beam 3 by means

of the trolley-wheels 10 or their equivalent, the member 17 traveling with the drill as the latter moves along the beam in either direction. The operation of drilling is thus facilitated, the length of the beam 3 depending on the size of the plant. It is to be understood that the machine need not be restricted to drills, the invention being applicable to countersinking machines, reaming machines, and the like. Neither is the invention to be restricted in its application to "pneumatic" machines, steam and electrically operated machines being likewise contemplated herein.

Having described my invention, what I claim is:—

In combination with a vertically adjustable beam having two fixed points of support, a drill yieldingly suspended from said beam and adapted to traverse the same between said points of support, a rigid hanger depending from said beam opposite the drill and adapted to traverse said beam conjointly with the drill, a sliding member on the hanger, an arm leading from the drill to said sliding member, and means interposed between the drill-feed and beam to engage the beam whereby the latter takes the thrust from the drill.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES H. BONDY.

Witnesses:
TIMOTHY P. CORCORAN,
WILLIAM H. BEARD.