

Oct. 9, 1923.

J. H. BUTERBAUGH

1,470,143

PORTABLE DRILL

Filed Feb. 10, 1922

Fig. 1.

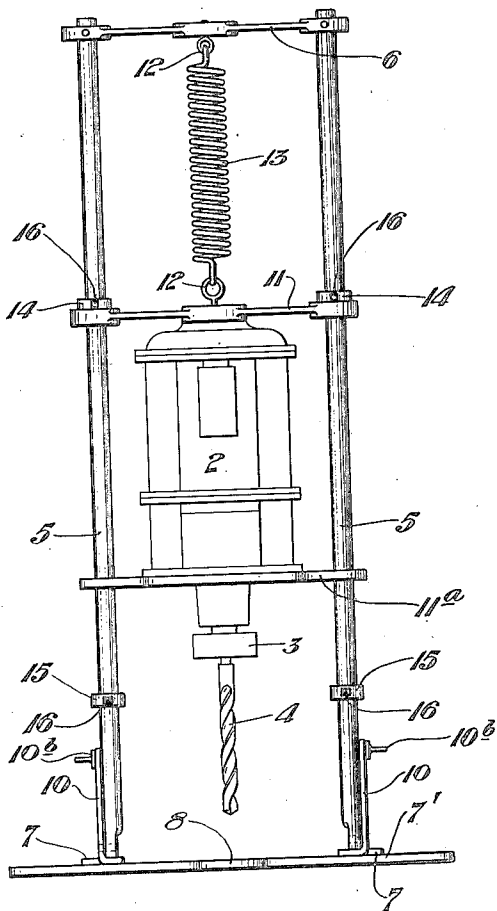


Fig. 2.

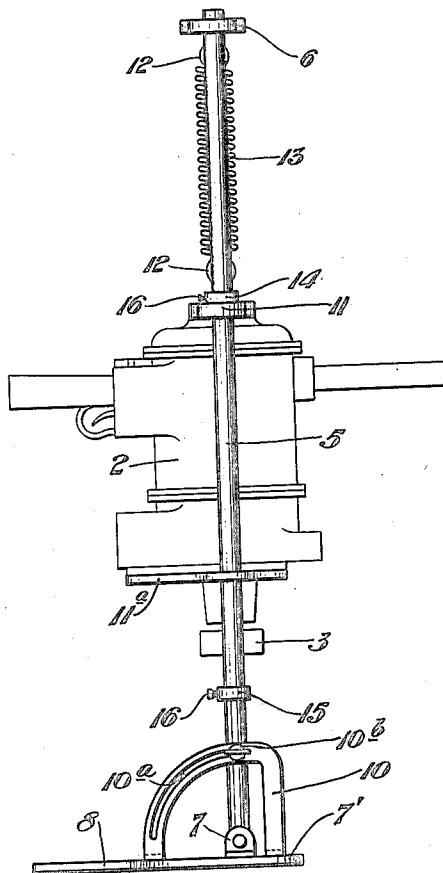


Fig. 3.

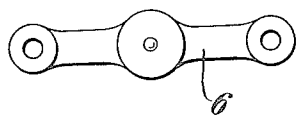
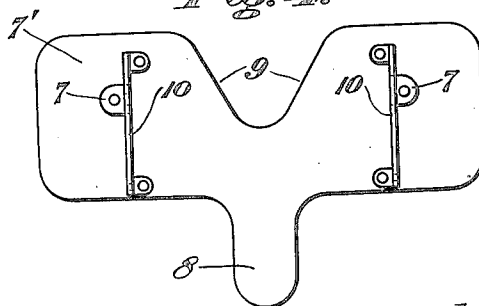


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN H. BUTERBAUGH, OF JOHNSTOWN, PENNSYLVANIA.

PORTABLE DRILL.

Application filed February 10, 1922. Serial No. 535,532.

To all whom it may concern:

Be it known that I, JOHN H. BUTERBAUGH, a citizen of the United States, and resident of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Portable Drills, of which the following is a specification.

This invention relates to portable drills and more particularly to guides for portable drills, and has for one of its objects the provision of a guide for portable drills that will assure the boring of holes at the predetermined angle to the surface of the material being bored.

Another object of the invention is to provide means for limiting the lengthwise movement of the drill so as to govern the depth of the holes drilled.

A further object of the invention is the provision of a portable drill having means for assisting the withdrawal of the drill from the bored holes.

A still further object of the invention is to provide a novel apparatus having the combination of elements and novel design described in the following specification and illustrated in the accompanying drawings.

In the drawings, Figure 1 is a front elevation of a drill constructed in accordance with my invention.

Figure 2 is a side elevation thereof.

Figure 3 is a plan view of the top spreader bar.

Figure 4 is a plan view of the foot of the device.

Referring more particularly to the drawings, the numeral 2 designates the motor of the drill, which is of standard design, having a chuck 3 adapted to hold drills 4 of various sizes.

The motor 2 is mounted on a guide frame of novel design, comprising two parallel side rods 5, which are secured together at their upper ends by a yoke or spreader bar 6, which is rigidly secured to the side rods 5. The lower ends of the rods 5 are pivotally connected to upstanding ears 7 on a foot rest 7' which is provided with a foot engaging portion 8 on which the operator may rest his foot to steady the device during operation. The foot rest 7 is also recessed at 9 to provide clearance for the drill 4. Substantially arcuate brackets 10 are mounted on the base and have slots 10^a therein through which set screws 10^b which are se-

cured in the rods 5 pass freely. The set screws 10^b are adapted to engage the brackets 10 to hold the guide frame in various adjusted angular positions.

The motor 2 is provided with guide yokes 11 and 11^a which are secured to the upper and lower faces thereof, respectively, and which have their ends apertured so as to freely slide on the side rods 5 of the guide.

The upper yoke 11 and the spreader bar 6 are provided with eyes 12 to which the opposite ends of a coil spring 13 are secured. The spring 13 is adapted to become tensioned as the drill is fed into the work and therefore has a tendency to move the drill backward so as to aid the withdrawal of the drill from the bored hole.

Upper and lower stop collars 14 and 15 are adjustably mounted on each of the side rods 5 and are held in position by set screws 16. The upper and lower motor guide yokes 11 and 11^a are adapted to abut the stop collars 14 and 15, respectively, and thus limit the movement of the drill on the side rods.

The advantages of this invention will readily be appreciated. For instance, it will bore a hole absolutely at right angles to the face of the work, which is very difficult to do when holding a portable drill simply by its two handles, it facilitates the work very materially, since it relieves the operator of the weight of the motor, and the coil spring assists in withdrawing the drill from the bored hole.

I claim:—

1. The combination with a motor operated portable drill, of a guide for said drill, said guide comprising a pair of parallel side rods, upper and lower yokes secured to the upper and lower faces of the motor of said drill and slidably mounted on said side rods, a spreader bar secured across the upper ends of said side rods, a coiled spring secured to said spreader bar and to the yoke secured to the upper face of said motor, said spring tending to move the motor backward so as to withdraw the drill from the bored hole, and a base pivotally secured to said side bars and adapted to be held in engagement with the face of the work by the foot of the operator, and thus to guide the drill on a determined line with reference to the face of the work.

2. The combination with a motor operated portable drill, of a guide for said drill, said

guide comprising a pair of parallel side rods, upper and lower yokes secured to the upper and lower faces of the motor of said drill and slidably mounted on said side rods, a spreader bar secured across the upper ends of said side rods, a coiled spring secured to said spreader bar and to the yoke secured to the upper face of said motor, said spring tending to move the motor backward so as to withdraw the drill from the bored hole, and stop collars adjustably secured on said side rods adapted to limit the upward and downward movement of said drill.

3. The combination with a motor operated portable drill, of a guide for said drill, said guide comprising a base member, a pair of

parallel side rods pivotally mounted on said base members, means for locking said side rods in various angular positions relative to said base, upper and lower yokes secured to the upper and lower faces of the motor of said drill and slidably mounted on said side rods, a spreader bar secured across the upper ends of said side rods, and a coiled spring secured to said spreader bar and to the yoke secured to the upper face of said motor, said spring tending to move the motor backward so as to withdraw the drill from the bored hole.

In testimony whereof I have hereunto set my hand.

JOHN H. BUTERBAUGH.