P. G. WEISS.

PORTABLE DRILL.

APPLICATION FILED AUG. 15, 1918.

1,333,743. Patented Mar. 16, 1920.

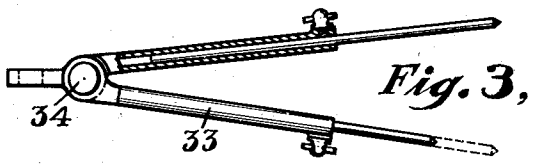


Fig. 3,

Fig. 1,

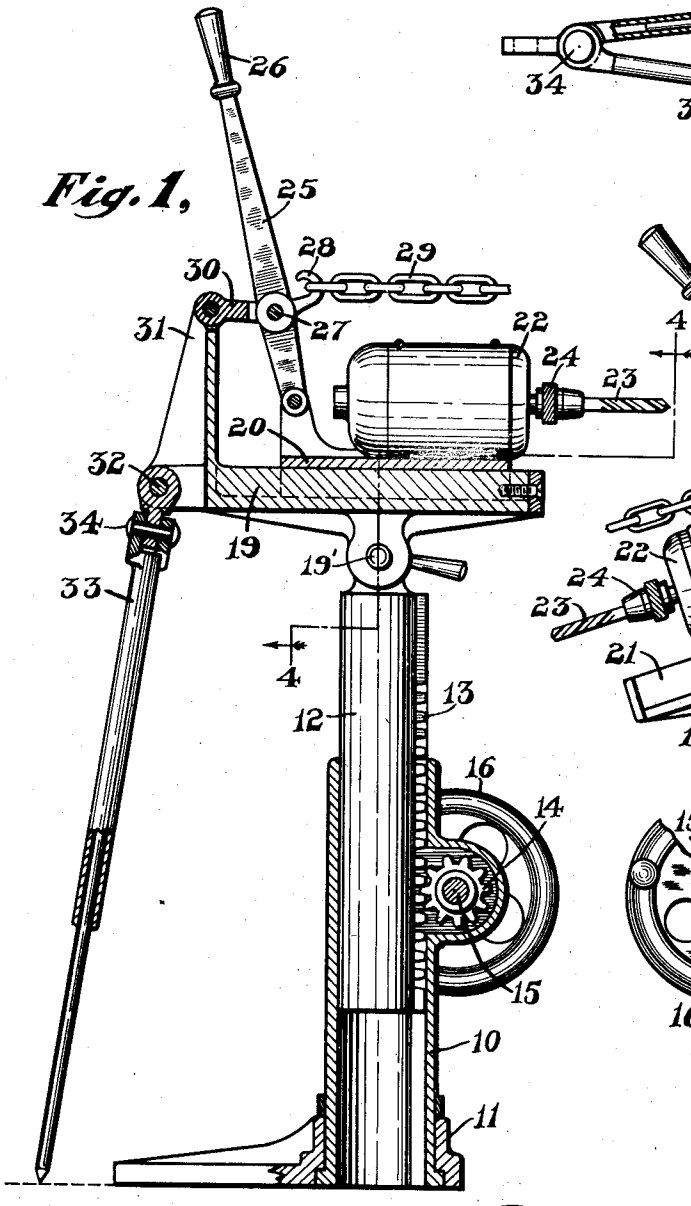


Fig. 2,

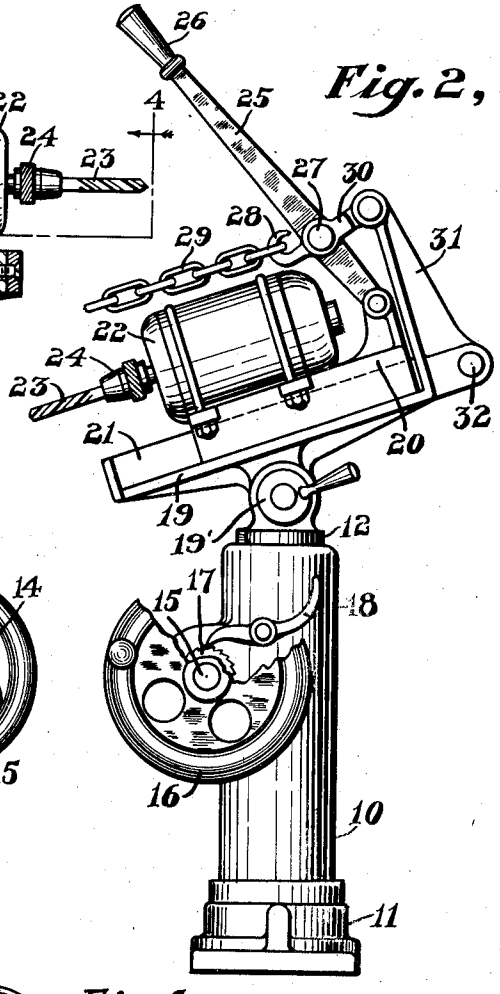
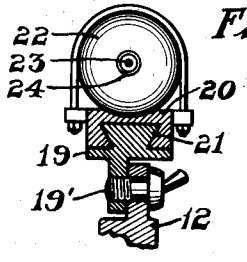


Fig. 4,



Witness
Robert Liebrich,

Inventor
Paul G. Weiss,
By Hood & Ashley.
Attorneys

UNITED STATES PATENT OFFICE.

PAUL G. WEISS, OF INDIANAPOLIS, INDIANA.

PORTABLE DRILL.

1,333,743. Specification of Letters Patent. Patented Mar. 16, 1920.

Application filed August 15, 1918. Serial No. 249,927.

To all whom it may concern:

Be it known that I, PAUL G. WEISS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Portable Drill, of which the following is a specification.

It is the object of my invention to provide a portable drill press, which can readily be used in any position, even in cramped quarters, and can be held in position and fed with a minimum effort; and which can also be used as a portable lifting jack.

The accompanying drawing illustrates my invention: Figure 1 is a vertical section through a portable drill embodying my invention, with the drill raised and substantially level; Fig. 2 is an elevation of such portable drill from the opposite side, with the drill lowered and slanting downward; Fig. 3 is a partial sectional view of the back-leg, removed; and Fig. 4 is a section on the line 4—4 of Fig. 1.

The central post 10 is hollow, and at its lower end has a swivel mounting on a foot piece 11. Slidably mounted in the hollow post 10 is a post extension 12, which has rack teeth 13 which coöperate with a pinion 14 on a transverse shaft 15 suitably mounted in the hollow post 10 and provided with an operating wheel or handle 16; the shaft 15 preferably has a ratchet wheel 17 with which coöperates a dog 18, whereby the post extension 12 may be held elevated in any desired position. Pivotally mounted on a clamping bolt 19′ at the upper end of the post extension 12 is a slide plate 19, which carries a slide block 20 slidable on the slide plate along slideways 21. The slide block 20 carries any suitable power-operated motor 22, such as an electric or pneumatic motor, for operating the drill 23 or other tool, which is suitably carried by the motor shaft in any suitable chuck 24. A feed lever 25 is pivoted to one end of the slide block 20, being provided with a suitable operating handle 26 at the other. At an intermediate point the lever 26 has a fulcrum pin 27, which is held substantially stationary when it is desired to feed the slide block 20 and drill 23 forward. Preferably the fulcrum pin 27 is provided with a forwardly extending hook 28 which may be attached by a chain 29 to the work being operated on by the drill 23, so that by manipulation of the lever 25 the reaction of the feed movement is against the work itself; but I also preferably provide a link 30 extending from the fulcrum pin 27 to an upward projection 31 from the slide plate 19, for use especially when the chain 29 cannot be used. It is sometimes necessary to provide an additional brace or back-leg for the slide plate 19, especially when the chain 29 cannot be used, and therefore I mount on the pivot pin 32 at the rear of the slide plate a bifurcated back-leg 33, the angle between the two prongs of which is adjustable about the pivot 34. The two prongs of the bifurcated leg 33 are also adjustable in length, by the usual telescoping arrangement indicated in Fig. 3.

In operation, the drill may be put in any position, on any kind of a support, to drill upward, downward, horizontally, or in any oblique direction. If the foot piece 11 can be set on any support, that may be done, and the post 10 adjusted in such foot piece as desired, the post extension 12 raised to the desired height in the post 10, the slide plate 19 adjusted on the post extension 12 to the desired position, the chain 29 fastened to the work or other point to be pulled against if any or the back-leg 33 set in desired position so as to be pushed against, the motor 22 set into operation, and the drill fed forward by the desired operation of the lever 25. Sometimes, especially when no suitable support for the foot piece 11 is available, the slide plate 19 may be put in position so that its back end bears against some solid support, whereupon the slide block 20 and drill 23 may be fed forward by proper manipulation of the lever 25. Many other conditions for using my portable drill will arise, but the use of the drill in these conditions will be readily apparent. In case it is desired to use the drill as a jack, the motor 22 may be removed, and the slide block 20 set under the thing to be lifted; whereupon by proper manipulation of the wheel 26 the desired lifting may be obtained.

I claim as my invention:

1. A portable drill, comprising a foot piece, an extensible post swiveled in said foot piece, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block

so as to be moved therewith, a feed lever connected to said slide block, and means for providing a fulcrum for said feed lever.

2. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, and means for providing a fulcrum for said feed lever.

3. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor removably mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, and means for providing a fulcrum for said feed lever.

4. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, and means for connecting a fulcrum point on said lever to the work to be drilled so as to provide a support for said fulcrum.

5. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, and means supported on said slide plate for providing a fulcrum support for said feed lever.

6. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, means for providing a fulcrum for said feed lever, and an extensible back leg pivotally connectible to said slide plate.

7. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, a power-operated motor mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, means supported on said slide plate for providing a fulcrum support for said feed lever, and an extensible back leg pivotally connectible to said slide plate.

8. A portable drill, comprising an extensible post, a slide plate pivotally mounted on the upper end of said extensible post on an axis transverse to the post, a slide block slidable along said slide plate, drill-operating mechanism mounted on said slide block so as to be moved therewith, a feed lever connected to said slide block, and means for providing a fulcrum for said feed lever.

In witness whereof I have hereunto set my hand at Indianapolis, Indiana, this tenth day of August, A. D. one thousand nine hundred and eighteen.

PAUL G. WEISS.