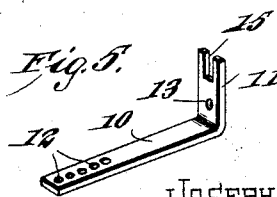
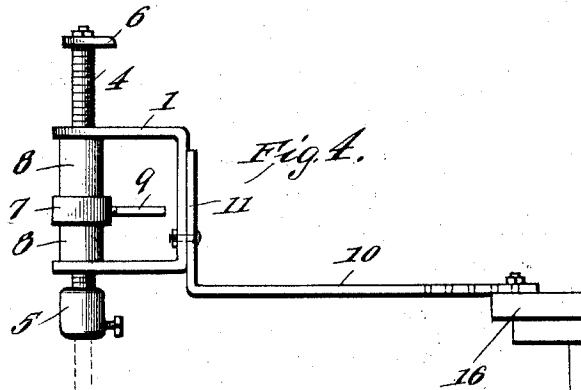
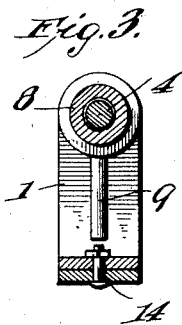
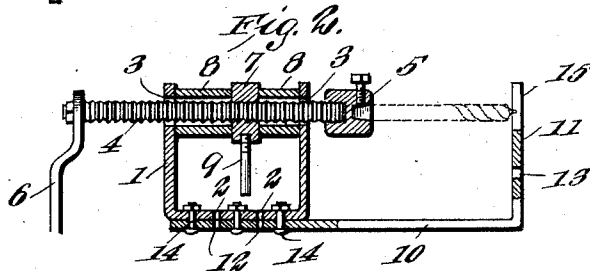
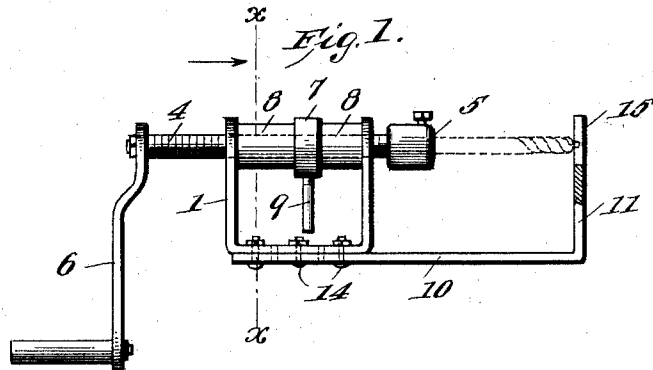


J. G. ST. GERMAIN.  
PORTABLE ROTARY DRILL.  
APPLICATION FILED JUNE 10, 1908.

926,832.

Patented July 6, 1909.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOSEPH G. ST. GERMAIN, OF BRADLEY, ILLINOIS.

## PORTABLE ROTARY DRILL.

No. 926,832.

Specification of Letters Patent.

Patented July 6, 1909.

Application filed June 10, 1908. Serial No. 437,792.

*To all whom it may concern:*

Be it known that I, JOSEPH G. ST. GERMAIN, a citizen of the United States, residing at Bradley, Illinois, have invented certain new and useful Improvements in Portable Rotary Drills, of which the following is a specification.

This invention relates to certain new and useful improvements in portable rotary drills, and has reference more particularly to that class or type of drills which are employed for boring metal, tapping mains, and other similar purposes.

The purpose and object of the present invention are the provision of means for feeding the drill when the same is secured in place upon the work, and to enable the drill to be steadied with one hand while the rotating device therefor is being operated with the other.

Another object sought by this invention is the provision of means for adjusting the drill in any desired position with respect to the work.

The invention further contemplates the reduction of friction to a minimum, and consequently the use of lubricants can be dispensed with.

To the accomplishment of the recited objects and others coördinate therewith, the preferred embodiment of the invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claims.

In said drawings:—Figure 1 is an elevation of the complete drill. Fig. 2 is a vertical sectional elevation of the device. Fig. 3 is a transverse section taken on lines  $x-x$  of Fig. 1. Fig. 4 is an elevation showing another adjustment of the drill, and Fig. 5 is a detail perspective of the angle-bar support.

Similar reference numerals indicate corresponding parts throughout the several views.

As designated in the drawings, the drill comprises as a component part of its organization, a substantially U shaped saddle 1, having a plurality of perforations 2, at the base thereof, and adjacent its terminals, horizontally alined openings 3, the latter being adapted to receive and freely support the screw-threaded cylindrical feed-rod 4, on the forward end of which is mounted the drill stock or holder 5, the rear end carrying

the operating crank-handle 6. Screwed upon the feed-rod 4, and preferably, at the center of the saddle 1 to insure accessibility, is the feed-control disk 7, of slightly greater circumference than the loosely fitting collars 8, located intermediate the sides of the feed-control and the sides of the saddle terminals, and having a normally depending handle 9, of such a length as to permit a free and uninterrupted movement on said rod.

For supporting the drill mechanism and guiding the action of the bit, there is provided an angle-bar, having arms 10 and 11, with perforations 12 and 13, adapted to register with the corresponding perforations of the saddle 1, and be secured thereto by suitable fastening devices, such for example, as nuts and bolts, designated in the drawings by reference character 14. The arm 11 has its terminal portion bifurcated at 15 to serve as a guide for the bit.

By grasping the drill, preferably, at the rear of the saddle and the junction of the latter with the angle-bar and simultaneously holding the depending handle of the feed-control, the crank may be rotated and the boring of the metal or other work thus readily effected. However, if by holding the depending handle, it is discerned that the drill is operating so rapidly as to cause the breaking or snapping of the bit to appear imminent, said handle is released and revolves with the feed-rod, and the boring is brought to a sudden termination, only to be resumed by attaining control of the handle. This feature of the invention, since it preserves the bit from breaking, is a source of great economy.

Ordinarily the drill is assembled in the position illustrated in Fig. 1 of the drawings, but, should the occasion require, the angle-bar can be reversed and the device secured to the other arm thereof, and the remaining arm attached to a suitable support 16, as indicated in Fig. 4. In either of the foregoing positions, the saddle may be adjusted longitudinally in any desired relation to the work, commensurate with the thickness or thinness of the material. It will also be noted that, owing to this construction and arrangement, friction is reduced to a minimum, the only resistance being at the points of engagement of the collar 8 and the arm of the saddle 1 nearest the crank-handle, the opposite side of said collar and the feed-con-

trol disk, and the said disk and the feed-rod. Hence, very little, if any lubrication is required in the running of the machine.

This invention is simple in construction, easily operated, cheap to manufacture, and may be utilized with efficacious results.

It should be understood that in its broader aspects the invention comprehends the employment not only of the various means described, but of equivalent means for performing the recited functions.

While the arrangement shown is thought, at the present time, to be preferable, it is desired to reserve the right to effect such modifications and variations thereof as may come fairly within the scope of the appended claims.

Having thus described the invention, what is claimed, is;

1. In a portable rotary drill, the combination of a support having two arms, a saddle

adjustable longitudinally of each of said arms in vertical and horizontal planes respectively, a feed-rod carried by said saddle, operating means for said rod, and feed controlling mechanism.

2. In a portable rotary drill, a support comprising two arms at right angles to each other and having perforations at the ends, a U-shaped saddle having perforations adapted for registration with the perforations in said support, bolts for securing the support and saddle together, and drill mechanism carried by the extremities of the arms of the saddle.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH G. ST. GERMAIN.

Witnesses:

EMERY SOULIGNE,  
LEWIS CLARK.