

J. H. FRITZ.
 DRILL FORMER AND SHARPENER.
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990,538.

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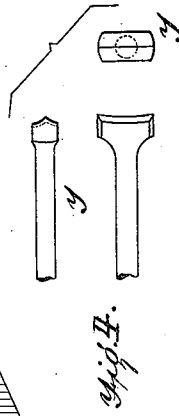
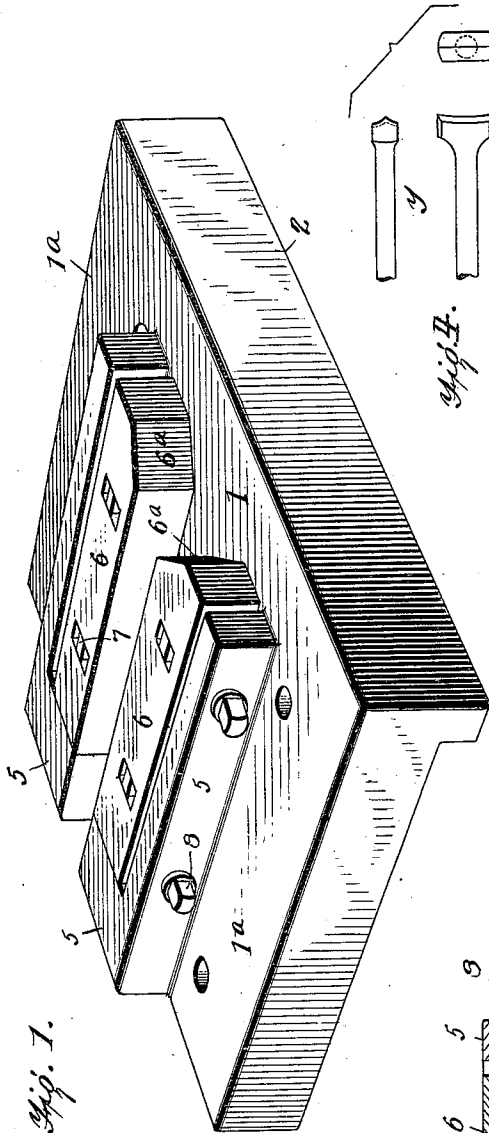


Fig. 2.

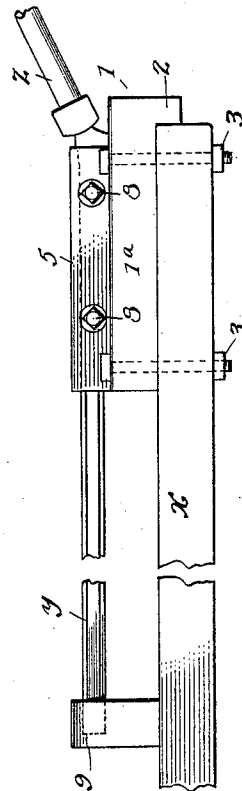


Fig. 3.

WITNESSES:

L. H. Schmidt.
 Amos W. Hart

INVENTOR
 JOHN HENDRIX FRITZ,
 BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN HENDRIX FRITZ, OF WEBB CITY, MISSOURI.

DRILL FORMER AND SHARPENER.

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To all whom it may concern:

Be it known that I, JOHN HENDRIX FRITZ, a citizen of the United States, and a resident of Webb City, in the county of Jasper and State of Missouri, have invented an Improved Drill Former and Sharpener, of which the following is a specification.

My invention is an improved apparatus for use in forging and sharpening steel rock-drills or similar tools.

The details of construction, combination, and operation of parts are as hereinafter described, and illustrated in the accompanying drawing in which—

Figure 1 is a perspective view of the preferred form of the apparatus. Fig. 2 is a side view illustrating the arrangement and manner of using the invention. Fig. 3 is a vertical cross section. Fig. 4 is a view illustrating the ultimate shape or form of the drill-point.

I will first describe the invention as shown in Figs. 1, 2, and 3. The bed of the apparatus is a cast-iron or steel block having a flat anvil face 1, 1^a, and a pendent front lip or flange 2, which, when the block is applied to a support *x* as shown in Fig. 2, abuts the end of said support, to which it is secured by screw-bolts 3 as shown. The upper side of the anvil is provided with integral, longitudinal, L-shaped ribs 5 which are arranged opposite each other but separated by a considerable space, and also spaced from the sides of the block, thus leaving flat surfaces 1^a that constitute practically side anvils. Between the ribs 5, I arrange two elongated steel blocks 6, the same being arranged opposite and their inner straight and parallel edges separated by a space sufficient to accommodate the shank or handle of a drill. The blocks 6 extend forward to the ends of the side ribs 5, and their inner opposite corners are cut away as indicated at 6^a—Fig. 1—thus forming inclined or angular shoulders against which the drill-point is formed in the forging operation, and by which the drill point receives the desired shape. In the forming operation, the blocks 6 resist the thrust of the power-hammer since their rear ends rest against the transverse portions of the ribs 5. The L-shaped ribs, it will be noticed, are formed with the side or main wings and the end or lateral wings, the inner faces of said wings forming shoulders and the blocks abutting at their inner ends

the shoulders at the inner sides of their respective end wings of the ribs as shown in Fig. 1. In order that the blocks 6 may be adjusted toward or from each other to the slight degree required to accommodate drill shanks or handles differing in thickness, they are provided with transverse slots in which bolts 7 are arranged to serve as guides. The desired lateral adjustment of the blocks 6 is effected by means of set-screws 8 that pass through the ribs 5 and whose inner ends abut the blocks 6 as shown in Fig. 3. I desire it understood, however, that I purpose effecting such adjustment by any suitable means which may be substituted for the set-screws.

In the operation of forming a drill-point for forming or sharpening it, the drill *y* is laid between the blocks 6 as shown in Fig. 2, one end being supported at 9 and the other projecting slightly beyond the inclined shoulders 6^a of the blocks 6. Blows are then directed upon the drill by a power hammer *z*, so that the same ultimately receives the shape or form indicated in Fig. 4. When one side of the drill-point has been duly formed and shaped, the drill is turned over and the operation is repeated.

The side anvil surfaces 1^a are on the same level as the front surface 1, and serve for use in edging drills after forming the body thereof, and in such case a vertical hammer will be used on the left or right surface 1^a.

The slot between the blocks obviously enables the operator to place a drill in position, to turn it as required, and to remove it instantly. This operation is performed without stopping the power hammer. The form of the blocks produces shoulders of the most approved form on the drills, whereby much labor and expense are saved as compared with the old way of forging drills which often leaves only a swelled end.

Drill-points formed according to my invention are adapted to get under the cuttings easily and to throw the same back out of the drill-hole, while they have less friction than the old form in which the point of the drill is elongated and has parallel sides.

My apparatus is adapted to be used with any power hammer which can be set at the required working angle indicated in Fig. 3.

In practice, I propose to use any back-stop for the drill while being formed.

What I claim is:—

1. The improved apparatus for the purpose specified comprising a support, approximately L-shaped ribs on the upper face of the support and having side wings and end wings, blocks arranged within the said ribs and abutting at their inner ends the respective end wings of said ribs and means whereby the said blocks may be adjusted laterally toward each other, the front inner corners of the said blocks being formed at an angle to each other for the purpose of shaping a drill point in the manner described.

2. A drill forming and sharpening apparatus comprising a support, having main or side wings and end wings at approximately a right angle thereto, blocks between said wings and abutting at their inner ends their respective end wings, means for adjusting the blocks laterally relatively to the side wings and means for guiding the lateral movements of the blocks, substantially as set forth.

JOHN HENDRIX FRITZ.

Witnesses:

B. K. HUMPHREYS,
A. C. DICKINSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
