

J. B. GORMAN AND J. A. FERTIG.

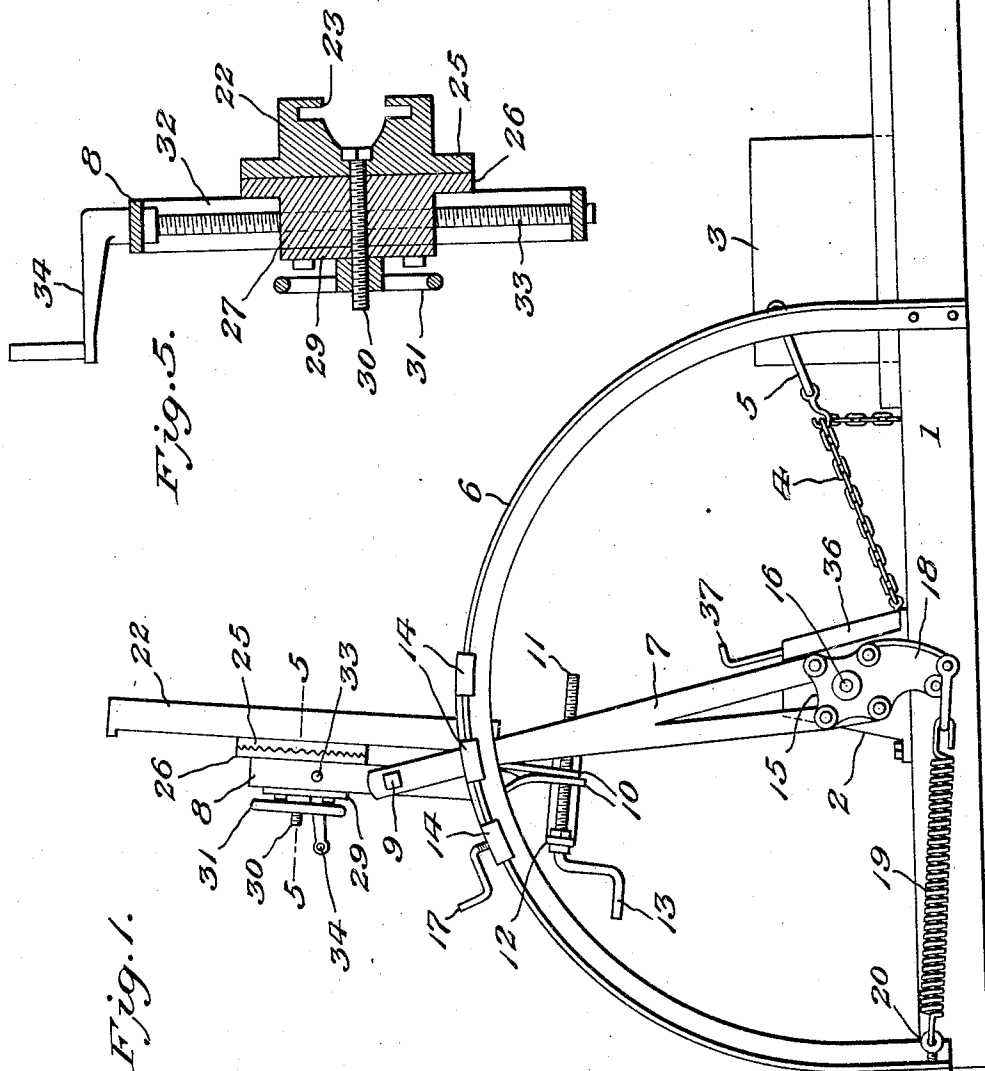
DRILL SHARPENER.

APPLICATION FILED DEC. 6, 1919.

1,389,501.

Patented Aug. 30, 1921.

4 SHEETS—SHEET 1.



WITNESS:

Edwin L. McKee

J. B. Gorman
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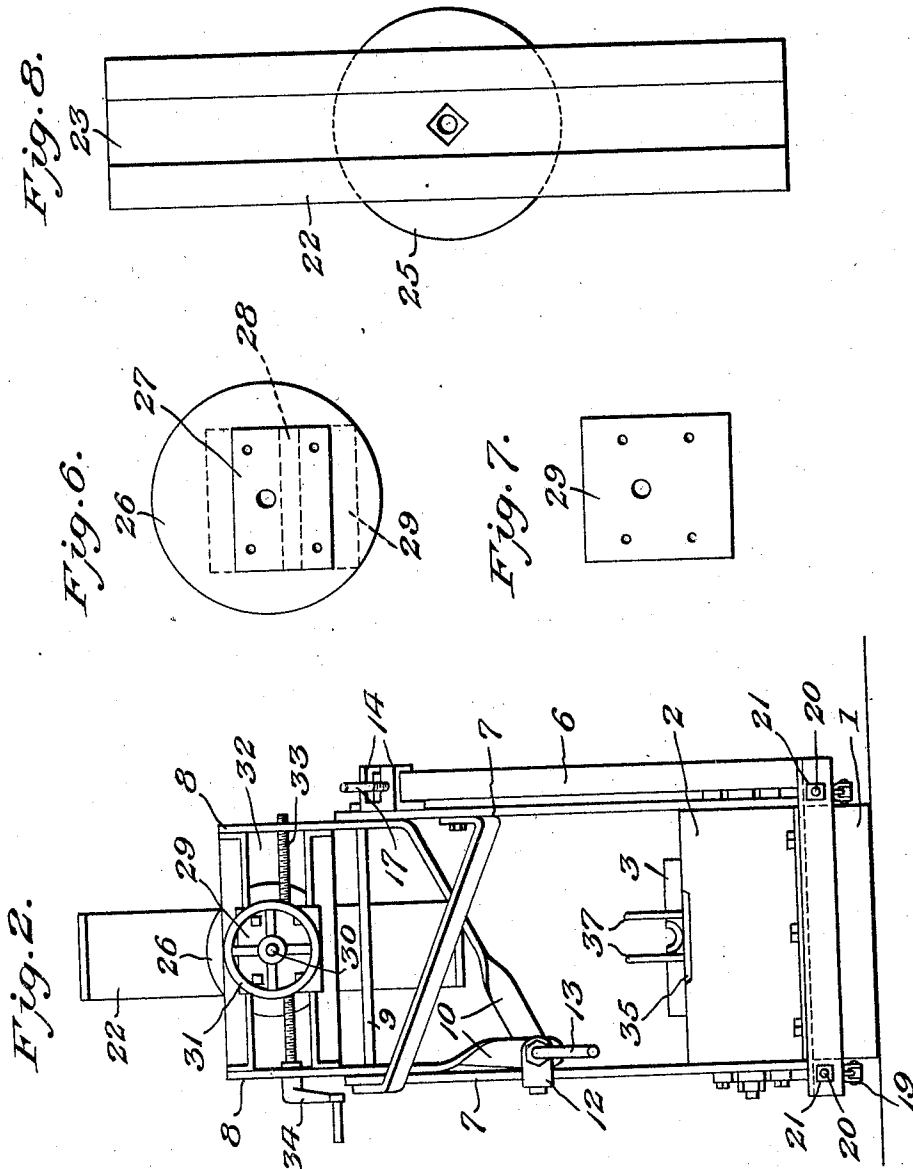
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Victor J. Evans
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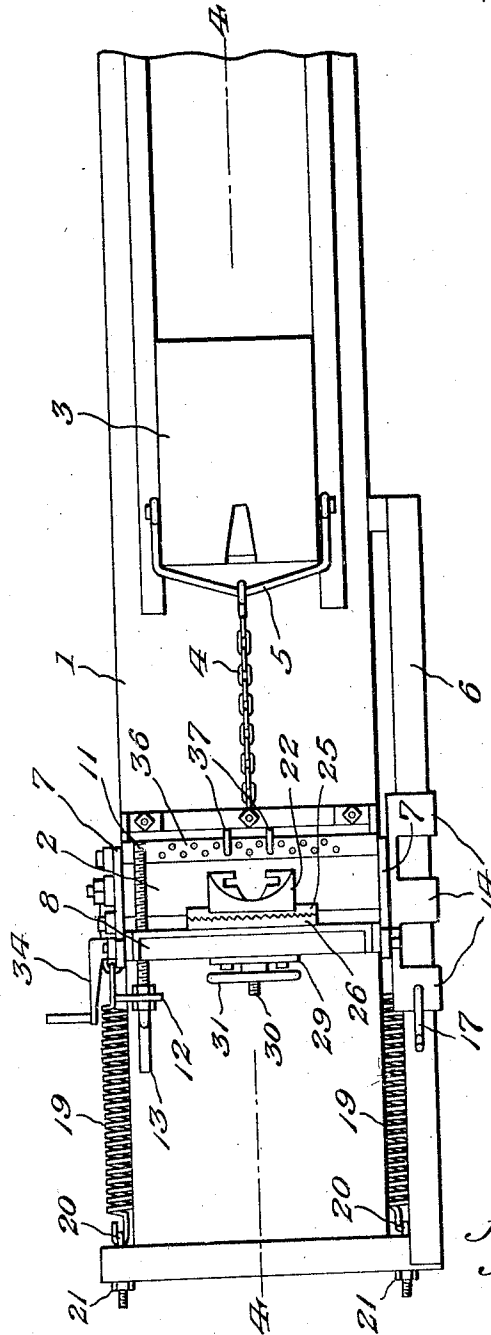
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Fig. 3.



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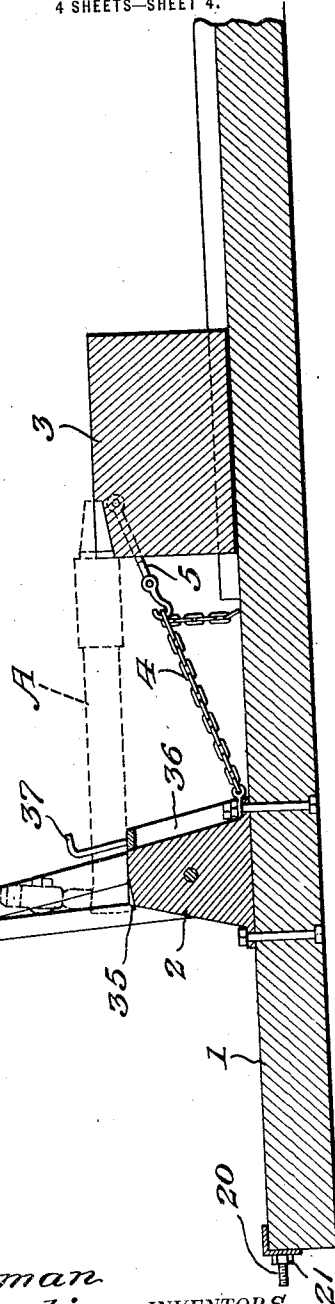
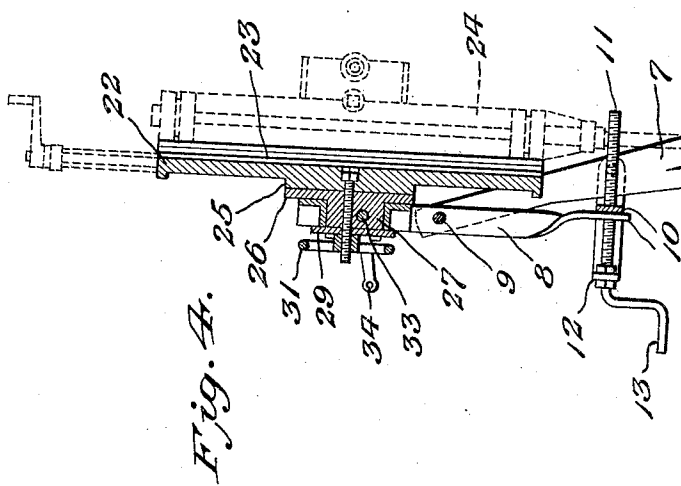
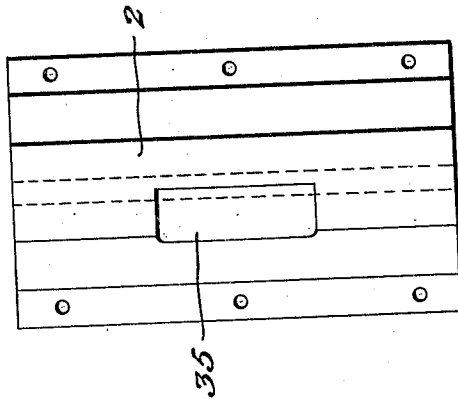
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Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN B. GORMAN AND JAMES A. FERTIG, OF WENTWORTH, MISSOURI.

DRILL-SHARPENER.

1,389,501.

Specification of Letters Patent.

Patented Aug. 30, 1921.

Application filed December 6, 1919. Serial No. 343,060.

To all whom it may concern:

Be it known that we, JOHN B. GORMAN and JAMES A. FERTIG, citizens of the United States, residing at Wentworth, in the county of Newton and State of Missouri, have invented new and useful Improvements in Drill-Sharpener, of which the following is a specification.

This invention relates to improvements in bit sharpening devices where the bit is sharpened by a power hammer.

One of the objects of the invention is to provide an adjustable frame for supporting the power hammer so that said hammer may be swung into different positions so that the hammer may engage the bit at different angles and thus properly shape the bit.

Another object of the invention is to provide an anvil and adjustable supporting means for the threaded end of the bit with means for holding said support at any desired position relative to the anvil so that bits of different lengths may be sharpened.

The invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing our invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a side view of the invention.

Fig. 2 is an end view.

Fig. 3 is a plan view.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is a section on line 5—5 of Fig. 1.

Figs. 6, 7 and 8 are detail views of the cradle for the hammer.

Fig. 9 is a view of the anvil.

In these views, 1 indicates the base upon which the anvil 2 is secured. A block 3 is slidably mounted on said base and is connected with a part of the anvil by the chain 4 and the bail 5. In this way the block may be placed any desired distance from the anvil. The base also supports a segment 6 at one side thereof.

A frame 7 has its lower end secured to the anvil and its upper end is pivotally connected to the cradle carrying frame 8 by the rod 9. This cradle frame 8 is provided with the depending pieces 10 which have their

ends overlapping and provided with screw threaded holes which are engaged by a screw threaded shaft 11 carried by a bracket 12 secured to one of the upright pieces of the frame 7. This shaft 11 is provided with a crank handle 13. In this way by operating the shaft 11 by means of its crank handle the cradle frame may be adjusted on the frame 7. The frame 7 has secured thereto at one side the slides 14 which engage the segment 6 so that by moving said slides on the segment the frame 7 may be adjusted from a vertical to an inclined position, the lower end of said frame being pivotally connected with the anvil by means of the plates 15 and the bolts 16. In order to lock the frame in adjusted position one of the clamps 14 is provided with a clamping screw 17 which has a crank handle. The lower end of the frame 7 is provided with an extension 18 which projects below the anvil and is connected with the coiled spring 19. The other end of the spring is connected with a part of the base by the bolt 20 and nut 21. This spring acts to balance the movable parts of the device.

The cradle 22 is provided with the recess and guideways 23 to receive the hammer 24 which may be of any desired construction. This cradle is provided with a corrugated boss 25, the corrugations of which are engaged by the corrugated plate 26 which carries the block 27. This block is provided with a screw threaded hole 28 and the clamping plate 29 is bolted to this block. The plate 26 and block 27 are connected to the cradle by means of the bolt 30 and the hand wheel 31 engaging the bolt. The block 27 is slidably mounted in a guideway 32 formed in the cradle frame 8 and the plate 29 holds this block in said guideway. The cradle is laterally adjusted in said cradle frame by means of the screw shaft 33 carried by the cradle frame and engaging the opening 28 in the block. This shaft is provided with a handle 34. It will thus be seen that the cradle may be adjusted on the block 27 and plate 26 by means of the bolt 30 and the wheel 31 and the cradle can also be adjusted laterally in the cradle frame by means of the shaft 33 and its handle 34.

The anvil is provided with a recess 35 in its front side for the purpose of protecting the point of the bit when the same is turned on edge.

When a bit, such as shown at A, is to be

sharpened its screw threaded end is placed in a recess in the block 3 and its point placed on the anvil. The block is adjusted relative to the anvil to properly position the bit. The frame 7 is then adjusted on the segment, and if necessary the cradle frame is adjusted in the main frame by means of the screw threaded shaft 11 and its handle 13. The cradle is then moved laterally by means of the screw threaded shaft 33 and its handle 34 to properly position the hammer over the bit. The position of the hammer may also be adjusted by moving the cradle on the bolt 30 after the wheel 31 is released. By these several adjustments it will be seen that the hammer may be moved into any desired position relative to the point to properly shape said point.

In order to steady the bit we may provide a holder which consists of a substantially U-shaped member 36 bolted alongside the anvil and having its cross piece provided with a plurality of holes to adjustably receive a pair of L-shaped rods 37 which are adapted to grip the bit between them.

It is thought from the foregoing description that the advantages and novel features of our invention will be readily apparent.

We desire it to be understood that we may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What we claim is:

1. A device of the class described comprising a base, an anvil carried thereby, a segment carried by the base, a main frame having its lower part pivoted to the anvil, means for adjustably connecting said main frame with the segment, a cradle frame pivotally connected with the main frame, a cradle for the hammer, and means for adjusting the same laterally in the cradle frame.

2. A device of the class described comprising a base, an anvil carried thereby, a main frame, means for adjustably supporting the same from the base, a cradle frame, a cradle carried thereby, means for adjusting the same laterally in said cradle frame and means for pivotally adjusting the cradle.

3. A device of the class described comprising a base, an anvil carried thereby, a segment on the base, a main frame having its lower part pivoted to the anvil, means for adjustably connecting the main frame with the segment, spring means for counterbalancing the main frame, a cradle frame pivotally connected with the main frame, manually operated means for adjusting the cradle frame in the main frame, a cradle for the hammer and means for adjusting the same in the cradle frame.

In testimony whereof we affix our signatures.

JOHN B. GORMAN.
JAMES A. FERTIG