

986,820.

2 SHEETS--SHEET 1.



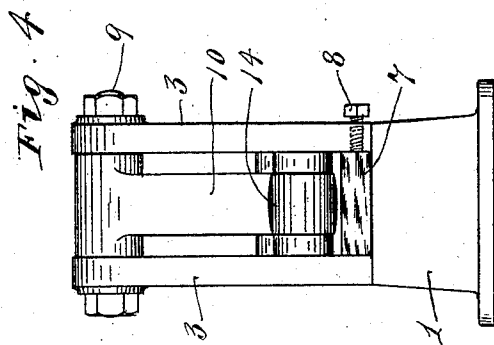
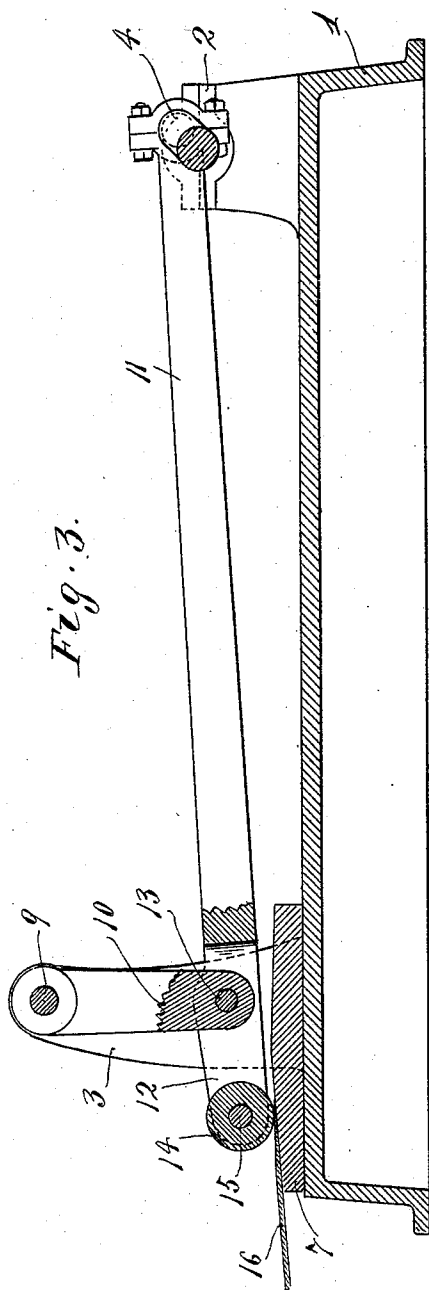
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MACHINE FOR DRAWING SHARP EDGES ON METALLIC BODIES.
APPLICATION FILED APR. 27, 1910.

986,820.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 2.



Witnesses.
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H. D. K. [Signature]

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Chas. O. Halling.
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UNITED STATES PATENT OFFICE.

CHARLES O. HALLING, OF MILAN, MINNESOTA, ASSIGNOR OF ONE-FOURTH TO HANS P. HANSON AND ONE-FOURTH TO JOHN KNUTSON, BOTH OF MILAN, MINNESOTA.

MACHINE FOR DRAWING SHARP EDGES ON METALLIC BODIES.

986,820.

Specification of Letters Patent. Patented Mar. 14, 1911.

Application filed April 27, 1910. Serial No. 558,055.

To all whom it may concern:

Be it known that I, CHARLES O. HALLING, a citizen of the United States, residing at Milan, in the county of Chippewa and State of Minnesota, have invented certain new and useful Improvements in Machines for Drawing Sharp Edges on Metallic Bodies; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved device for drawing sharp edges on metallic bodies, such as plow shares and the disks of disk plows, disk drills and the like, and, to this end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a side elevation, showing the improved device; Fig. 2 is a plan view of the device; Fig. 3 is a vertical section taken approximately on the line $x^3 x^3$ of Fig. 2; and Fig. 4 is a front end elevation of the said device.

The numeral 1 indicates the metallic base, which, at one end, is provided with a pair of laterally spaced shaft bearings and, near its other end, is provided with a pair of laterally spaced standards 3. In the bearings 2 is journaled a crank shaft 4 which, as shown, is provided at one end with a pulley 5 and at its other end with a fly wheel 6. Resting upon the forward portion of the base 1 is an anvil block 7, the upper portion of which is beveled, preferably from its central toward its outer end portion. A set screw 8 that is screwed through the lower portion of one of the uprights 3, impinges upon the anvil block 7 and securely holds the same to the base 1, which permits the said anvil block to be adjusted endwise in a direction longitudinally of the said base. Pivoted on a bolt 9, passed through the upper portions of the uprights 3, is a strong depending link 10.

The numeral 11 indicates a long crank rod or bar which, at its rear end, is journaled on the central crank portion of the crank shaft 4. The forward end of this crank rod 11 is

bifurcated at 12 and is pivotally attached by a pin or bolt 13 to the forward portion of said crank rod between the prongs 12 thereof. A roller 14 is placed between the ends of the prongs 12 and is journaled there- to by a pin 15. Preferably, both the roller 14 and the anvil block 7 are of hardened steel. The relation of the parts described is such that, when the rod 11 is moved rearward under the rotation of the crank shaft 4, and a vibratory movement is imparted to the suspending link 10, the roller 14 will be moved rearward and slightly downward or nearer to the upper surface of the underlying portion of the anvil block 7. Obviously, when the said crank rod 11 is moved forward, the said roller will be moved farther away from the anvil block.

In the use of the device to sharpen or draw out the edge of a plow share disk or other thin body 16, the said body is preferably first brought to a red heat and is then placed on the anvil block under the roller 14, so that under each rearward and downward movement of the roller, the edge of the said plow share disk or other body will be drawn out to a sharp edge. By moving the plow share or other body which is to be drawn out or sharpened transversely of the anvil block 7 at the proper rate of speed, the entire edge thereof will be drawn out and brought to a sharp edge.

Instead of the roller 14, the so-called crank rod 11 might be provided with a rigidly secured drawing head, but a roller is preferred and, in practice, has been found to give very much the best action. The drawing action of the roller is, in fact, more efficient than that of the rigid head and has much less tendency to slide the body that is being drawn out over the face of the anvil block under rearward movements of the crank rod.

By properly adjusting the tapered anvil block 7 longitudinally of the base 1, the said anvil block and roller may be brought into such operative relation to each other that the edge of the article being sharpened may be drawn to any desired sharpness.

The efficiency of the device described has been demonstrated by a working machine.

What I claim is:

1. In a device of the kind described, the combination with a suitable anvil, of a link support rigidly secured in respect to said

anvil, a vibratory link pivotally secured to said support, a rod pivotally attached to said link near its free end and provided at its short end with a drawing head cooperating with said anvil, and means for reciprocating the said rod, substantially as described.

2. In a device of the kind described, the combination with a suitable base having a suitable shaft and link support, of a crank shaft journaled on said shaft support, a link pivoted to said link support, a crank rod connected at one end to said crank shaft, and near its other end to the depending end of said link, and provided at its short end with a drawing head, and an anvil block mounted on said base below said drawing head and cooperating therewith, substantially as described.

3. The combination with a base 1 having

shaft bearings 2 and laterally spaced uprights 3, of a crank shaft 4 journaled in said shaft bearings, a link 10 working between and pivoted at its upper end to the upper portions of said uprights 3, a crank rod 11 journaled at one end on the crank of said crank shaft and having a bifurcated forward end pivotally connected to the lower end of said link, a drawing roller 14 located between and journaled to the prongs of the bifurcated end of said rod 11, and a tapered anvil 7 seated on said base, located between said uprights 3 and adjustably secured thereto, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES O. HALLING.

Witnesses:

ALICE V. SWANSON,
HARRY D. KILGORE.

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