C. O. HALLING.

DEVICE FOR DRAWING SHARP EDGES ON METALLIC BODIES.

APPLICATION FILED MAY 9, 1913.

1,090,848. Patented Mar. 24, 1914.

2 SHEETS—SHEET 1.

Fig. 1

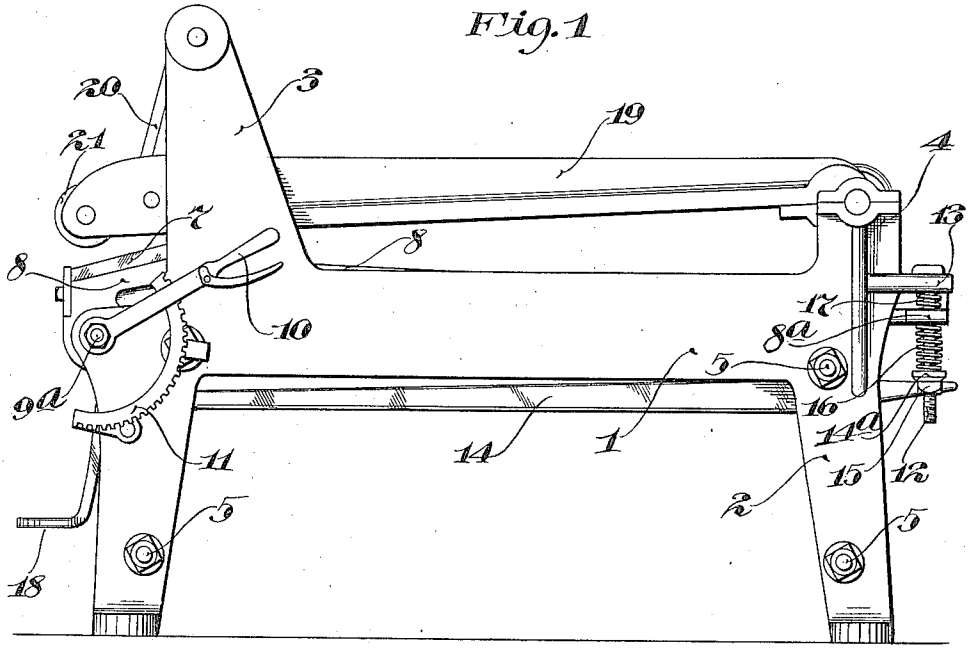
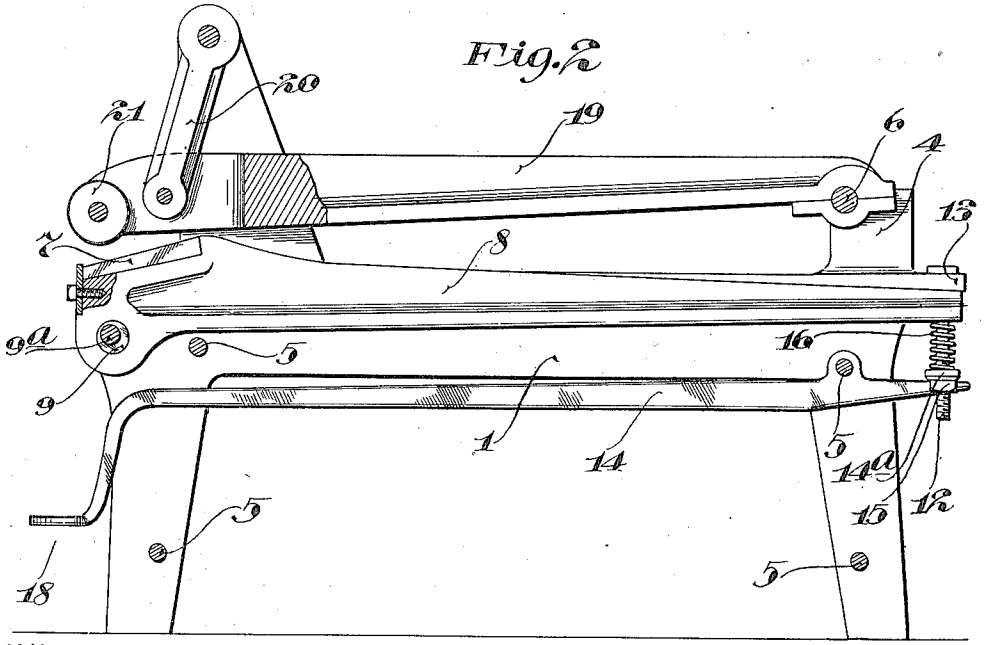


Fig. 2



Witnesses:
E. C. Skinkle
Geo. Knutson

Inventor:
C. O. Halling
By his Attorneys:
Williamson Merchant

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. O. HALLING.

DEVICE FOR DRAWING SHARP EDGES ON METALLIC BODIES.

APPLICATION FILED MAY 9, 1913.

1,090,848.

Patented Mar. 24, 1914.

2 SHEETS—SHEET 2.

Fig. 3

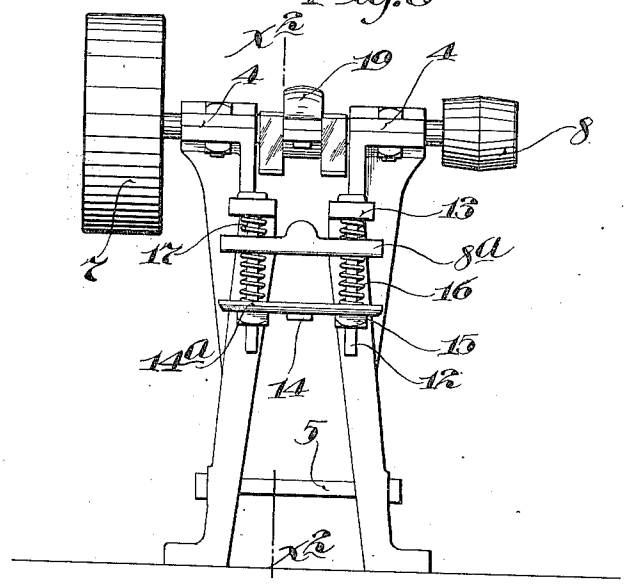
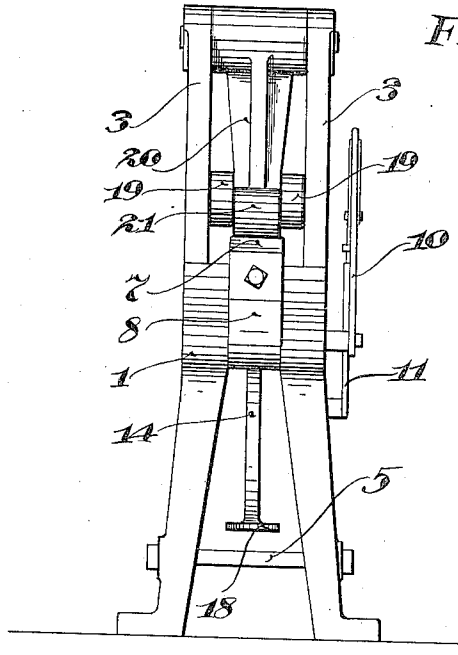


Fig. 4



Witnesses:
E. C. Skinkle
Geo. Knutson

Inventor:
C. O. Halling
By his Attorneys:
Williamson & Merchant

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES O. HALLING, OF MILAN, MINNESOTA.

DEVICE FOR DRAWING SHARP EDGES ON METALLIC BODIES.

1,090,848. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed May 9, 1913. Serial No. 766,513.

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 Devices 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 machine or device for drawing sharp edges on metallic bodies, such as plow shares and the disks of plows and disk drills.

Generally stated, the invention consists of novel devices and combination of devices hereinafter described and defined in the claims.

Particularly, this invention is in the nature of an improvement on the machine disclosed and claimed in Letters Patent of U. S. 986,820, issued to me of date March 14, 1911, and entitled, "Machine for drawing sharp edges on metallic bodies".

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 view in side elevation, showing the improved machine. Fig. 2 is a vertical section taken through the machine, approximately on the line X^2—X^2 of Fig. 3, some parts being shown in full and other parts being broken away. Fig. 3 is a rear end elevation of the machine; and Fig. 4 is a front end elevation of the machine.

The frame work of the machine, as shown, is made up of laterally spaced, approximately horizontal bars 1, having integrally cast legs 2 and upwardly projected bearings 3 and 4. The side frames thus formed, are originally tied together by bolts or spacing rods 5.

In the bearings 4, is journaled a crank shaft 6, provided at one end with a fly wheel 7 and at its other end with a pully 8, over which latter a power driven belt, not shown, will run. In this improved form of the machine, a hardened anvil block 7 is rigidly, but preferably detachably secured to the front end of a long heavy lever herein called an anvil bar. This anvil bar 8, at its front end and at a point below the anvil 7, is pivotally supported on an eccentric 9, the shaft 9^a of which is journaled in the frame bars 1, and at one end, has a rigidly secured latch lever 10. This latch lever 10, cooperates with a lock segment 11, rigidly secured to the adjacent side frame.

The free end of the anvil bar 8 projects to the rear of the machine frame, and terminates in a transversely extended head 8^a. The ends of this head are perforated so that the head moves freely upward and downward on bolts 12, the upper ends of which are anchored to lugs 13 on the rear end of the side frames.

A foot operated, so-called tension lever 14, is pivoted, as shown, on the upper rear tie-rod 5, and at its short rear end, is provided with a transverse head 14^a, that also moves freely on the bolts 12, but normally rests upon nuts 15, applied to the lower ends of said bolts, as shown. The said head 14^a is loose in respect to the tension lever 14, but nevertheless, operates as a part thereof. Quite heavy coiled springs 16 are placed around the bolts 12, and are interposed between the heads 8^a and 14^a. The said head 14^a affords a base of re-action for the springs 16, and the said springs yieldingly hold the rear end of the anvil bar 8 up to its normal position. This normal position of the rear end of the anvil bar 8 may be varied or limited in different ways, but as shown, and for a reason, this is accomplished by short coiled springs 17, placed around the bolts 12 and interposed between the head 8^a and the lugs 13. The front end of the tension lever 14 is shown as depressed and terminated in a foot piece 18.

Journaled at its rear end to the crank of the shaft 6, is a long so-called crank bar 19, which at a point near its front end is pivotally attached to a supporting link 20, the upper end of which is pivotally connected to the bearings 3 of the side frames. To the extreme front end of the crank bar 19, is applied a hardened roller 21, that coöperates with the anvil block 7 to draw the sharp edges, as hereinafter described.

Operation: When the crank of the shaft 6 moves forward, the roller 21 will, under the coöperating action of the link 20, be moved forward and upward, and farther away from the anvil block 7, in the use of the devices to sharpen or draw out edges on plow shares, disks, or other thin bodies. The said body preferably has the point

brought to a red heat and is then placed on the anvil block 7 under the roller 21, so that under each rearward and downward movement of said roller, the edge of said body will be drawn out and sharpened. The anvil block may be raised and lowered by adjusting the eccentric 9. Obviously, the said eccentric 9 may be set and locked in different adjustments by the latch lever 10 and coöperating lock segment 11. Under excessive pressure produced on the anvil block and the plow shares or other articles which are being sharpened by the drawing action of the roller 21, the rear end of the anvil bar 8 will be pressed slightly downward, against the tension of the springs 16. This yielding action prevents breaking of the parts and also distributes the drawing action over a number of roller movements, instead of causing the said roller to do excessive work at any one operative movement. The tension of the springs 16 may be variably set by adjustments of nuts 15 on the bolts 12; or when it is desired to increase the tension of the springs only temporarily, this may be accomplished by stepping on the foot piece 18 of the tension bar 14, and thereby causing the said lever to raise the head or bar 14^a. This raising of the head or bar 14^a will also slightly raise the rear end of the anvil bar 8, and the effect of this, is to rock the anvil block 7 toward the roller 21, and to increase the inclination thereof, so that the roller, under an operative movement, will come with greater force against the anvil, or in opposition to the anvil.

What I claim is:

1. In a machine of the kind described, the combination with a support and bar provided with a drawing head and mounted on said support, and means for imparting a limited endwise movement thereto, of a pivoted anvil bar having an anvil with which said drawing head coöperates, and yielding means for holding said anvil bar in normal position.

2. In a machine of the kind described, the combination with a support and a crank and a link mounted thereon, and a bar carried by said crank and link, and provided, at one end, with a drawing head, of an eccentric shaft adjacent to the head equipped end of said bar, an anvil bar pivoted on said eccentric shaft, and provided with an anvil and coöperating with the said drawing head, and a spring operative on said anvil bar to yieldingly hold the same in a normal position.

3. In a machine of the kind described, the combination with a support and a crank and a link mounted thereon, and a bar carried by said crank and link, and provided, at one end, with a drawing head, of an eccentric shaft adjacent to the head equipped end of said bar, an anvil bar pivoted on said eccentric shaft, and provided with an anvil and coöperating with the said drawing head, and a spring operative on said anvil bar to yieldingly hold the same in a normal position, and means for shifting the base of re-action of the said spring substantially as described.

4. In a machine of the kind described, the combination with a support and a crank and a link mounted thereon, and a bar carried by said crank and link, and provided, at one end, with a drawing head, of an eccentric shaft adjacent to the head equipped end of said bar, an anvil bar pivoted on said eccentric shaft and provided with an anvil and coöperating with the said drawing head, and a spring operative on said anvil bar to yieldingly hold the same in a normal position, and means comprising a lever, pivoted to said support and having a foot piece at one end, and a head at its other end.

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

CHARLES O. HALLING.

Witnesses:

O. K. OPJORDEN,

GUDRUN OPJORDEN.

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