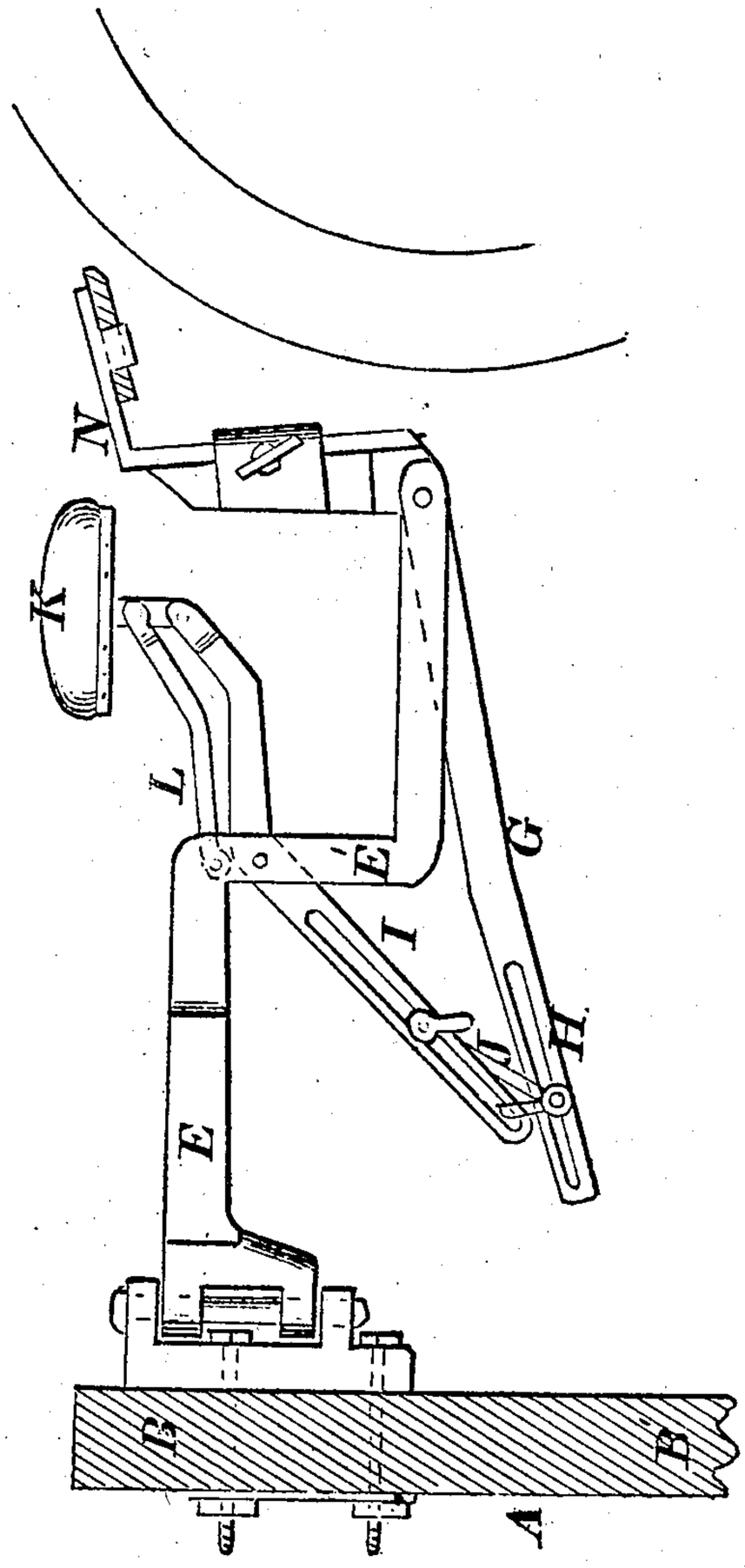
G. C. EATON.

GRINDING EDGE TOOLS.

No. 37,616. PATENTED FEB. 10, 1863.



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G. C. EATON, OF LOCKPORT, NEW YORK.

IMPROVEMENT IN GRINDING EDGE-TOOLS.

Specification forming part of Letters Patent No. **37,616**, dated February 10, 1863.

To all whom it may concern:

Be it known that I, G. C. EATON, of Lockport, in the county of Niagara and State of New York, have invented new and useful Improvements in Grinding Apparatus for Edge-Tools; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top view, and Fig. 2 is a side view.

Like letters refer to like parts.

The nature of my invention relates to an apparatus for holding the tool upon a grindstone, whereby a greater or less pressure can be given by means of a system of levers, at the pleasure of the operator, said levers being adjustable for that purpose; also, in the adjustment of the apparatus for different-sized stones, to compensate for the changes incident to wearing away of the stone, and to the adjustment for different thicknesses of tools.

A represents a post which stands upon or is attached to a movable platform, so that it can be moved nearer to the stone as the stone wears away. In this post is a slot, B B′, as indicated by the dotted lines, through which the hinge-bolts *c c* pass, so that the stationary part of the hinge D can be moved up and down on the post to accommodate the height of the stone.

E represents an arm hinged to D by the pin D′, thus allowing the arm to swing around in a horizontal direction, as indicated by the lines F F in Fig. 1. The arm E is slotted from *e* to *e′*, the angle *e′* being some five or six inches lower than the point *e*. The middle part, E′, is vertical, while the outer end, E″, is horizontal. At *e′* a bent lever is attached to the section E″. The long arm G of this lever works between the pieces composing section E″, and has a movement from G to G′. The long arm of the lever G is slotted, as seen at H, for purposes presently to be described.

I represents a lever that has its fulcrum at *i*. The long arm of this lever is also slotted, as seen at I′, and the two slots H and I′ are united by a connecting-rod, J, which is adjustable by means of the thumb-screw J′. By adjusting this connecting-rod nearer to or farther from the ends of the levers G and I, a greater or less range of motion and pressure are obtained for the short arm. The short arm of the lever I carries the seat K, which is provided with a pin-joint, and is thereby pivoted to the end of the lever, as seen at K′, and for the purpose of keeping the seat in an upright position I attach a stay, L, one end of which is pivoted to the arm E at *e* and the other end is pivoted to the standard of the seat K at L′. The distance between *e* and L′ and *i* and K′ being equal, the articulation is free, and during the upward and downward movement of the seat from K to K″ the seat K maintains the same relative position. The short arm of the lever G turns upward at nearly right angles, as seen at G″, and has a socket, M, and set-screw M′. N represents an arm, one end of which fits into the socket M, where it is secured at any desired point by means of the thumb-screw M′. The free end of this arm extends outward in a horizontal direction and carries in its end a block, O, which presses the tool to the face of the stone, which is represented at P, Figs. 1 and 2. The arm N can be set at any desired point to accommodate the thickness of the tool.

In grinding, the tool is placed between the block O and the stone P, the operator sitting astride of the seat K, and can in that position exert any desired pressure upon the tool in consequence of the arm G being longer than the arm G″. By adjusting the connecting-rod in the slots H and I′ the pressure can be regulated.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The adjusting-slot B B′ in the post A, the hinged arm E, levers G and I, connecting-rod J, stay L, seat K, and slide N, arranged and operated as and for the purpose set forth.

G. C. EATON.

Witnesses:

A. T. PRENTICE,

G. V. RIGGS.