No. 614,822. Patented Nov. 29, 1898.

W. BAUR & W. C. REUSS.

CLIPPER SHARPENER.

(No Model.) (Application filed Feb. 11, 1897.)

Fig 1

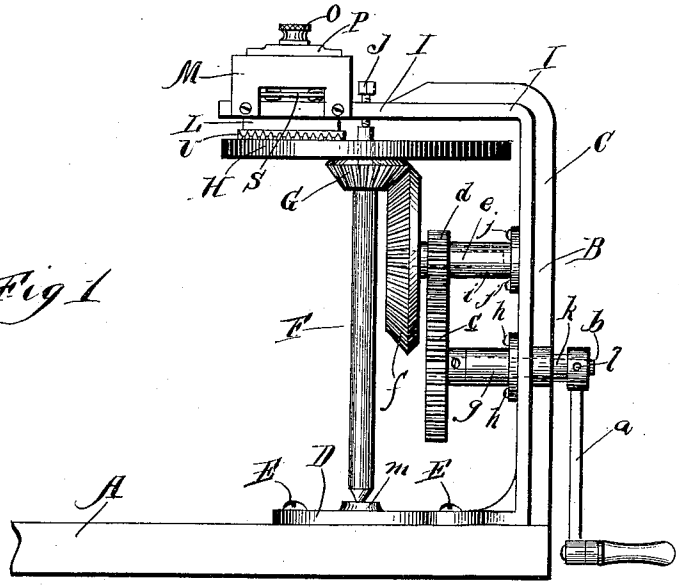


Fig 2

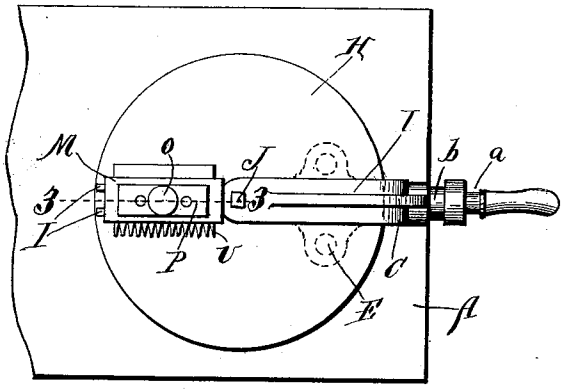


Fig 3

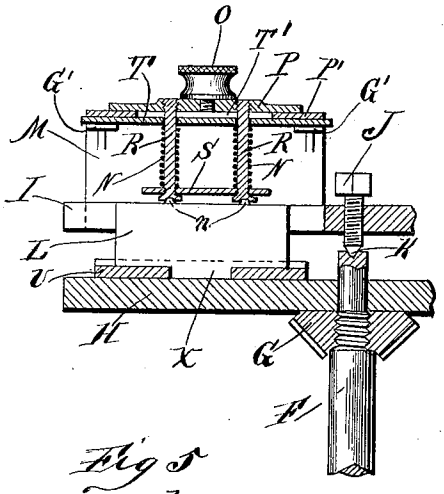


Fig 4

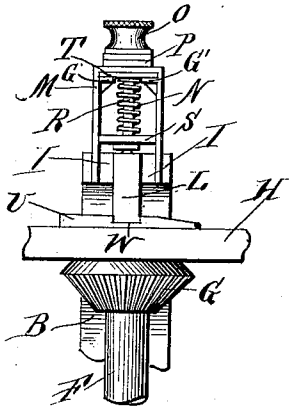
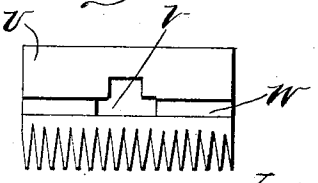


Fig 5



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UNITED STATES PATENT OFFICE.

WILLIAM BAUR AND WILLIAM C. REUSS, OF CHICAGO, ILLINOIS.

CLIPPER-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 614,822, dated November 29, 1898.

Application filed February 11, 1897. Serial No. 622,951. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM BAUR and WILLIAM C. REUSS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Clipper-Sharpeners, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a top or plan view of the same. Fig. 3 is a vertical sectional view of the upper portion of the machine, taken on the line 3 3 of Fig. 2. Fig. 4 is a front elevation of the upper portion of the machine as shown in Fig. 1, looking to the right. Fig. 5 is a view of a clipper-blade detached.

The object of our invention is to make a clipper-sharpener adapted to receive and hold a clipper-blade in contact with a grinding-surface to sharpen the clipper.

We have invented a machine that can be used by any unskilled person, who detaches from the clipper the clipper-blade and places it in a holder in the machine, which holder holds the blade in yielding contact with the grinding-surface, the operator simply turning a crank to give motion to the grinding-surface of the clipper-blade.

In the accompanying drawings, A represents the base of the clipper-sharpener; B, an upright piece, preferably made of metal and strengthened by a rib C. This upright is firmly secured to the base by a plate D and screw-bolts E.

F is a vertical shaft carrying a beveled gear-wheel G and a horizontal grinding-disk H, which is rigidly secured to the shaft and revolves with it. The upper portion of the upright B has a horizontal arm I, which carries a set-screw J, with a conical end, which makes the upper bearing K for the shaft F. This arm I is bifurcated at its free end, so that the holding-block L will pass between the two members of the arm. The arm I also carries a frame M, in which are secured the springs N.

O is the thumb-piece or knob attached to a plate P, to which are secured two vertical rods R, which are secured at their lower ends to a plate S. The coiled springs N surround these vertical rods attached to the plate S, their upper ends resting against the plate T at the top of the frame M. The plate T and the plate P move together longitudinally, sliding one above and one below the top plate P′, in which there is a slot T′ to allow the pins R to pass, which connect the plate T with the plate S. There are also guides G′, on which the plate T rests and on which it can move back and forth. This enables the operator to move the blade back and forth on the sharpening-disk as it is being sharpened. The purpose of the springs is to cause a yielding pressure to be applied on the top of the holding-block L, which holds the clipper-blade U in contact with the grinding-disk H. The clipper-blades have a notch V and a groove W, and we make the holding-block L so that its edge fits the groove W and the projection X passes through the notch V. The holding-block and the clipper-blade are then passed between the bifurcated ends of the arm I under the plate S. The springs above said plate hold the clipper-blade against the surface of the grinding-disk.

a is a crank, on the end of whose shaft *b* there is a cogged wheel *c*, which engages with the cogged wheel *d*, which is rigidly secured to a shaft *e*, which carries a beveled wheel *f*. This beveled wheel engages with the beveled pinion G and revolves the shaft F, which carries the grinding-disk H. The shaft *b* has a long bearing *g*, which is secured to the upright B by screw-bolts *h*. The shaft *e* has a long bearing *i*, which is secured to the upright B by screw-bolts *j*. The shaft *b* passes through the upright B, and there is a washer *k* between the crank *a*, which is secured to the shaft by the pin *l*, and the upright B. This washer and the hub of the cogged wheel *c* hold the shaft in its bearing-box *g*. The lower bearing or step *m* of the shaft F is upon the bottom plate D of the frame of the machine, as clearly shown in Fig. 1, and the shaft F is held between the step and the bearing-screw J. By inserting the shaft *e* in its bearing before the vertical shaft F is put into position the beveled gear-wheels hold this shaft in its bearing-box *i*.

The operation of our machine is as follows: The clipper-blade U which it is desired to sharpen is taken from the clipper, and the holding-block L is placed in position on the clipper-blade, and together they are passed over the grinding-disk H, the holding-block

L resting between the two members of the bifurcated arm I under the pressure-plate S, the lower side of the clipper-blade resting upon the grinding-disk H, as clearly shown in Figs. 3 and 4. We have shown on the top edge of the holding-block L two lugs *n n* and also two small sockets in the lower ends of the pins R R, which rest on those lugs to retain the holding-block, which holds the clipper-blade more securely in position while it is being sharpened. When the clipper-blade is placed in position, the operator then turns the crank, which revolves the grinding-disk H and sharpens the clipper-blade.

It is important in sharpening clipper-blades to have the blade slightly concave between its ends, so that the ends of the blades when placed in the clipper-frame will touch first, and then by securing it at its center it will always have a firm contact throughout its length. To grind the clipper-blade in this form, we make the surface of the grinding-disk which contacts with the clipper-blade slightly beveled upward from near its periphery toward its center, or, in other words, slightly beveled upward on a radial line with the disk. This curvature, however, is so slight that we have not attempted to illustrate it in the drawings. As the clipper-blade is held on a radial line relatively with the disk, this slightly-curved surface of the disk keeps the clipper in its slightly-concave form, which is important in sharpening clipper-blades.

It will be observed that the clipper-blade holder in holding the clipper-blade in position to be ground can be held either by a spring of any well-known kind or by such other device as will admit of its having a yielding pressure. It is essential that it should be held firmly in contact with the grinding-disk, but at the same time have a yielding pressure against the disk, so that it will adapt itself to the sharpening-surface. We make the grinding-disk of any material adapted to grind or sharpen edge-tools.

Having fully described the construction and operation of our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a grinding implement, the combination of the grinding-disk and means for rotating it, with the slotted arm I carrying the casing M, and a sliding frame mounted in said casing for holding the blade and reciprocating it over the surface of the disk, substantially as described.

2. In a grinding implement, the combination of the grinding-disk and means for rotating it, with the slotted arm I carrying the casing M, in which are mounted the plates P and T yieldingly connected by the spring-surrounded posts R, and mechanism for holding the blade to be ground, substantially as described.

3. In a grinding implement, the combination of the grinding-disk and means for rotating it, with the slotted arm I carrying the casing M, in which are mounted the plates P and T yieldingly connected by the spring-surrounded posts R coöperating with the plate L for holding the blade to be ground, substantially as shown and described.

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