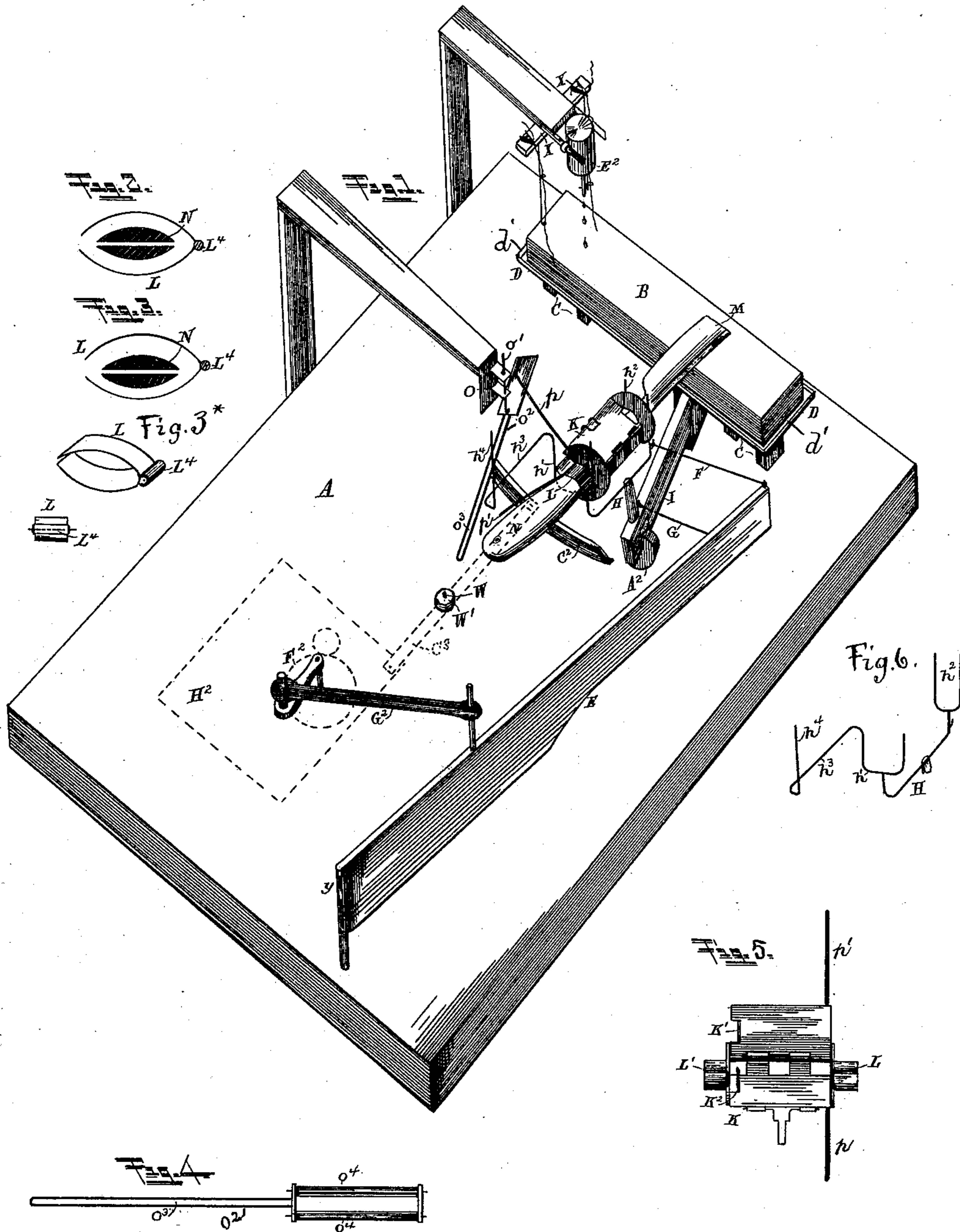


(No Model.)

E. WYTTEBACH.
MACHINE FOR HONING RAZORS.

No. 376,221.

Patented Jan. 10, 1888.



Witnesses
Will T. Norton.
Josiah Bedon.

Inventor
Edward Wyttenbach.
By his Attorneys John F. Hatfield & Son

UNITED STATES PATENT OFFICE.

EDWARD WYTENBACH, OF CARLISLE, KENTUCKY.

MACHINE FOR HONING RAZORS.

SPECIFICATION forming part of Letters Patent No. 376,221, dated January 10, 1888.

Application filed July 26, 1886. Serial No. 209,125. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WYTENBACH, of Carlisle, in the county of Nicholas and State of Kentucky, have invented certain new and useful Improvements in Machines for Honing Razors; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is the rapid and efficient honing and sharpening of razors, &c., by mechanism, as distinguished from the customary mode of honing by hand only.

Figure 1 is a perspective view of an apparatus embodying my invention; and Figs. 2, 3, 3*, 4, 5, and 6, detail views.

The mechanism or apparatus is supported on a bed piece or board, A, and the hone B is firmly held to place on such bed-piece by means of any appropriate frame, upright pieces or supports, C, a trough, D, being provided beneath the hone to catch any oil from the same and prevent its spreading over the bed-piece. The hone is placed in or on this trough, which may be constituted, as shown, by a ledge, d' , surrounding and projecting slightly above the piece on which the hone rests.

The oil required for the hone is supplied from an inverted oil-can, E^2 , which, preferably, has an adjusting-cock to regulate the quantity supplied to the hone, and which, like sewing-machine oiling-cans, may have a flexible end by means of which the oil may be forced out of its discharging-spout only when desired by mere pressure on such flexible end.

E is a lever-bar pivoted at y , and which serves to move the razor; and F and G are links or rods, preferably of wire, centered or pivoted on such lever bar, and also centered or pivoted on the devices which support or carry the open razor. The lower one, G, connects with a vibrating arm, I, which carries the razor-supporting carrier H, and the upper one, F, connects with this carrier H. This carrier H may be made of wire, and it turns on a center pin or post on the arm I, and has yokes or branches $h' h^2$, to receive the frame K, which clasps or holds the razor both by its

handle and by its blade, and in which frame the carrier loosely lies. It also has a rear extension, h^3 , with an upturned end, h^4 , for a purpose presently to be explained.

K is a hinged frame which clasps the razor and its blade, and it is loosely lodged in the cradle yokes or branches $h' h^2$, so that it may be turned over and back again during the operation of the machine, in order to turn over the razor while honing the same.

The razor-handle is held by a ring-like portion, L, at one end of this frame, and the shank of its blade is similarly held by the opposite end of the frame, which may have inward projections, $K' K^2$, for this purpose. The portion L, and also the portion L' , of this razor-clasping frame K, are made oval or round, in order to allow them to be turned or rolled over forward and back, alternately, in their respective yokes $h' h^2$, which thus serve as a sort of journal-bearing.

If desired, the razor may be held more firmly by means of a screw which may tighten up the part L, through which the handle passes.

To further facilitate the turning over of the razor and to lessen the friction, a small friction-roller, L^4 , may be secured on the part L. The part L is open at one side.

The handle of the razor is indicated at N, and its blade at M. The handle, as already stated, is steadied in the frame K by the part L, which is made as a spring clasp, so that when the handle is slipped into it it will be firmly held. A screw may be employed to control the tightening.

The means for turning the razor over from one side to the other during the process of honing are as follows:

O is a support, in which is held a vertical rod, o' , which turns in its bearings and carries at its lower end a horizontal vibrating slotted bar or rod, o^2 . Through the slot o^3 of this bar projects an upturned end, h^4 , of the extension h^3 , which thus causes the slotted rod o^2 to vibrate. The opposite end or arm of this rod o^2 during such vibrations comes in contact, alternately, with the two rods $p p'$, which project from the frame K or ring L, and are thus caused to turn this frame and the razor over from side to side during the operation of honing.

A^2 is a wheel on the vibrating arm I, and

which, during the traverse of the frame K, runs over the vertically adjustable arched track C². When the edge of the razor is a straight edge, this track is lowered, and when the edge is rounding from heel to point the track is raised to accommodate it and make it hone regularly and evenly.

F² is a driving crank-wheel, having an arm, G², pivoted or connected therewith, and the outer end of this arm G² is jointed or pivoted to the lever-bar E for imparting the requisite reciprocating or traversing movements to the frame K and to the razor.

Clock-work or other motor mechanism for driving the machine, through the instrumentality of wheel F², may be located at H², or at any other convenient point.

W is a screw and W' a nut, whereby the track c² may be elevated or lowered, this track projecting upward through a slot in the table and the nut W' raising or lowering it by means of the hinged or pivoted bar C³ beneath the table, and to which the track is attached.

Attached to the same support on which the oil-can E² is held is a clamping bar or jaw, X, for holding a pendent hair in the path of the razor's edge while the latter is being honed, and thus serving to inform the attendant when the razor has been sharpened sufficiently to cut such hair.

The front yoke, h², is a deep one, and the front ring, L', of the razor-carrier does not rest on its bottom like the rear ring, L, does on its yoke. This leaves the blade end of the razor to drop, by gravity, easily upon the hone, so that if the hone were removed the blade would drop upon the trough. This, while affording ample freedom for the blade, prevents its being borne down forcibly on the stone, and the needed adjustments can be made at the handles.

Figs. 2 and 3 show different-sized rings for holding the razor-handles. In Fig. 2 the handle is shown as in the center of the ring, and in Fig. 3 it is more at one side of the ring. In Fig. 3* the ring or clasp L is shown detached and in perspective.

The thumb-screw permits the adjustment of a handle of any size and securing it in the center. The unslotted end of vibrating bar o² may, as seen in Fig. 4, be provided with friction-rollers o⁴—one on each side—to enable it to permit the razor-blade to turn and fall easy or light on the hone.

In Fig. 5 is shown the set-screw L³ and its connections.

In Fig. 6 the razor-frame is shown opened.

In Fig. 7 is shown the cradle-yoke detached.

The operation is as follows: The wheel F² being revolved, motion is thus imparted to the arm G², which actuates the bar E, which, through the agency of the rods F and G, gives the motions to the carrier, and consequently to the razor across the hone. When

the handle of the razor reaches about the center of the bed or table, one of the rods, p or p', comes in contact with the short arm of the slotted rod o², and its slotted end, through which projects the upturned end h' of extension h³, being thus swung around, causes its short arm to compel the rods p and p' alternately to turn over the razor-frame and razor. The movements are light, and delicate, but true. There is no undue pressure or strain on the razor-blade, and no violent action on its edge can take place. Its motions are almost precisely those given by experts in razor-sharpening. The sharpening is effected surely and automatically, all that is needed being to adjust the razor in its frame, place the latter in the carrier, and start the machine.

Hundreds of razors may be sharpened per day, and it tends to open a new branch of industry.

It will readily be seen that my machine may be driven by hand or by a treadle or foot power; but I prefer to operate it by any well-known automatic means.

I claim—

1. The means, substantially as described, for imparting to the razor its traversing movements, consisting, essentially, of the combination, with a prime motor, of a vibrating bar, E, a vibrating carrier connected therewith, and a razor-holding frame supported by such carrier.

2. The means, substantially as described, for turning over the razor from side to side, consisting, essentially, of the combination, with a vibrating carrier provided with extension h³, having an upturned end, h', of a razor-holding frame supported thereby and provided with rods p p', and the pivoted slotted bar o².

3. In combination with a base or bed piece, A, a raised hone support or frame, a hone, an oil-dropping device located above the hone, and a ledge around the hone-support, all substantially as and for the purposes set forth.

4. The combination of a hone-support, the clamps attached thereto and arranged above the hone, and the hair or hairs secured within the clamps and depending across the path of the razor upon the hone.

5. In combination, a prime motor, a stationary hone, a vibrating carrier, a razor-holding frame carried thereby, and automatic mechanism, substantially as set forth, for turning over the razor during its traversing motions.

6. In a razor-sharpening machine, a vertically-adjustable track, combined with a carrier in which the razor is supported, as and for the purposes set forth.

EDWARD WYTENBACH.

Witnesses:

CHAS. LYTLE,
JAMES S. HUFF.