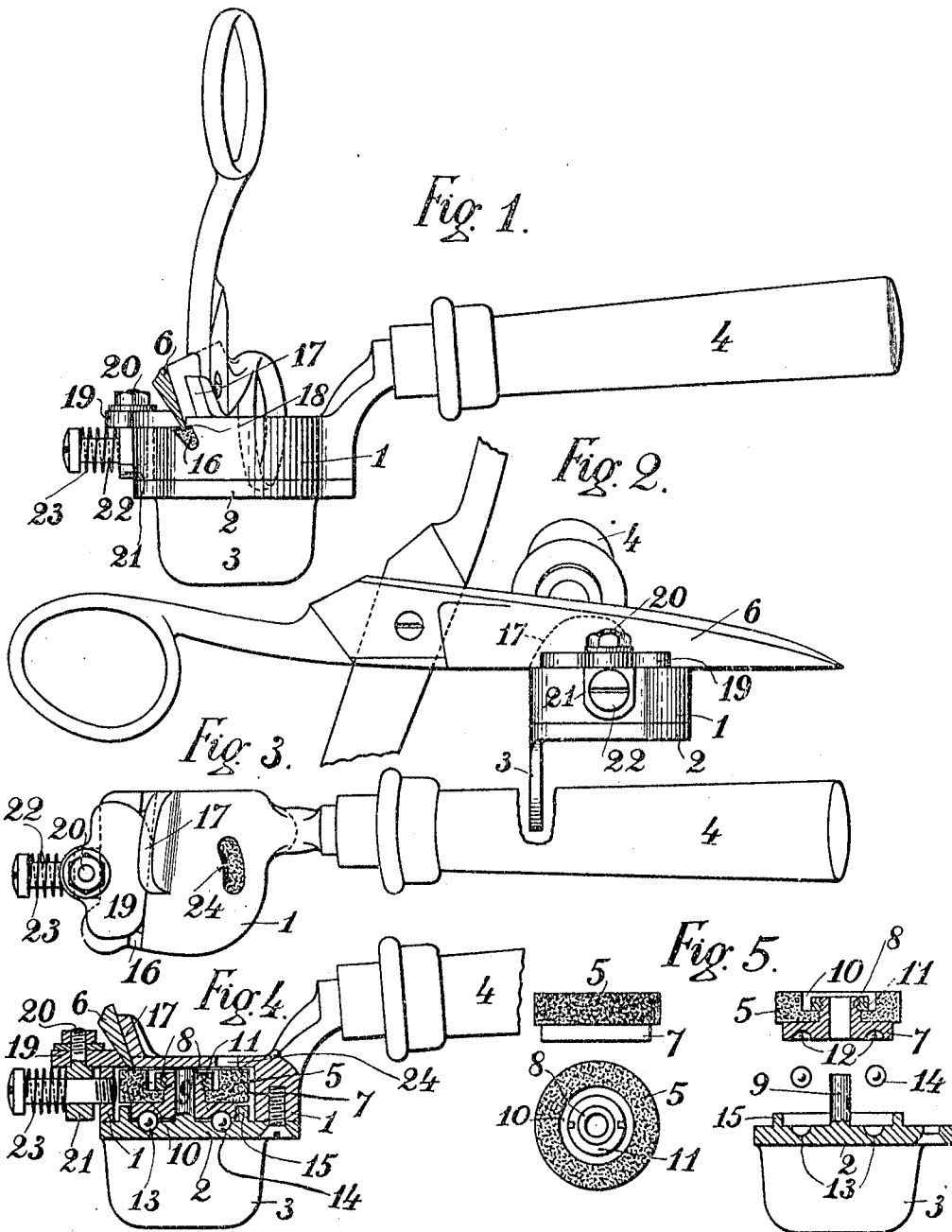


J. HOLT.
SHARPENER FOR SCISSORS, KNIVES, AND THE LIKE.
APPLICATION FILED JULY 30, 1909.

954,289.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.



WITNESSES

Robert Emmett,
Ed. Hesler

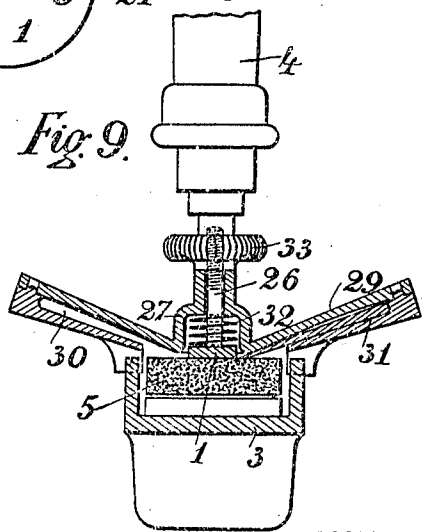
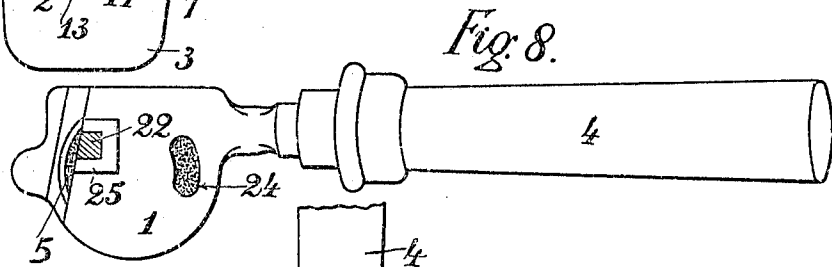
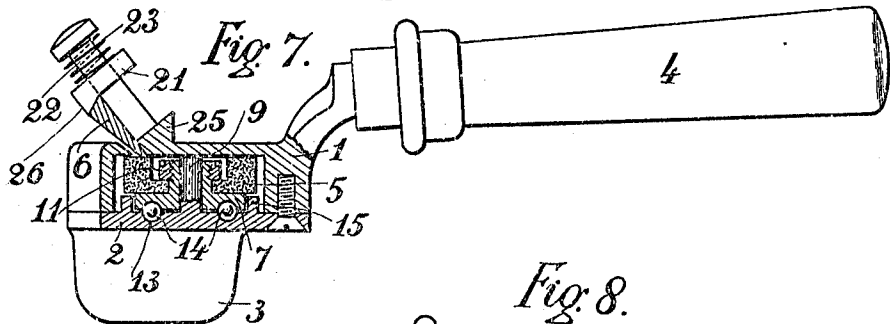
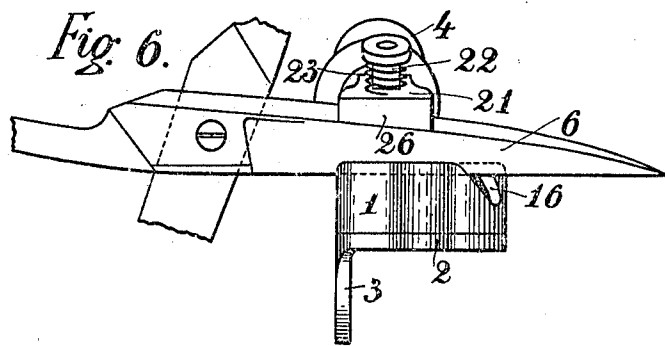
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WITNESSES

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UNITED STATES PATENT OFFICE.

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SHARPENER FOR SCISSORS, KNIVES, AND THE LIKE.

954,289.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed July 30, 1909. Serial No. 510,387.

To all whom it may concern:

Be it known that I, JOHN HOLT, a subject of the King of Great Britain, residing at 97 Frederick road, Aston, near Birmingham, England, have invented certain new and useful Improvements in Sharpeners for Scissors, Knives, and the Like, of which the following is a specification.

This invention relates to sharpeners for scissors, shears, knives and like grinding instruments and appliances, and has for its principal object to provide an improved form of sharpening or setting device or appliance which is simple in construction and easy and efficient in operation, and by which the blade can be quickly and evenly ground or sharpened by holding the appliance in the hand, and supporting the same upon the edge of a table or the like. Further, according to this invention, the sharpening medium is arranged so that the surface is uniformly worn down by the sharpening of the blades, without any unevenness.

The improved appliance consists essentially of a rotatable grinding or sharpening wheel arranged within a holder or carrier, and across the top face of which the edge of the blade is adapted to be traversed to and fro within an inclined guide slot or race in the holder causing the wheel to revolve and the blade to be sharpened.

Figure 1 of the accompanying drawings represents a side elevation of an appliance constructed in accordance with this invention, and particularly applicable for the sharpening of ordinary scissors, a blade being shown in position within the guide slot. Fig. 2 is a front elevation of the appliance. Fig. 3 shows same in plan, while Fig. 4 represents a longitudinal section through the sharpener, showing the arrangement and method of mounting of the grinding or sharpening wheel. Fig. 5 shows said wheel and the base of the casing or holder separately. Fig. 6 is a front view of a modified form of sharpener more particularly applicable for the sharpening of barbers' and like scissors having a sharp-angled bevel shearing face. This view also shows a modified device for automatically keeping the blade up against the side of the slot, and insuring the reciprocation at a constant angle or inclination. Fig. 7 represents a longitudinal section through said appliance. Fig. 8 is a top plan view, partly in section. Fig. 9

shows, in section a sharpener constructed in accordance with this invention, and particularly applicable for the sharpening of knives.

Referring to the sharpener illustrated in Figs. 1 to 5 of the drawings, the improved appliance comprises a hollow body part or casing 1, fitted with a screwed-on (or otherwise secured) base-plate 2, adapted to rest upon the top of the edge of a table or the like, said base-plate being provided at one side with a vertically disposed and downwardly directed web or flange 3, adapted to bear against the side of said table. The casing 1 is provided with a suitable handle 4 for supporting the device and for holding it in position upon the table or other support.

Mounted within the interior of the casing is a rotatable and horizontally arranged grinding or sharpening wheel 5 made of emery, carborundum, stone or other sharpening medium, and across the top face of which, as hereafter described, the edge of the blade to be sharpened (as represented by 6) is adapted to be traversed to and fro causing the wheel to rotate and the blade to be sharpened, said wheel may, if desired, be made of steel and the top face formed with a "file" or roughened surface. This grinding or sharpening wheel is mounted upon ball bearings, and when made of emery or other non-metallic substance as represented, same is carried upon a metallic base or table 7 provided with a central hollow boss 8 passing through the center of the wheel, and forming a bearing bush for a central vertical pivot pin 9 carried by the base-plate 2 of the casing. The middle part of the grinding-wheel 5 is recessed or hollowed out at 10, leaving a broad annular rim upon which, as hereafter described, the edge of the blade is adapted to bear, while the upper projecting end of the bush 8 is externally threaded, and fitted with a nut 11 which is tightly screwed down against the bottom of the recess 10 so as to securely clamp the wheel 5 on to the said base or table 7. The underside of the base 7 is formed with an annular ball race 12, while the base plate 2 is formed with a corresponding race 13 and a ring of anti-friction balls 14 is interposed between these two races. An annular rib 15 is provided for the purpose of preventing any spent emery from getting to the balls

and their working race. Across the top of the casing 1 and immediately over one side of the top surface of the wheel 5, a transverse guide slot or race 16 is made, extending from side to side, and adapted to receive the blade 6 of the scissors or the like, said slot being slightly inclined from the vertical.

Upon the top of the casing, and running along one edge of the slot 16, is a transverse guide or bearing flange 17, inclined to the angle at which the scissor blade should be reciprocated so as to give the required angle to the shearing face. When the blade is inserted into said slot 16 and the broad or inner face pressed up against the flange 17 (by the means hereafter described) the bevel shearing face comes horizontal, and bears uniformly upon the top face of the rotatable grinding wheel. When the blade is drawn backward and forward within the slot, and at the same time pressed downward, the pressure upon the wheel 5 and the friction between the two parts, will cause said wheel to revolve, and thus a fresh portion of the surface will continually be brought under the blade, so that the wear of the grinding wheel will be uniform. This effect is further insured by the recessing of the middle part 10 of the wheel as previously described, so as to leave a broad annular rim upon which the blade bears.

The slot 16 is preferably arranged so as to come over the wheel 5 near the middle of same, the blade 6 bridging across the said recess 10. When said blade is moved backward and forward and the wheel rotates, the face of the annular rim of said wheel moves under the edge of the blade nearly at right angles, and this, in addition to the to and fro movement of the blade, causes the latter to be rapidly sharpened. At the bottom of the opposite ends of the slot, the sides upon which the blade bears may be recessed or gapped out at 18 so as not to contact with the sharpened edge during the to and fro movement.

In order to keep the blade 6 flat against the bearing or guide flange 17, and thus insure the even sharpening of the shearing edge, a spring-pressed sliding keeper or plate 19 is provided, whose inner beveled edge continually presses against the outer face of the blade. Said plate is pivoted upon a shank 20 carried by a sliding part 21 loosely mounted upon a headed shank 22 screwed into the front end of the casing 1, said part 21 being acted upon by a coiled spring 23. A hole 24 may be formed in the top of the casing 1 for the inspection of the grinding face, and for oiling purposes.

Referring to the construction shown in Figs. 6 and 8, in which a sharpener for barbers' and like scissors is shown, the slot 16 is made more oblique than in the previously described form, so as to give the required

sharp angle to the shearing edge of the blade. The modified means for insuring the reciprocation of the blade at a constant angle, and which may be equally applied as an alternative device to the appliance shown in Figs. 1 to 5, comprises a headed square shank 22 carried by an oblique raised part 25 of the casing 1, and having slidably mounted thereon a non-rotatable plate 21 whose upper face is acted upon by a coiled spring 23 surrounding said shank, which constantly tends to force said plate against the part 25. The front edge of this plate 21 is provided with a downward lip 26 beveled upon its inner face. The scissor blade 6 is introduced between the plate 21 and the wheel 5 so that the bevel face of the lip 26 engages with the top bevel edge of said blade, and thus keeps same at a constant angle, moreover the pressure of the spring 23 causes the edge of the blade to be automatically forced down on to the wheel. As the blade is reciprocated, the plate rises and falls upon the shank 22 owing to the increasing width of said blade.

Fig. 9 of the drawings represents an appliance suitable for the sharpening of knives. In this construction, carried by the casing 1 is a vertical threaded pin 26 upon which can slide an adjustable frame part 27 extended at its opposite sides into the inclined extension 28, 29 provided with longitudinal slots 30, 31. The slots are inclined in opposite directions as shown, and extend into the interior of the casing immediately above the top face of the rotatable grinder 5. The knife blade is first inserted in the one slot so that its edge comes upon the grinding wheel, and is reciprocated to and fro so as to grind the one side of said edge, and is then removed and placed in the other slot so as to grind the other side. The frame 27 with extensions 28, 29 is normally forced upward by a spring 32, and its height above the grinding wheel is controlled by a nut 33 which bears upon the top of the boss or neck part surrounding the pin 26. By this means the edge of the knife can be adjusted to the correct plane of the wheel. A central vertical handle 4 is employed. A web 3 is employed as before for taking against the side of the table or the like.

It is obvious that the whole of the above described appliance may be clamped to the table or the like instead of being held by hand. Also instead of mounting the grinding wheel or ball bearings, it may be arranged between a pair of pivot pins, or any other method of anti-frictionally mounting the wheel may be employed. Further, instead of fixing the sharpener and reciprocating the blade, the latter may be held stationary, and the sharpener reciprocated by hand.

Having fully described my invention, what I desire to claim and secure by Letters Patent is;—

1. A device for sharpening scissors, shears, knives and like cutting instruments, comprising a casing, a grinding wheel horizontally disposed in the casing and rotatably mounted therein, the casing having an opening extending entirely across its upper face, and means located on the exterior of the casing and adjacent the opening for causing the edge of a cutting instrument passed into the opening to bear upon the adjacent flat face of the wheel.

2. A device for sharpening scissors, shears, knives and like cutting instruments, comprising a casing, a grinding wheel horizontally disposed in the casing and rotatably mounted therein, the casing having its upper wall provided with a transverse slot extending entirely thereacross and having inclined walls, and a spring pressed device arranged on the exterior of the casing adjacent the slot, for holding the edge of a cutting instrument passed into the slot against the upper face of the grinding wheel.

3. A device for sharpening scissors, shears, knives and like cutting instruments, comprising a casing having a central post, a member having a central boss rotatably surrounding the post and an annular portion circumscribing the boss, a grinding wheel fitted over the boss, resting directly upon the annular portion and having a central recess, a nut fitted in the recess and threaded upon the boss to hold the grind-

ing wheel against the annular portion, and ball bearings interposed between the latter and the base, the casing having a slotted opening extending entirely across its upper face and through which the cutting instrument may be inserted to bear with its edge against the upper surface of the grinding wheel.

4. A device for sharpening scissors, shears, knives, and like cutting instruments, comprising a casing, a grinding wheel horizontally disposed in the casing and rotatably mounted therein, the casing having its upper wall provided with a slot extending entirely thereacross and having inclined walls, an inclined flange projecting from the upper wall of the casing, parallel to the slot and overhanging the same, the flange serving as a guide for the blade passed into the slot, a shank projecting laterally from the casing, a part slidably mounted on the shank and having a plate extending parallel to the slot and disposed opposite to the flange and a spring surrounding the shank and bearing against said part to force the latter, and therewith the plate, inwardly, whereby the plate also bears against the blade passed into the slot.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN HOLT.

Witnesses:

ARTHUR SADLER,
HARRY OSMOND PRATT.