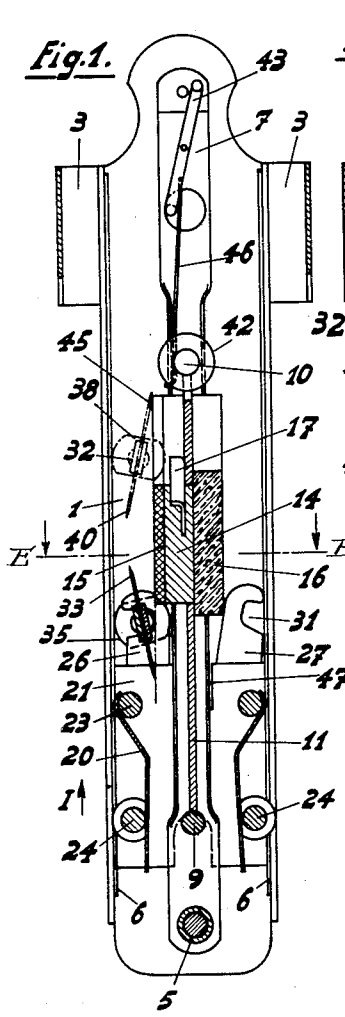
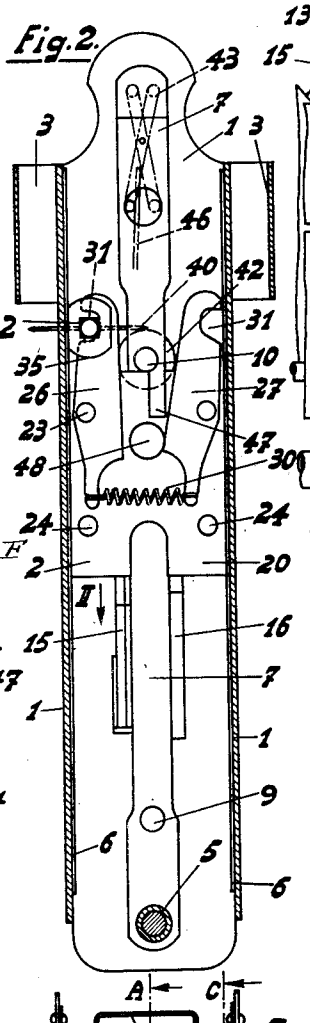
W. BARSCH.

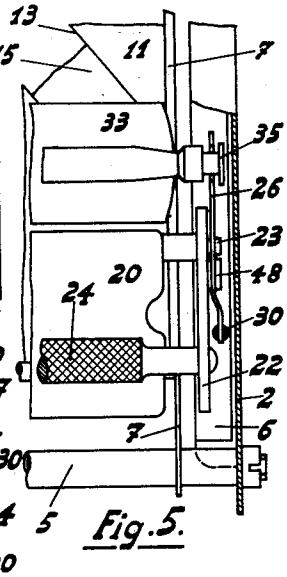
DEVICE FOR SHARPENING THE BLADES FOR SAFETY RAZORS.

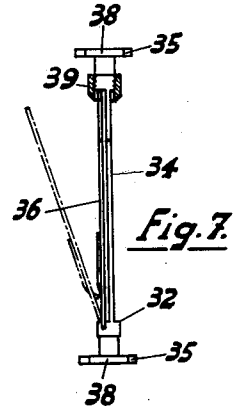
APPLICATION FILED JULY 18, 1919.

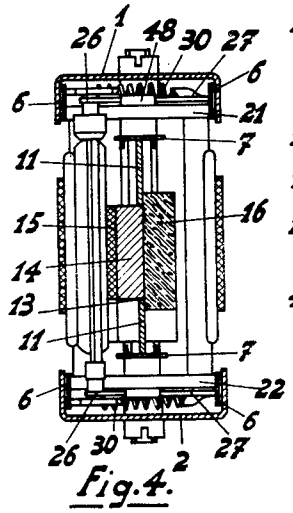
1,399,241. Patented Dec. 6, 1921.

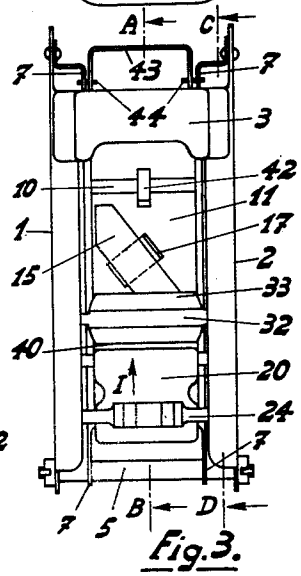


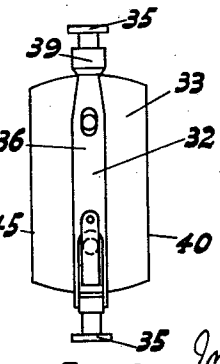












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UNITED STATES PATENT OFFICE.

WILHELM BARSCH, OF LUCERNE, SWITZERLAND.

DEVICE FOR SHARPENING THE BLADES FOR SAFETY-RAZORS.

1,399,241. Specification of Letters Patent. Patented Dec. 6, 1921.

Application filed July 18, 1919. Serial No. 311,715.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that I, WILHELM BARSCH, engineer, a citizen of the Swiss Confederation, residing at Brambergstrasse No. 48, Lucerne, Switzerland, have invented new and useful Improvements in a Device for Sharpening the Blades for Safety-Razors, (for which I have filed applications in Switzerland October 29, 1917, Patent No. 78,697; Germany November 13, 1917, Patent No. 313,289, and England July 2, 1919, Patent No. 138,265,) of which the following is a specification.

The present invention relates to a device for sharpening the blades of safety-razors.

One object of the invention is to provide a simple and efficient device which works entirely automatically and which allows any person to sharpen a double-edged blade in the most perfect manner.

Other objects of my invention relate to the provision of parts coöperating with each other and to details of construction all of which will be more fully set forth in the following specification.

With the above objects in view the invention resides in the parts and in the combination of parts hereinafter described and particularly set forth in the claims appended hereto.

In the drawing the new device is shown by way of an example:

Figure 1 is a longitudinal section through the device on line A—B of Fig. 3.

Fig. 2 is a section taken on line C—D of Fig. 3.

Fig. 3 is a plan view of the device.

Fig. 4 is a cross-section on line E—F of Fig. 1.

Fig. 5 shows a part of the frame with the carriage and the blade-holder with the blade inserted in place.

Fig. 6 illustrates the blade-holder in detail and shows a blade arranged therein.

Fig. 7 is a side view thereof.

The device shown comprises a frame which is composed of two side walls 1, 2 of sheet metal which are interconnected by two plates 3 and by a rod 5 serving as a handle. The walls 1, 2 have U-shaped cross-sections and to each wall a bar 7 is rigidly fixed. The bars 7 are parallel with each other and the walls 1, 2. The bars 7 are interconnected by two stays 9, 10 on which a plate 11 is fixed. The plate 11 is provided with a slot 13 running in an oblique direction to the bars 7. In the slot 13 a body 14 is removably arranged which on one of its sides is provided with a strop 15 and on its other side for instance with a hone 16. The body 14 is fastened to the plate 11 by means of a fastening slide 17 passing through a slot of the body 14 in such a manner that the body 14 may be easily taken off by withdrawing the slide 17. Between the walls 1, 2 a carriage 20 is slidably mounted. The carriage comprises two plates 21, 22 forming the sides of the carriage which are interconnected by bolts 23, 24. The bolts 24 serve as handles by means of which the carriage may be moved. Two cover plates are provided extending between the plates 21, 22. On the outer side of each plate 21, 22 a pair of double-armed levers 26, 27 are arranged. Said levers are rotatably mounted on the ends of the bolts 23. The levers on each side of the carriage are interconnected by a coiled spring 30 and are each provided with a notch 31 adapted to receive one end of a blade-holder 32. The blade-holder 32 resting in the notches in the corresponding levers 26 is well above the sharpening surface 15 of the body 14 as shown in Fig. 1. The blade-holder 32 comprises a shaft 34 having on each end a disk 35 and between the ends a flattened portion on which the blade 33 rests. The blade is held by a plate 36 hinged to the shaft 32 which plate is held in position by a collar 39 arranged on the shaft 32 having a flange which passes over the free pointed end of the plate 36. The shaft 34 is provided with two guide pins engaging with holes in the blade in the well known manner.

If the blade-holder 32 is placed in the position as shown in Fig. 1 and the carriage 20 is moved in the direction of the arrow I the blade 33 takes the position shown in the drawing by full lines. The disks 35 are pressed against races 6 fixed to the inner side of the flanges of the walls 1, 2 by the springs 30. Owing to the friction the disks 35 have the tendency to turn and to rotate the blade-holder 32 in their bearings 31 on the levers 26. The edge 40 of the blade 33 to be sharpened which is dragged behind the holder 32 is pressed thereby on the stropping ridge 15 at a constant pressure. As the stropping ridge runs at an oblique angle to the path of the blade 33 the latter rests only

with one point on the said ridge at a time but by moving the carriage 20 from one end to the other of the frame the full cutting edge is worked on. If the blade 33 slides off the ridge 15 it passes on to a small roller 42 rotatably arranged on the bolt 10, and if the carriage 20 moves still farther the blade 33 leaves the roller 42. The roller 42 serves as a guide preventing damage to the cutting edge of the blade when the latter leaves the body 14 and ascends thereto. As now no resistance is offered to the rotation of the blade 33 the blade-holder 32 is rotated until the flat portions 38 on the disk 35 are in contact with the races 6 preventing thereby a further rotation. The portions 38 are at a right angle to the blade 33. The blade 33 assumes a position vertical to the races 6 as shown in Fig. 2. The travel of the carriage 20 is arrested by a stop 43. The stop 43 is a frame of bent wire rotatably mounted by means of pins 44 in the bars 7. The stop 43 is held in the position shown in Figs. 1 and 2 by a blade spring 46 fixed with one end to a bar 7 and pressing with the other end the inner end of the stop upward. If the direction of the carriage 20 is now reversed the lower end of the blade 33 is held back by the roller 42 while the shaft 34 is moved in the direction given by arrow II the blade-holder 32 turns about its axis in the direction shown by the small arrow Fig. 2. The circular parts of the disks 35 are now again brought in contact with the races 6. During the return stroke of the carriage 20 the cutting edge 40 of the blade 33 is pressed against the stropping surface but the blade 33 has made a turn of 180°. Upon a further reversal of the direction of the carriage 20 at the handle end of the device the shaft of the blade-holder is again turned owing to the friction of the disks on the races 6 and the second edge 45 of the blade 33 is brought to bear against the stropping surface 15. The edges 40, 45 of the blade 33 that is the four sides forming said edges are successively worked on and the cutting edges are sharpened quite uniformly.

To remove and to insert the blade-holder in its position the stop 43 is turned by hand on its pivots 44 until it assumes the position shown in dotted lines in Fig. 2. The fore end of the stop 43 is opposite of notches 47 in the side walls 21, 22 of the carriage 20 and the latter may be moved so far out that the ends of the levers 26, 27 project near to the ends of the walls 1, 2. The blade-holder may in this position of the carriage 20 be taken off and again inserted in the notches 31 of the levers 26, 27. The stop 43 assumes its proper position as soon as the carriage 20 is withdrawn. To prevent the levers 26, 27 when not used to carry a blade-holder, from sliding on the races 6 a pin 48 is provided on each side wall 21, 22 of the carriage 20 on which the said levers under the tension of the springs 30 abut when out of use.

The sharpening bodies 15, 16 may be of the same or of different material, one may be used for honing while the other may be used for stropping, etc. One body may be of steel, etc., and the other may be a strip of leather covered with a paste of emery, etc. Any of the well known materials for this purpose may be used. The blade 33 having been moved several times over one of the surfaces for instance over the body 16 may be moved over the body 15 which finishes the sharpening operation.

Also I have described one form of construction I wish to point out that various changes in form and construction of the details may be made without departing from the spirit of the invention but what I claim and wish to secure by Letters Patent is:

1. A device for sharpening the blades of safety razors having two cutting edges comprising in combination a frame having races, a carriage slidably arranged in said frame, a sharpening body mounted in said frame and arranged obliquely in the path of the carriage, a blade-holder rotatably mounted in levers, said levers being pivotally mounted on said carriage, springs acting on said levers, disks fixed to the blade-holder, said disks being pressed against races of the frame by said springs, and having flat portions at substantially right angles to the plane of the blade.

2. A device for sharpening the blades of safety razors having two cutting edges comprising in combination a frame having races, a carriage slidably arranged in said frame, a sharpening body mounted in said frame and arranged obliquely in the path of the carriage, a blade-holder rotatably mounted in levers, said levers being pivotally mounted on said carriage, springs acting on said levers, disks fixed to the blade-holder, said disks being pressed against races of the frame by said springs, and having flat portions substantially at right angles to the plane of the blade, and a roller arranged at one end of the sharpening body adapted to guide the blade during the turning thereof.

3. A device for sharpening the blades of safety razors having two cutting edges comprising in combination a frame having races, a carriage slidably arranged in said frame and having notches, a sharpening body mounted in said frame and arranged obliquely in the path of the carriage, a blade-holder rotatably mounted in levers, said levers being pivotally mounted on said carriage, springs acting on said levers, disks fixed to the blade-holder and pressed against the races of the frame by said springs, said disks having flat portions substantially at right angles to the plane of the blade, a rol-

ler arranged at one end of the sharpening body adapted to guide the blade during the turning thereof, a stop for said carriage arranged at one end of the frame, and a spring acting on said stop, to engage the same in the notches of the carriage.

4. A device for sharpening the blades of safety razors having two cutting edges comprising in combination a frame having races, a carriage slidable arranged in said frame, sharpening bodies mounted in the frame and arranged obliquely in the path of the carriage, two pairs of levers arranged on said carriage, springs to move said levers in one direction, a blade-holder rotatably mounted on a pair of said levers above the one or the other sharpening body, friction disks arranged on said blade-holder and pressed by the action of said springs against the races on the frame, said disks having flat portions, a roller arranged at the end of the sharpening bodies, a stop for said carriage arranged at one end of the frame, and a spring acting on said stop to hold the same near one end of the path of movement of the carriage, said carriage having a notch to receive and clear said stop when the latter is moved against the tension of its spring, to permit the carriage to move completely to the end of its path, to permit mounting or dismounting of the blade holder.

In testimony whereof I affix my signature in presence of a witness.

WILHELM BARSCH.

Witness:
M. C. GUNTER.