This invention relates to a razor storing and razor blade reconditioning device. The invention particularly concerns a device for restoring and sharpening the cutting edges of a razor blade by magnetic means. It has been known heretofore that the extremely fine and sensitive cutting edges of thin razor blades have minute portions which are distorted and bent from their normal positions during use and that these portions may be restored by applying suitable magnetic forces to these edges.

Magnetic razor blade sharpeners heretofore have generally been inconvenient to use because they required disassembly of the razor so that the blades could be inserted into a suitable magnetic sharpener. This handling of the individual blades has proven objectionable. It has been proposed to provide magnetic razor blade sharpeners which purported to accommodate the entire razor. These types of sharpeners have not been successful because they required the provision of large horseshoe type magnets which are very expensive; or else they required magnets of special shapes not generally available as stock mass produced items. Also these types of sharpeners generally left the razor head in which the blade was mounted exposed in a hazardous manner. The invention is directed at an improvement in this art of which patent to Forbes 1,775,518 is typical.

It is a principal object of the present invention to provide a magnetic razor blade sharpener which employs a magnet of very small size and which reconditions a razor blade while assembled in its holder. It is a further object to provide a device which is adapted for storing and sharpening either a single razor blade or a plurality of razor blades.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Figs. 1 and 2 are perspective and end views, respectively, of a razor blade sharpener box embodying the invention, with a razor shown mounted therein for storage and reconditioning.

Fig. 3 is a plan view of the blade sharpener box with cover removed.

Fig. 4 is a sectional view taken on lines 4--4 of Fig. 3. Fig. 5 is a view of a magnet used in the device.

Fig. 6 is a view of a magnetic extension member.

Fig. 7 is a perspective view of the device showing a single blade disposed therein for reconditioning and storage.

Fig. 8 shows a stacked array of blades intended for simultaneous reconditioning and storage in the device.

In Figs. 1 and 2 are shown a rectangular box 10 provided with a cover 11. The cover is secured to the sides of the box by nails 12 or other suitable means.

If desired the cover may be hinged to the top of the box as shown in Fig. 7. The end 13 of the box has a V-shaped opening 14 with upstanding vertical arms 15. The floor of the box is a V-shaped trough 16 which is flush with the V-shaped opening in the end of the box. If desired to conform more exactly with a razor head this trough may have a slight curvature so that it is rather U-shaped than V-shaped. In the trough may be disposed a known type of safety razor which has a curved head plate 20 and a curved presser plate 21 between which is disposed a flexible blade 2 having two cutting edges. The handle 22 is screwed to the plates 20, 21 in a known manner. The handle fits snugly into a slot 23 in the cover 11. In this position the razor is supported as shown in Figs. 1 and 2. The handle is loosened so that the blade is unflexed and lies straight and parallel with the cover. At the sides of the trough 16 are two deep grooves 25 shown best in Figs. 3 and 7. The grooves continue to the end of the trough where they turn at right angles toward each other in the sections 28 and then terminate in a recess 29.

A C-shaped magnet 30 is disposed in the recess 29. This magnet is clearly shown in Fig. 5. A magnet extension member 31 has arms 33 disposed in the grooves 25 and 28 and has a long end 32 conforming with the inside of the magnet. The member 31 is best shown in Fig. 6. This member extends above the top of the magnet as shown in Fig. 4 and almost reaches the cover 11. The arms 33 extend out of the grooves 25 and 29 for a purpose to be described.

To make the most efficient use of the device as shown in Figs. 1--6, it is best to start with a new blade B in the razor. After its first use in shaving the razor should be washed with the handle 22 loosened but not removed from the razor head. All free water should be shaken loose and the still assemblied razor should then be slid into the case or box 10 with the handle 22 in an upright position. The strong magnet 30 magnetizes the member 31 which is made of a strip of magnetizable iron or steel. A strong magnetic field is set up across the arms 31 in the blade B. Since the blade is very thin at the edges a very highly concentrated magnetic field is set up which aligns the bent and twisted minute portions of the fine edges. The extended poles of the magnet thus serve to straighten the edges of the blade.

It has been found that the best results are obtained with a very thin blade and the blade should be left in the sharpener for a day or so. If the device is used to store the razor between daily shaves it will be found the number of satisfactory shaves obtainable from a blade may be doubled or tripled.

The box and cover may be made from a variety of materials such as wood or plastic. Plastic material is preferable and phenolic as well as acrylic materials will be suitable. A very satisfactory material is transparent methacrylate plastic which reveals the interior of the device.

In Fig. 7 is shown the use of the device as a storage device for a single blade B. The end E of the blade is attracted to and held by the magnet while the extended arms 33 serve to recondition the cutting edges C. The cover 11 is secured by hinges 37 to the sides of the box. Fig. 8 shows a preferred manner of storage of a plurality of blades for storage and reconditioning of edges C in the device. Spacer plates 38 which may be made of any nonmagnetic material are disposed in alternation with the blades to be stored in the case 10. These may be as shown and placed in the case in the same manner as blade B with the ends E butting and held to the short transverse sections of arms 33. If a plurality of used blades are stored in the case one at a time may be
withdrawn while the others remain in the casing to be subjected to the reconditioning magnetic field. When the cover 11 is closed the stacked blades are kept securely and will not drop out if the case is accidentally tipped with the end 13 down. The slot 23 permits inspection of the interior of the case to determine the number of blades inside without opening the cover.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A storage and reconditioning device for razor blades, comprising a case having a recess in the bottom thereof, a magnet disposed in said recess, with arms thereof extending to a trough in said bottom, and a generally U-shaped member having a looped end disposed between the arms of the magnet, said member having arms disposed in grooves surrounding said trough.

2. A device of the character described comprising a case having a magnet disposed therein, said magnet having arms extending to a trough in said case, and a strip of magnetizable material disposed in a groove adjacent said trough and having one end in contact with said magnet.

3. A device for storing and reconditioning razor blades, comprising a case having a trough therein, a magnet disposed in said case adjacent one end of the trough, and a strip of magnetizable material disposed at opposite sides of the trough and contacting said magnet.

4. A device for storing and reconditioning razor blades, comprising a case having a slotted cover and open end, said case having a trough therein communicating with said open end, a magnet disposed in the case adjacent one end of the trough, and a strip of magnetizable material disposed at least at one side of the trough and contacting said magnet.

5. A storage and reconditioning device for razor blades, comprising a rectangular case having a cover, said cover having a slot extending inwardly from one end thereof, one end of said case having an opening therein communicating with said slot, a C-shaped magnet disposed in the case with the arms thereof extending toward said opening, a strip-like magnet extender having spaced arms contacting the arms of the magnet, said extender being disposed in a groove surrounding a V-shaped trough in the casing, said trough communicating with said opening, with said slot disposed above said trough, whereby a razor having a blade therein may be disposed in an upright position in said case, with cutting edges of said blade parallel to the arms of the magnet extender.

6. A storage and reconditioning device for razor blades, comprising a rectangular box having a trough therein, a groove surrounding said trough, a rectangular magnetic strip disposed in said groove, said strip having a looped end, and a C-shaped magnet disposed in said box with said looped end enclosed between the arms of the magnet.

7. A device according to claim 6, wherein said box has a cover hinged to a side thereof.

8. A device according to claim 6, wherein portions of said box are formed of transparent plastic material.

9. A device according to claim 6, wherein portions of said box are made of wood.

10. A device according to claim 6, wherein said trough is shaped to conform with a head plate of a safety razor.

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