Sept. 11, 1928. 1,683,981

T. G. LOVEGROVE

MAGNETIC SHARPENER FOR RAZOR BLADES

Filed July 21, 1925 2 Sheets-Sheet 1

FIG. 1.

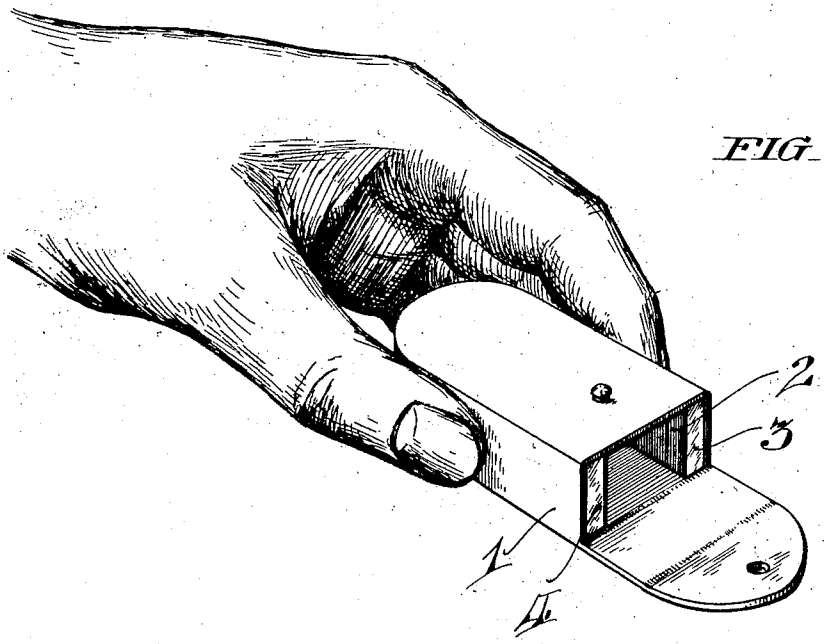


FIG. 2.

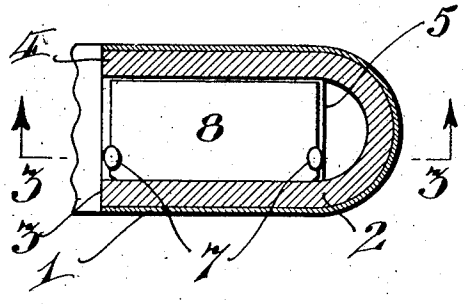
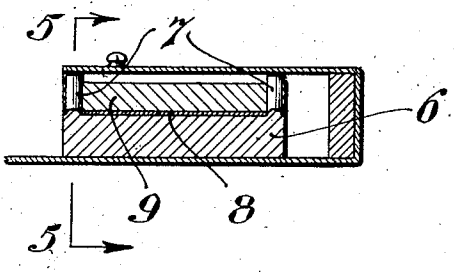


FIG. 3.



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Filed July 21, 1925 2 Sheets-Sheet 2

FIG. 4.

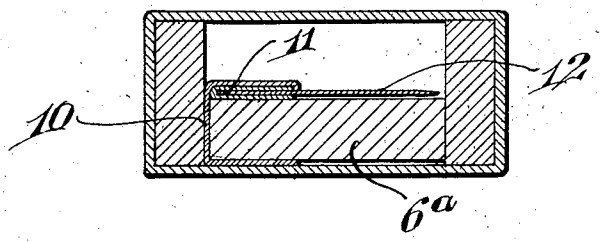


FIG. 5.

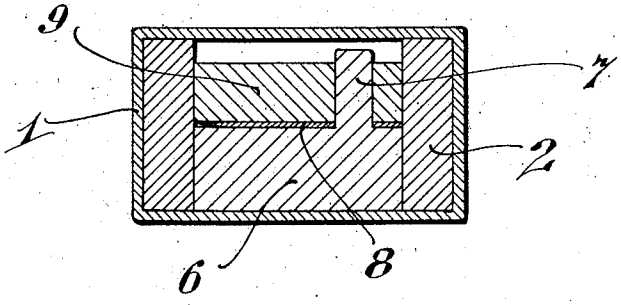


FIG. 6.

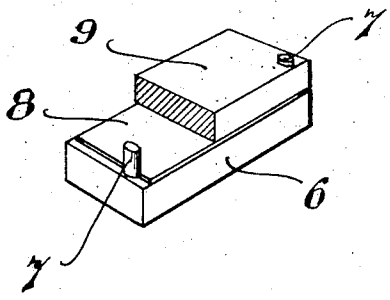
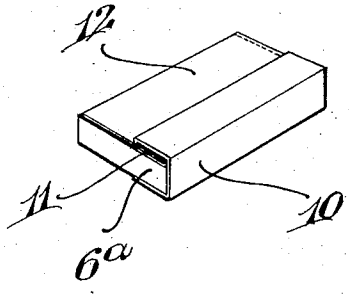


FIG. 7.



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MAGNETIC SHARPENER FOR RAZOR BLADES.

Application filed July 21, 1925. Serial No. 44,966.

My invention relates to magnetic sharpeners for razor blades and more especially for the single edge blade.

It is well known that the cutting edge of a razor blade consists of a series of teeth of infinitesimal size. If these teeth are in alignment, the razor is sharp. If the teeth are out of alignment, the razor is dull. The effect of stropping is to imperfectly re-align the teeth. This action often breaks some teeth and permanently dulls the edge. Attempts have been made to provide magnetic sharpeners for such blades, but have failed because the magnetic poles were disposed to cause the magnetic flux to travel from end to end along the length of the razor blade instead of between its edge and the magnet, thus producing a non-uniform and very weak magnetic attraction at the edge which did not re-align the jagged teeth of a dull razor edge.

The objects of my invention are to provide a sharpener in which a strong magnetic attraction is created between the dull cutting edge and the magnet, whereby the teeth are realigned and thereby sharpened, and to provide a sharpener which may be readily adapted for use with different types of blades.

These objects, and other advantageous ends which will be described hereinafter, I attain in the following manner, reference being had to the accompanying drawings in which—

Figure 1 is a perspective view of a magnetic sharpener made in accordance with my invention illustrating its compact size as compared with the hand,

Figure 2 is a sectional plan of the sharpener shown in Figure 1 showing a blade holder placed therein,

Figure 3 a section on line 3—3 of Figure 2,

Figure 4 a cross section of Figure 3 illustrating a holder for a different type of blade placed in the sharpener,

Figure 5 a section on line 5—5 of Figure 3,

Figure 6 a perspective view of one type of blade holder, and

Figure 7 a perspective view of another type of blade holder.

Referring to the drawings, 1 indicates a casing preferably of leather or other flexible material, 2 a U-shaped magnet fitting in the casing with the ends of its poles 3 and 4 disposed in the open end of the casing to provide an entrance for a blade holder 5. The blade holder is adapted to be slipped between the poles of the magnet. For holding one type of blade, the holder consists of a supporting block 6 having pins 7, between which a razor blade 8 is placed, and a holding block 9 fitting over the pins for keeping the blade in position as shown in Figure 5. Another type of blade holder may consist of a supporting block 6^a and a U-shaped clip 10 embracing one edge of the block and the heel 11 of a razor blade 12. Other types of holders may be provided to hold blades of different types between the magnetic poles 3 and 4. Each type of holder should keep the blade in such position that the heel, or non-cutting edge, of the blade either directly contacts with the magnetic pole, or is indirectly connected with the pole through an intervening metallic member. Such magnetic connection between the blade and pole will hereafter be called conductive connection. The magnetic flux passing through such a connection has little reluctance and thus creates a strong magnetic attraction at the cutting edge which is spaced from the other magnetic pole. The spacing is just sufficient to clear the pole so that the edge will not be dulled thereby as the holder is slipped into and out of the casing.

To sharpen a blade it is placed between pins 7 and between blocks 6 and 9 when the blade is of the type shown at 8, in Figure 5, or is clamped to block 6^a by spring clip 10 when the blade is of the type shown at 12 in Figure 4. After the blade is placed in the holder, the holder is slipped into the casing between the magnetic poles 3 and 4 to bring the non-cutting edge in conductive connection with one pole of the magnet, and the cutting edge in spaced relation to the other pole. The non-cutting edge of the blade being conductively connected with a magnetic pole and providing a path of least reluctance for the magnetic flux, the flux will concentrate at and flow through the metallic blade, and create a strong magnetic attraction between the cutting edge and the other pole of the magnet. The infinitesimal teeth which constitute the cutting edge, if out of alignment with each other or in jagged relation, will be brought into alignment by the magnetic attraction. This ac-

tion is so sensitive that none of the teeth are broken, thus keeping a finely sharpened edge which will shave smoothly. For purpose of illustration I have shown one blade in the holder but a number of blades may be placed in the holder and sharpened in this manner with equally good results.

I have found from actual use that a dull blade, which has never been honed or stropped, is sharpened immediately after being placed between the magnetic poles and that keen edges may be provided and kept for a long time on blades heretofore considered unfit for use and discarded.

While I have described my invention as taking a particular form, it will be understood that the various parts of my invention may be changed without departing from the spirit thereof, and hence I do not limit myself to the precise construction set forth, but consider that I am at liberty to make such changes and alterations as fairly come within the scope of the appended claims.

I claim:

1. A sharpener for razor blades including a U-shaped magnet; a blade supporting block of non-magnetic material fitting between the poles of the magnet, and means adapted to fit on and become substantially part of the block for holding the non-cutting edge of the blade in conductive connection with one pole of the magnet and the cutting edge spaced from the other pole, said means and block being adapted to be removed simultaneously from between the poles of the magnet.

2. A sharpener for razor blades including a casing having an opening, a U-shaped magnet in the casing with its poles disposed at either side of the opening, a blade holder slidable through the opening, and means on the blade holder for holding a razor blade against transverse or longitudinal movement relatively to the blade holder.

3. A sharpener for razor blades including a casing, a U-shaped magnet in the casing of greater depth than width, a non-magnetic blade holder slidable between the legs of the magnet and of substantially the same width as a razor blade, pins in the blade holder for retaining a razor blade against movement longitudinally or transversely of the blade holder, and a block registering with the pins for holding a razor blade against the top of the blade holder.

In testimony whereof I have signed my name to this specification.

THOMAS G. LOVEGROVE.