Aug. 7, 1934. L. A. JESSEN 1,969,611

BLADE SHARPENING DEVICE

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Fig. 1.

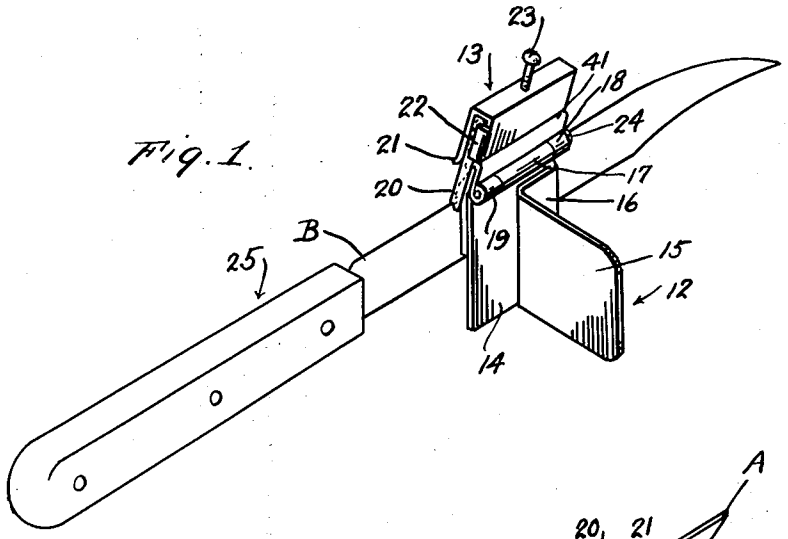


Fig. 2.

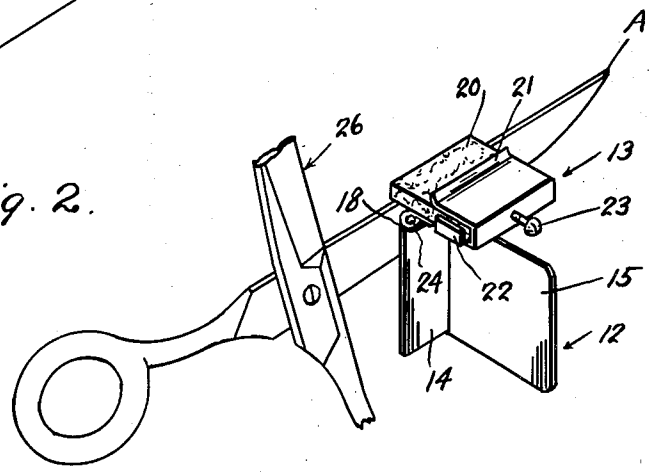


Fig. 3.

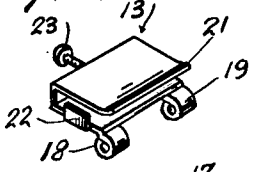
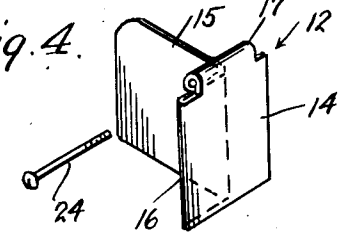


Fig. 4.



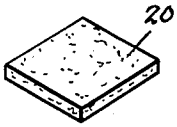


Fig. 5.

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Fig. 6.

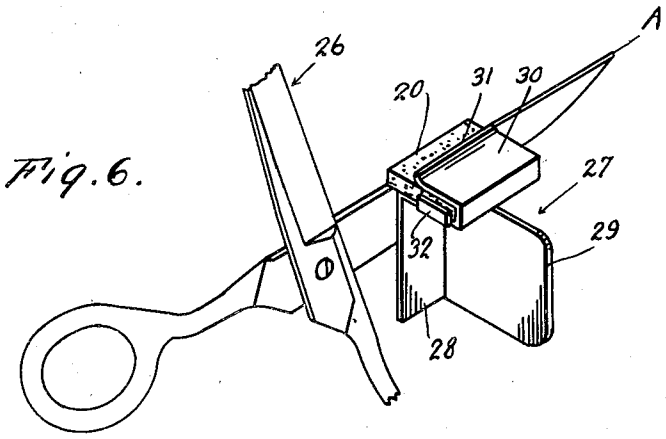


Fig. 7.

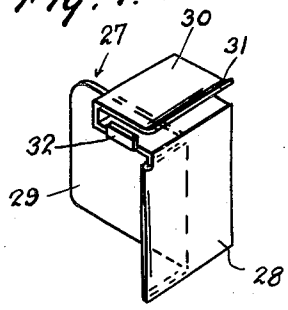


Fig. 8.

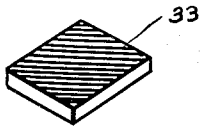


Fig. 9.

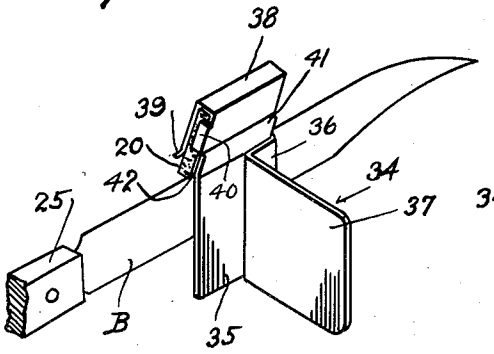


Fig. 10.

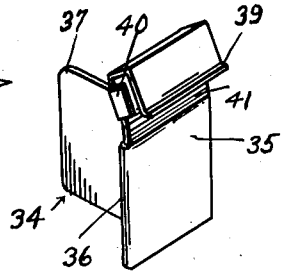
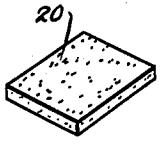


Fig. 11.



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UNITED STATES PATENT OFFICE

1,969,611

BLADE SHARPENING DEVICE

Leslie A. Jessen, Sycamore, Ill.

Application November 17, 1933, Serial No. 698,533

1 Claim. (Cl. 51—205)

This invention relates to an improved blade sharpening device possessing diversified structural characteristics coordinated to provide a unique implement susceptible of practical use in sharpening blades of tools and articles of cutlery, particularly household accessories, such as scissors, kitchen knives and the like.

In carrying the principles of the basic idea into actual practice, I have evolved and produced a simple and economical device comprising an abradant element holder or clip carried by a manually manipulated actuator including a blade backing and guiding plate and a conveniently associated finger grip.

Generically stated, I have invented and perfected a plurality of forms of the invention in which the aforesaid characteristics will be found to be common and wherein each form or embodiment of the invention possesses certain structural refinements and features best adapted to cooperate with predetermined types of cutting blades, such as the blades of scissors, knives, wood-working tools and the like.

In the accompanying drawings wherein like numerals are employed to designate like parts throughout the views:—

Figure 1 is a perspective view of one embodiment of the invention showing the manner in which it is adjusted for use in sharpening the blade of a conventional kitchen knife.

Figure 2 is a perspective view of the same device showing the manner in which it is arranged or adjusted for sharpening the beveled cutting edge of the blade of a pair of conventional scissors.

Figures 3, 4 and 5 constitute a group perspective view of the parts of the device shown in Figures 1 and 2, said parts being disconnected.

Figure 6 is a view showing a slightly different embodiment of the invention wherein the abradant block clip or holder is rigid or fixed.

Figures 7 and 8 are detail perspective views of the assembly shown in Figure 6.

Figure 9 is a perspective view of a still further embodiment of the invention, showing the manner in which it is used for sharpening the blade of a knife.

Figures 10 and 11 are detail perspective views of the device depicted in Figure 9.

The three distinguishable embodiments of the invention illustrated in the drawings will be considered progressively in numerical order, that is to say, Figures 1 to 5 inclusive; Figures 6 to 8 inclusive; and, Figures 9 to 11 inclusive.

Attention is first invited to the construction of the device shown in Figures 1 to 5 inclusive. Referring especially to Figures 3 and 4, it will be observed that this device or form of the invention is made up essentially of two companion parts 12 and 13 respectively. The part 12 may be described as the movable actuator, this being in the form of a sheet metal unit formed from a single stamping of metal bent upon itself to define a substantially rectangular blade backing and guiding plate 14 and a centralized right-angularly disposed finger grip 15. The features 14 and 15 are united by bending the metal upon itself, as indicated at 16. The upper edge of the backing plate is provided with a hinged knuckle 17 to cooperate with complemental knuckles 18 and 19 carried by the part 13. This part 13 is in the form of a holding clip for the abrasive block 20. It possesses requisite inherent resiliency to hold the block 20 frictionally but removably between its jaws. The upper jaw has a flared lip 21 to facilitate insertion of the block 20 and the lower end is provided at one end with a cleat 22 which functions as a stop element to hold the block 20 against accidental slippage. The numeral 23 designates a feed and set screw and the numeral 24 a hinge screw. Incidently, the knuckle 19 is internally threaded to accommodate the screw threaded end of the hinge pin or screw 20.

It is obvious that when the parts 13 and 12 are assembled the hinge pin or screw 24 extends through the then aligned knuckles 17, 18 and 19. This serves to hingedly connect the block holding clip 13 to the adaptation actuator or unit 12. The coacting threads between the pin 24 and knuckle 19 permits the clip 13 to be adjusted to an obtuse angular position, as shown in Figure 1, for sharpening the blade B of the knife 25. Or the holder clip 13 can be adjusted to the right angular position shown in Figure 2 and held in this position for sharpening the blade A of the scissors 26. Thus in this embodiment of the invention, we have an actuator unit 12 including a backing plate 14, the finger grip 15, and an abradant block holding clip 13 hingedly connected to the backing plate and adjustable to the desired angular position for sharpening a predetermined type of blade.

The style or form of the invention illustrated in Figures 6 and 7 is in the form of a one-piece unit differentiated by the numeral 27. The features of this form of the invention are quite similar to those already described. Referring to Figure 7 for example, it will be observed that the numeral 28 designates a guiding and back-

ing plate for the blade and 29 an integral rightangularly disposed and properly centralized finger grip 29. Here the U-shaped clip 30 is formed as an integral part and the free end of the upper jaw provided with an entrance lip 31 and the lower jaw provided with a stop cleat or element 32. Incidently, if instead of using an abrasive block 20, the user prefers a coarser abradant element, it is permissible to use a block-like file 33. In other words, the fragmentary block-like portion of a file can be used, especially for sharpening wood-working tools.

Coming now to Figures 9 and 10, this embodiment or form of the invention is differentiated by the numeral 34 and possesses common characteristics found in the two forms of the invention already described. It will be observed, for example, that the numeral 35 designates a substantially rectangular backing and guide plate having one edge portion bent upon itself, as indicated at 36, and terminating in a rightangularly disposed finger grip or flange 37. The U-shaped abradant block holding clip is denoted by the numeral 38. It is formed as a permanent part of the backing plate 35 and instead of occupying the rightangular position shown in Figure 7, it has a substantially obtuse angular position fixed to dispose the block in a natural inclined or oblique sharpening position. The numeral 39 designates the offset lip on the upper jaw and 40 indicates the stop element. In this form of the invention, as well as in the form shown in Figure 1, attention is called to the numeral 41 which serves to designate an offset part of the U-shaped holder or clip. This is designed so as to provide a clearance space, such as is indicated at 42 in Figure 9. In other words, this acts as a clearance space for the cutting edge of the blade on one side of the blade so as to facilitate sharpening and to overcome dulling of the latter side or face of the blade during the sharpening operation. This offset feature 41 of the two forms of the invention may be said to be carried by the lower jaw of the U-shaped block holder, whether the holder be hinged or rigid.

In all three forms of the invention, it is obvious that the abradant block is resiliently clamped between the jaws of the U-shaped holder or clip. This clip occupies varied angular positions with respect to the co-ordinated actuator unit. The actuator unit embodies a backing plate and a suitably arranged finger grip. Thus by inserting the block and holding the tool in one hand and grasping the finger grip between the thumb and fingers of the other hand, the entire sharpener as a unit can be reciprocated back and forth in sliding contact with the blade somewhat as shown in the drawings for the purpose of sharpening the cutting edge of the blade.

The form of the device shown in Figure 1 is especially desirable because of the hinged mounting of the U-shaped clip 13 and the provision of the set screw 23 which serves as a follower to feed the block 20 out of the clip as it becomes worn. This form of the invention is also desirable, due to the coaction of the screw threads on the hinge screw 24 and the hinge knuckle 19 which permits the clip 13 to be adjusted to the position shown in Figure 1 or the position shown in Figure 2 or intermediate position and held in this position by tightening the screw threads.

Figure 7 functions very much in the same manner as the arrangement depicted in Figure 2, being desirable under certain conditions, due to the fact that the clip 30 is formed rigidly or integrally with the complemental actuating unit. The same is true of the arrangement shown in Figures 9 and 10, although in neither of the latter two forms of the invention does the user have the range of adjustment found in the embodiment shown in Figure 1.

It is thought that the description, taken in connection with the drawings, will enable a clear understanding of the invention to be had. Therefore, a more lengthy description is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

What I claim is:—

As a new article of manufacture, an actuating unit comprising a single metal stamping bent upon itself to form a backing plate and a rightangularly disposed finger grip for moving the backing plate back and forth with respect to the blade to be sharpened, said backing plate being formed on its upper edge with a hinge pin knuckle, a substantially U-shaped abradant block holding clip, said clip having its lower jaw formed with hinge knuckles aligned with said first named knuckle, one of the second named knuckles being screw threaded, a hinge pin passing through said knuckles and having a threaded end cooperating with the aforesaid screw threads to permit the clip to be adjusted to and held in a predetermined adjusted position with respect to the backing plate, said knuckle-equipped jaw being formed with a stop element, and a set screw carried by said clip to aid in holding and adjusting the abradant block.

LESLIE A. JESSEN.