June 28, 1949. W. E. FLEMING ET AL 2,474,622

DEVICE FOR SHARPENING CUTLERY

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FIG. 1

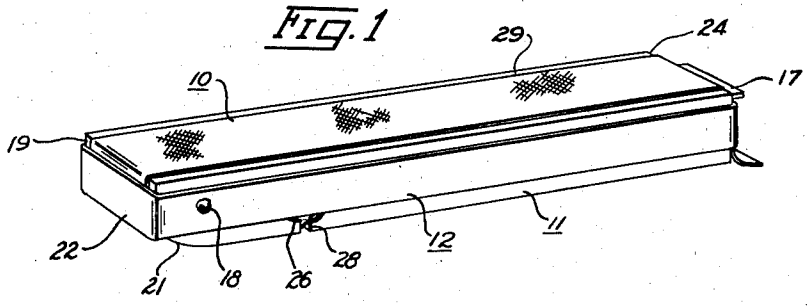


FIG. 2

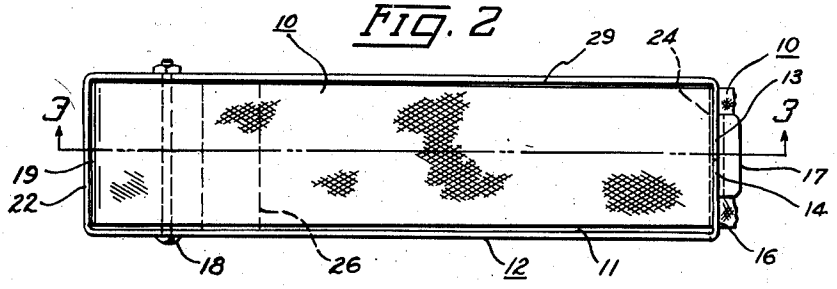
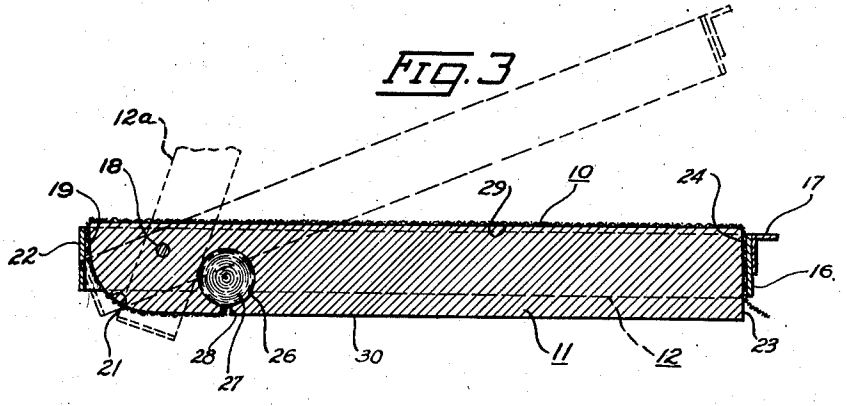


FIG. 3



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DEVICE FOR SHARPENING CUTLERY

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3 Claims. (Cl. 51—187)

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This invention relates to devices for renewing and maintaining the cutting edges of knives and other cutlery, and has particular relation to devices of this nature which employ a renewable abrasive surface.

Edged tools, such as knives and the like have, in the past, been sharpened and their cutting edges maintained in proper condition by the use of grind-stones, Carborundum stones, oil stones and the like. One of the main disadvantages, in the use of such stones, particularly for maintaining keen cutting edges, is that the abrasive particles forming the surface of the stone wear off and lose some of their cutting ability; also the porous surface of the stone becomes filled up with metal particles.

Sharpeners have been devised which employ abrasive coated tape to provide a renewable abrasive surface. Some of these devices have been reasonably satisfactory except that their relatively complicated structure has resulted in such high cost as to discourage wide use.

It is necessary, in a device of this character, when employed for sharpening edged tools, that the abrasive tape be stretched and held taut during use. The abrasive support or base should also be non-resilient so as to avoid rounding the cutting edge of the tool.

Therefore, a primary object of our invention is the provision of an extremely simple and inexpensive device for mounting an abrasive coated tape for use in sharpening and maintaining the cutting edges of most kinds of cutlery such as butchers' knives, carpenters' tools and the like.

A further object of our invention is the provision, in such a device, of simplified means for securing the abrasive coated tape and holding it taut during use.

Other and further features and objects of the invention will be more apparent to those skilled in the art upon a consideration of the accompanying drawings and following specifications, wherein is disclosed a single exemplary embodiment of the invention, with the understanding, however, that such changes may be made therein as fall within the scope of the appended claims, without departing from the spirit of the invention.

In said drawings:

Figure 1 is a view in perspective of a cutlery sharpening device constructed in accordance with a preferred embodiment of our invention.

Figure 2 is a view in top elevation of the device shown in Figure 1, and

Figure 3 is a view in vertical longitudinal section of the device as taken along the line 3—3 of Figure 2.

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Refer now to these drawings in which an abrasive-coated, fabric tape, indicated by the numeral 10, is mounted on a base member indicated generally at 11 and secured and held taut thereon by a clamping member 12. The base 11 is preferably a generally rectangular, block-like member of wood or molded plastic. The clamping member 12 comprises a generally rectangular, open-center frame fabricated from a narrow strip or band of metal. The ends 13 and 14 of the strip forming the end section 16 of the clamping member are joined together by the L-shaped strip 17 which also serves as a handle. The clamping member is pivotally mounted adjacent one end of the base 11, on the transverse pivot pin 18 which member is preferably positioned somewhat above the center-line of the base.

The end 19 of the base nearest the pivot pin is curved or relieved as at 21, the curvature starting at a point preferably at or above the level of the pivot pin, and having a radius somewhat less than the length of the short leg, that is, the distance between the pivot pin and the end section 22 of the clamping member. Thus the clearance between the base and the clamping member, at the end adjacent the pivot pin, increases and the tape is disengaged and released when the clamping member is hinged upwardly as indicated by dotted lines at 12*a* in Figure 3.

The end 23 of the base opposite the pivot pin is slightly relieved at the upper transverse edge 24 thereof to permit upward hingeing movement of the clamping member.

A transverse bore 26, in the base, is adapted to receive a small roll 27 of the abrasive tape 10, the bore being intercepted by a narrow transverse slot 28 extending through to the bottom surface 30 of the base to permit passage of the tape downwardly therethrough. The tape extends from this slot upwardly over the end 19 and over the top surface 29 of the base and then downwardly over the end 23 thereof.

The clamping member 12, as it is forced downwardly by pressure on the handle 17, first engages the tape at the end of the base adjacent the pivot pin. The handle end of the clamping member next engages the tape just below the upper surface of the base and, due to the frictional engagement between the tape and the clamping member, the tape is pulled taut as the clamping member is forced completely down to the position shown in Figure 1 and as shown in full lines in Figure 3. The length of the clamping member is

such that the tape is bound firmly between the ends thereof and the adjacent ends of the base.

A device such as we have herein described is extremely simple and inexpensive to manufacture, yet has all the advantages of the more complicated devices heretofore suggested for the purpose. A particularly important feature of the device is its ability to hold the abrasive tape taut against the non-resilient surface of the base member.

Although we have described a specific embodiment of our invention, it is apparent that modifications thereof may be made by those skilled in the art. Such modifications may be made without departing from the spirit and scope of our invention as set forth in the appended claims.

We claim:

1. In a device for sharpening cutlery, a generally rectangular, block-like base, one end of the base being curved at the lower portion thereof and the opposite end being relieved at the upper edge thereof, the base having a transverse, cylindrical bore extending therethrough at a spaced distance from the bottom surface thereof, and having a narrow transverse slot extending upwardly therethrough, from the bottom surface of the base into the transverse bore, a roll of abrasive tape received in said bore with one end thereof extending downwardly through the slot, upwardly over the curved end of the base, lengthwise over the top surface and downwardly over the said opposite end thereof, a clamping member comprising a rectangular frame received over the base and adapted to bind the abrasive tape between the ends thereof and the end portions of the base, a pivot pin extending transversely through the base and clamping member adjacent the curved end of the base, the pivot pin being positioned a slightly greater distance from the curved end of the base than from the bottom surface thereof.

2. In a device for sharpening cutlery, a generally rectangular, block-like base, having a narrow slot extending transversely of the bottom

surface thereof and having a transversely disposed cylindrical bore intercepted by the slot, a roll of abrasive tape disposed in the bore with the end of the tape extending downwardly through the slot and thence upwardly over an end of the base to cover the upper surface thereof, a generally rectangular clamping member peripherally enclosing the said base, the end portions thereof adapted to closely engage and bind the tape against the ends of the base, means pivotally mounting the clamping member on the base for movement about a transverse axis adjacent one end thereof, the lower edge of the end of the base adjacent the pivot means and the upper edge of the end of the base opposite thereto being relieved to permit disengagement of the clamping member.

3. In a device for sharpening cutlery, a generally rectangular, block-like base, a generally rectangular, hollow-center clamping member adapted to overlie the side and end walls of said base, an abrasive tape extending over the top surface of the base with the ends thereof extending downwardly between the end walls of the base and the end portions of the clamping member and clamped therebetween, means pivotally mounting the clamping member on the base, said means extending transversely of the base adjacent one end thereof, the said adjacent end of the base being relieved at the lower transverse edge thereof and the end of the base opposite the said adjacent end being relieved at the upper transverse edge thereof, whereby the clamping member may hinge outwardly in one direction about its pivotal mounting means and whereby the clamping member, when moved toward its clamping position, will first engage and secure the tape at said adjacent end of the base before engaging and tightening the tape at the said opposite end thereof.

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No references cited.