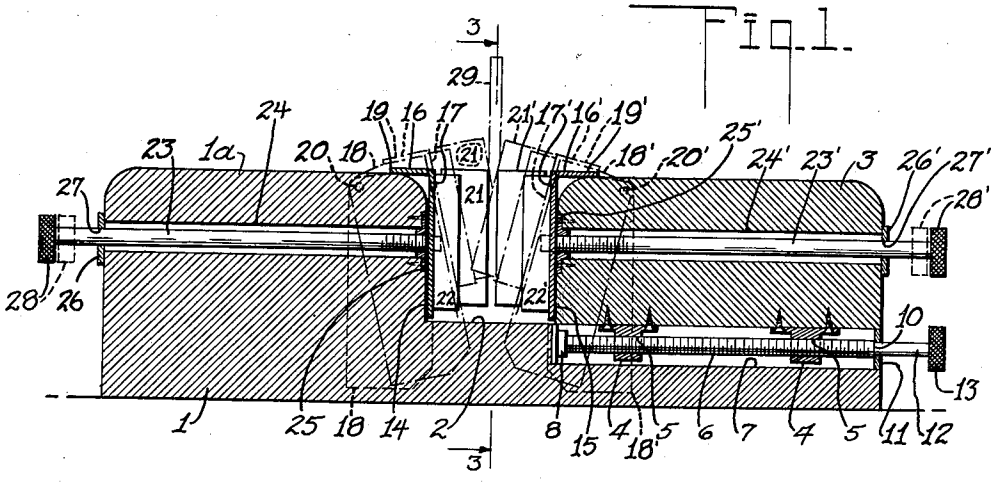
May 14, 1940. P. R. BOOTH ET AL 2,200,614

CLEAVER AND KNIFE SHARPENER

Filed April 4, 1938

Fig. 1.



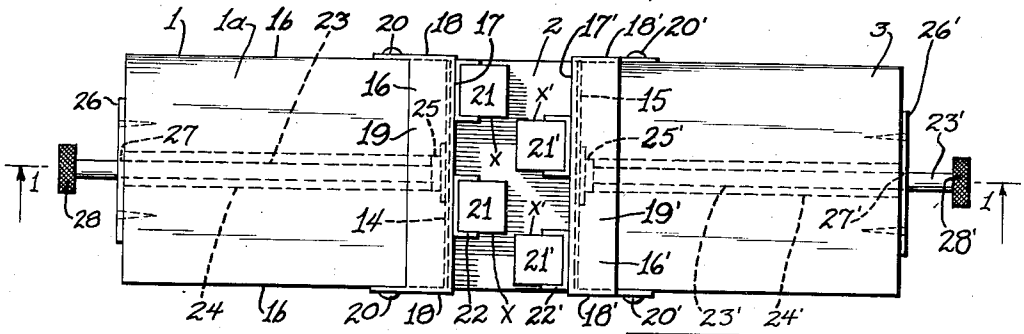


Fig. 2.

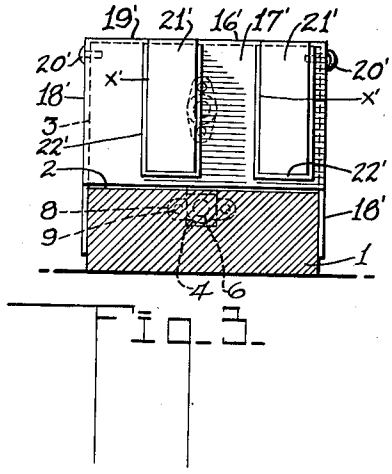


Fig. 3.

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CLEAVER AND KNIFE SHARPENER

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San Francisco, Calif.

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2 Claims. (Cl. 51—214)

Our invention relates to improvements in a cleaver and knife sharpener, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of our invention is to provide a cleaver and knife sharpener in which a plurality of stones are provided for engaging with opposite sides of a cleaver or knife. These stones are staggered so that the stones on one side can be moved into the spaces provided between the stones on the other side. We provide means for moving one group of stones toward and away from the other group and in this way the device can be adjusted to sharpen blades of various thicknesses. This adjustment also permits any wear on the stones to be taken up.

In addition to this, both sets of stones may be swung into angular positions with respect to each other and thus the desired bevelled edge can be ground onto the knife blade or other article. We have found that where the stones are adjustable toward and away from each other, and where the two groups of stones are swingable into different angular positions, then the sharpening of the knives on the stones can be performed at different places on the stone surfaces. This will obviate the formation of shoulders on the stones which results where the stones are fixed and the sharpening is done at one place.

The stones are mounted on stone-carrying members which in turn are pivoted near their tops so that the stones will normally assume a vertical position. One group of stones is carried by the base of the device, and the other group is carried by a carriage which is slidably mounted on the base. Novel means is provided for moving the carriage over the base and in this way the distance between the two groups of stones may be varied. Manually adjustable means is also mounted in the carriage for swinging the stone-carrying member supported by the carriage, into the desired angular positions. A similar manually adjustable means is provided in the base for moving the other group of stones into the desired angular positions.

The device is simple in construction and is portable so that it may be quickly moved from place to place as desired.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

Our invention is illustrated in the accompanying drawing forming a part of this application, in which

Figure 1 is a longitudinal section taken along the line 1—1 of Figure 2;

Figure 2 is a top plan view of Figure 1; and

Figure 3 is a section along the line 3—3 of Figure 1.

In carrying out our invention, we provide a base indicated generally at 1. This base may be made of any material desired such as wood or metal. The base has a cutaway portion providing a surface 2 on which a carriage 3 is slidably disposed. The carriage 3 is designed to move longitudinally over the surface 2. Any means for accomplishing this may be provided and we have shown brackets 4 secured to the carriage and each being provided with a threaded bore 5 for receiving a screw shaft 6.

The shaft 6 is mounted in a trough 7 formed in the base 1 and extending downwardly from the surface 2. The inner end of the screw shaft 6 is rotatably mounted in a socket 8 and Figure 3 shows the socket secured to the base by screws 9 or other suitable fastening means. The screw shaft also has a shoulder 10 that bears against a plate 11 secured to the base 1 and closing the outer end of the trough 7. The reduced portion 12 of the screw shaft 6 extends through the opening in the plate 11 and is provided with a knurled knob 13 by means of which the screw shaft is rotated. A rotation of the knob 13 in one direction will move the carriage 3 toward a raised portion 1a of the base 1 and a rotation of the knob in the opposite direction will move the carriage away from the portion 1a.

The portion 1a of the base 1 has a vertical wall 14 and the carriage 3 has a vertical wall 15 corresponding therewith. The two walls 14 and 15 cooperate with the surface 2 to provide a recess that will receive the knife sharpening members and associate parts now to be described.

The portion 1a pivotally carries a stone-carrying member 16. Figures 1 and 2 show the member 16 as being provided with a front wall 17, side wings 18 and a flanged top 19. Screws 20 pivotally secure the wings 18 to the sides 1b of the portion 1a. It will be noted from Figure 1 that the points of pivot 20 are disposed at the tops of the wings 18 to cause the member 16 to drop into a position by gravity where its front wall 17 will be vertical. The member 16 carries knife-sharpening stones 21 and these are spaced from each other as shown in Figure 2 for a purpose hereinafter described. The stones 21 are mounted in retainers 22 which in turn are secured

to the face 17. It is obvious that the stones may be supported by the member 16 in any other manner desired.

The means for swinging the member 16 and the stones 21 into an angular position, comprises a screw shaft 23 that is slidably mounted in a bore 24 provided in the portion 1a. The inner end of the bore is closed by a nut 25 that is secured to the portion 1a. The nut receives the threaded end of the screw shaft 24 and advances or retracts the screw shaft in accordance with the direction of rotation of the shaft. The outer end of the bore 24 is closed by a plate 26 and this plate has an opening 27 for rotatably receiving the screw shaft. A knurled knob 28 is mounted on the free end of the screw shaft 23.

The carriage 3 pivotally supports a stone-carrying member 16' that is similar to the member 16. The member 16' carries knife sharpening stones 21', similar to the stones 21. The member 16' is swung into angular positions about its pivot 20' by means of a screw shaft 23' similar to the shaft 23. In fact the mechanism for swinging the stones 21' into the desired angular positions is identical to that employed for swinging the stones 21. Corresponding reference numerals have therefore been given to similar parts with the exception that these reference numerals are primed.

It will be noted from Figure 2 that the stones 21' are staggered with respect to the stones 21 and that the space between the stones 21 will receive one of the stones 21' and also the space between the stones 21' will receive one of the stones 21.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

The stones 21 and 21', when in normal position, will be vertically disposed as indicated by the full line position shown in Figure 1. If a thick blade is to be sharpened, such as a cleaver, the knob 13 may be rotated for moving the stones 21' the desired distance away from the stones 21. The stones 21 and 21' may now be swung into an angular position that will provide the proper bevelled edge on the article being sharpened.

For example, a knife blade 29 is shown placed between the sets of stones 21 and 21' after they have been swung into the desired angular positions. The screw shafts 23 and 23' will be moved into the dotted line positions when they are rotated and this will cause the members 16 and 16' to be swung into the dotted line positions shown. If desired, the sharpening surfaces of the stones may be moistened and then the knife 29 may be moved transversely between the sets of stones.

It will be noted from Figure 2 that the lowermost two stones, 21 and 21' shown in this figure, coact together so that the edge x of the stone 21 lies practically in the same plane as the edge x' of the stone 21'. In this way the sharpening effect of the two stones is increased especially when small blades, that will not extend across all four stones, are to be sharpened. In like manner, the corresponding surfaces x and x' of the other two stones 21 and 21' lie substantially in the same plane.

It is possible to move the carriage 3 after the angular portions of the stones 21 and 21' have been fixed and this will permit the knife 29 to be sharpened at a lower point on the sharpening faces of the stones. In this way, we obviate any chance of the knives forming shoulders or steps in the faces of the stones which would be the case if the sharpening were done at one particular spot on the stones at all times. The device provides a simple and novel means for quickly arranging two groups of stones into the desired angular position and for also moving the stones the desired distance apart. In this way knives or cleavers may be sharpened and also the desired bevelled edge may be formed on the article being sharpened. A few strokes of the knife across the stones is sufficient to sharpen it. The pivoting of the members 16 and 16' at the tops of the wings 18 and 18' will cause the members to swing by gravity back into a vertical position when the knobe 28 and 28' are moved from the dotted line positions, shown in Figure 1, into the full line positions.

While we have shown only the preferred form of our invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

We claim:

1. A device of the type described comprising a base, a stone-carrying member pivotally secured to the base, stones carried by the member and normally lying in a vertical plane, a second stone-carrying member, a carriage slidable on the base and pivotally supporting the second member, stones carried by the second member and normally lying in a vertical plane, adjustable means for moving the carriage on the base for moving the second group of stones toward and away from the first group, adjustable means carried by the base for swinging the first group of stones into an angular position, and adjustable means carried by the carriage for swinging the second group of stones into an angular position.

2. A device of the type described comprising a base, a carriage slidable on the base, manually controlled means for moving the carriage into the desired position and for holding it against accidental movement, a stone-carrying member pivotally carried by the base, stones carried by the member and normally being disposed in a vertical plane, a second stone-carrying member pivotally carried by the carriage, stones carried by the second member and normally lying in a vertical plane, manually controlled means carried by the base for swinging the first member for causing the stones carried thereby to swing toward the other member, and manually controlled means carried by the carriage for swinging the second member for causing the stones carried thereby to swing toward the first stones, the stones on each member being spaced to permit the stones of the other member to pass therebetween.

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