(No Model.)

C. K. BRADFORD.

KNIFE SHARPENER.

No. 457,965. Patented Aug. 18, 1891.

FIG. 1.

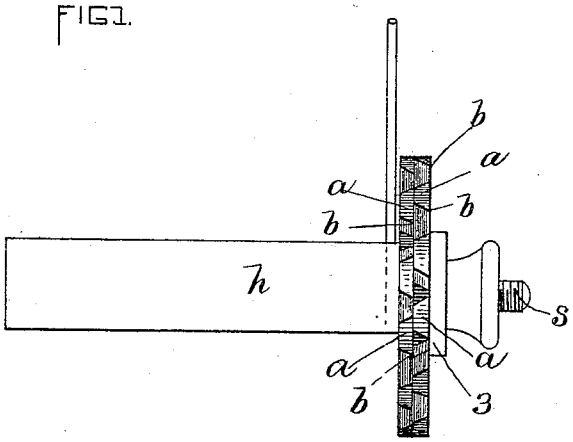


FIG. 2.

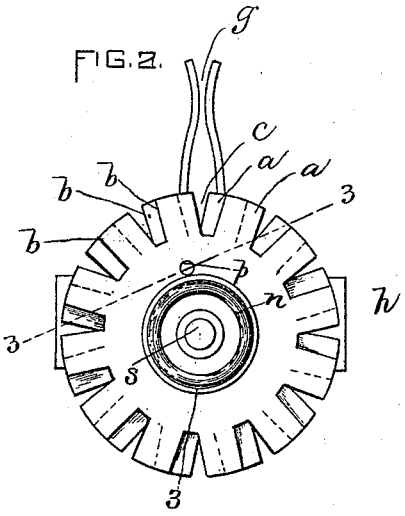
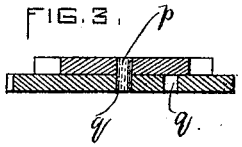


FIG. 3.



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UNITED STATES PATENT OFFICE.

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KNIFE-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 457,965, dated August 18, 1891.

Application filed December 31, 1889. Serial No. 335,528. (No model.)

To all whom it may concern:

Be it known that I, CHARLES K. BRADFORD, of Lynnfield, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Knife-Sharpeners, of which the following is a specification.

This invention relates to that class of knife-sharpeners in which steel plates are employed, having their edges arranged to form a V-shaped slot or recess through which the edge of the knife to be sharpened is drawn, the edge of the knife being sharpened by contact with the sides of the recess, said sides meeting at an extremely acute angle. Heretofore in sharpeners of this class there has been but one recess, and no provision has been made for the renewal of the acting edges of the recess when the same became worn by use, except by taking the plates apart and grinding the same.

My invention has for its object to provide a knife-sharpener of this class in which the sharpening-recesses shall be adjustable, and the plates composing the sides of the same shall be adjustable to enable the acting angles to be changed, so that after one set of angles has been worn away by use another set can be brought into action by a movement of one or both of the plates.

To this end my invention consists in the improvements which I will now proceed to describe and claim.

In the accompanying drawings, forming a part of this specification, Figure 1 represents an end view of a knife-sharpener embodying my invention. Fig. 2 represents a side view of the same. Fig. 3 represents a section on line 3 3 of Fig. 1.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention I take two plates *a a*, made of suitably-hardened steel, and provide each plate with two or more slightly-beveled edges *b b*. Said plates are placed one against the other, the side of one plate being in contact with the side of the other plate in such relation to each other that one edge *b* of one plate in connection with another edge *b* of the other plate will form a V-shaped recess *c* of suitable form for use in sharpening a knife-blade when the latter is drawn through said recess, the edge of the knife entering the apex or angle of the recess, which is made very acute in order that it may give the knife a suitable edge. The plates *a a* are secured or clamped together by any suitable means, so that they may be readily separated and adjusted, so that when the operating-angles of one edge *b* are worn away the plate may be moved so as to bring the other angle of the same edge into operative position.

In Figs. 1 and 2 I have shown each plate as composed of a series of radiating-arms separated by a series of recesses, which are of tapering form but are not V-shaped, the arms and recesses being so arranged that when the plates are placed in contact with each other side by side one edge of an arm on one plate and one edge of another arm on the other plate will together form a V-shaped sharpening-recess, as shown in Fig. 1. The two plates are centrally perforated to receive a stud or screw *s*, which attaches them to a stock or handle *h*, which handle is preferably flat upon its under side, so that it may rest firmly upon the top of a table or other support, upon which it may be held by one hand of the operator, who uses his other hand in drawing the knife through the sharpening-recess, which is, for the time being, in position for use. Whenever the edges of one recess become worn, the plates may be loosened, and one or both of them turned to bring fresh edges *b* into position to form a sharpening-recess, the plates being secured again by the screw after each adjustment.

To prevent the plates from accidentally rotating independently of each other, I provide one of the plates with a pin or stud *p*, and the other plate with one or more holes *q*, formed to receive said pin. I prefer to provide two holes *q* and locate the pin *p* so that when engaged with one hole it will hold the plates in position to enable one set of edges *b* on one plate to co-operate with the corresponding set on the other plate, and when the pin is engaged with the other hole *q* it will hold the other set of edges on the two plates in operative relation with each other. By

providing two holes and a pin to co-operate with them I decrease the holding-pressure required for the attaching-screw, so that said screw has only to serve as a connection in holding the plates upon the handle.

g represents a guide for the knife-blade while it is being sharpened. Said guide consists of two wire arms suitably secured to the handle *h*, preferably by being clamped between the end of the handle and the inner plate *a*, said guides being adjustable, so that they may be caused to stand in position to guide the knife-blade and properly present it to the recess *c* in which it is being sharpened. The operator is prevented by the guide from holding the knife diagonally in the sharpening-recess.

I do not limit myself to the above-described construction, although I prefer the same for various reasons, the chief of which is its great durability, each plate presenting a large number of acting edges, so that the device as a whole can be used for a great length of time before it is worn out.

I claim—

A knife-sharpener composed of two plates *a a*, each having a series of radiating arms provided with tapering edges *b b* to form a V-shaped recess between them, in combination with a handle or holder *h*, said plates centrally perforated to receive a stud or screw to attach them to said handle, one of said plates also provided with a pin or stud and the other with one or more holes *q* to receive said pin to prevent the plates from accidentally rotating independently of each other, and a knife-guide secured to said holder to guide a knife-blade into the recess, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 30th day of October, A. D. 1889.

CHARLES K. BRADFORD.

Witnesses:
A. D. HARRISON,
ARTHUR W. CROSSLEY.