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Haile et al.

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[54] **KNIFE SHARPENER**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 195,598, Nov. 4, 1971, abandoned.

[52] **U.S. Cl.** ..... **51/221 BS;** 76/82 R

[51] **Int. Cl.²** **B24B 19/00;** B21K 5/12

[58] **Field of Search** .... 51/218, 220, 221 R, 221 BS; 76/82, 82 BS

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[57] **ABSTRACT**

A knife sharpener for holding a knife at a predetermined angle on a whetsone in which first and second members are pivotally interconnected with corresponding first and second surfaces for gripping the knife blade. An adjustment screw is threadably coupled with the members. Each member has an outer shoulder for determining the angle at which the blade cutting edge will be maintained relative to the whetstone during sharpening.

2 Claims, 3 Drawing Figures

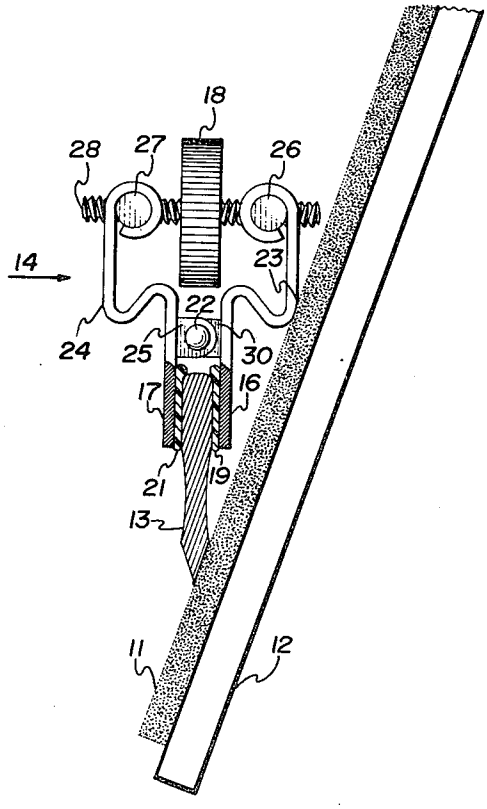
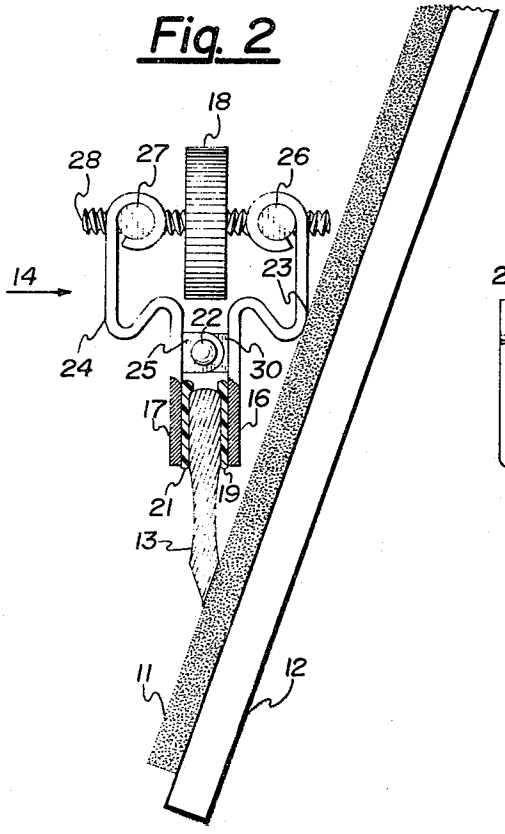


Fig. 2



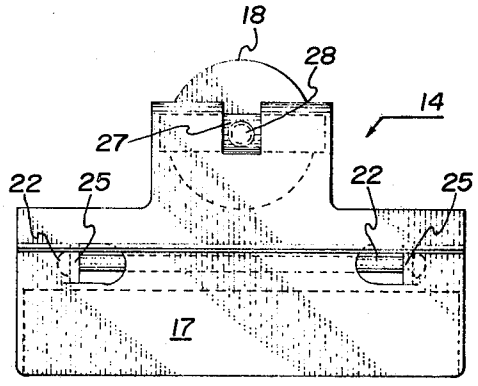
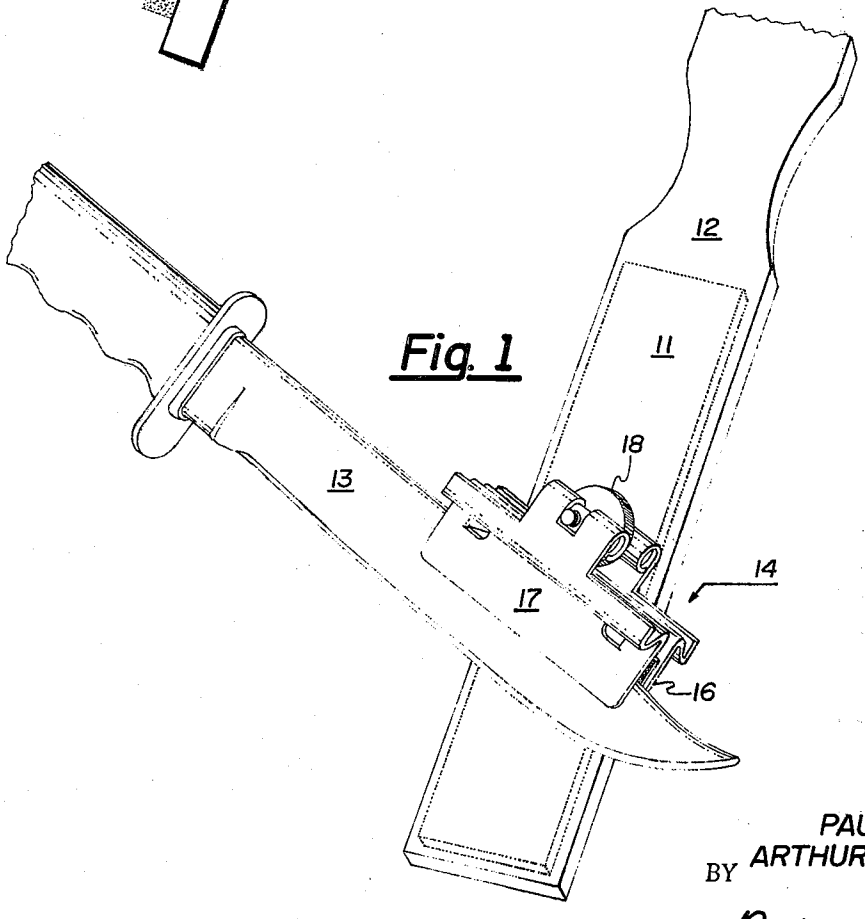


Fig. 3

Fig. 1



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KNIFE SHARPENER

This is a continuation-in-part application of copending application Ser. No. 195,598, filed Nov. 4, 1971 by Paul C. Haile and Arthur O. Sellgren for KNIFE SHARPENER now abandoned.

The present invention relates to a knife sharpener, and, more particularly, to a knife sharpener for maintaining a knife blade at a predetermined angle to the surface of a sharpening or honing means such as a whetstone.

OBJECTS AND SUMMARY OF THE INVENTION

A first aim and object of the present invention is the provision of an improved device for use in sharpening a knife.

A further object of the invention is the provision of a knife sharpener for fixedly locating the angle the knife blade makes with a sharpening or honing surface.

A still further object of the invention is the provision of a manual knife sharpener having a single adjustment.

Yet another object of the invention is the provision of a knife sharpener which is inexpensive to manufacture and assemble, and easy to use.

According to the invention, a device is provided for clamping onto a knife blade and determining the angle at which it meets a whetstone, which device includes first and second coacting parts hingedly connected together. Inwardly opposed surfaces of the parts clampingly engage the knife blade. An adjustment screw threadedly interconnects the parts and has a thumb wheel for adjusting the distance between the knife engaging surfaces of the parts. Plastic pads may be secured over the clamping surfaces to protect the knife surface.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a preferred embodiment of the present invention, shown in place on a knife and in operative relation to a sharpening or honing means.

FIG. **2** is an end elevation of the embodiment of FIG. **1.**

FIG. **3** is a side elevation of the sharpening device alone.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to FIG. **1,** a sharpening or honing means such as a whetstone is shown at **11** mounted on a suitable supporting surface **12.** A knife blade **13** with an edge to be sharpened is carried between parts or members **16** and **17** of the knife sharpener of this invention identified generally as at **14.** A thumb wheel **18** carried by the top portion of knife sharpener **14** adjustably varies the spacing of the members **16** and **17** for placing the sharpening device on the blade and taking it off. The knife blade **13** is secured between inwardly facing surfaces of the members **16** and **17** covered by relatively soft pads **19** and **21,** e.g., neoprene, the latter protecting the knife blade outer surface. Shoulders **23** and **24** on the outwardly directed surfaces of the members **16** and **17,** respectively, determine the angle at which blade edge **13** to be sharpened meets whetstone **11.** A pivot or pin **22** interconnects extensions **25** and **30** of members **24** and **23,** respectively. Pins **26** and **27,** carried by the members at the upper ends are threadably related by screw **28** having opposite threads on its two end portions for expanding and contracting the distance between knife gripping surfaces. Thumb wheel **18** is fixedly secured to the screw **28.**

It is emphasized that members **23** and **24** are identical and hence, production costs are minimal for the entire unit. It is further emphasized that only a single adjustment is necessary, i.e., adjustment screw **28.**

In use, the thumb wheel **18** is manipulated in such a manner as to locate the members **16** and **17** sufficiently spaced from one another that the knife blade may be placed therebetween. The thumb wheel is then rotated in the other direction, clamping members **16** and **17** onto the knife blade as shown in the drawing with the edge to be sharpened extending therefrom. The device and included knife is then brought into contact with the stone **11,** with the corresponding shoulder **23** or **24,** as the case may be, and the knife blade cutting edge both contacting the stone, thereby defining the predetermined sharpening angle for the blade edge. Reversal of the device and included knife provides for honing or sharpening of the other side of the blade cutting edge to precisely the same angle, thereby forming a sharpened cutting edge on the knife blade having the same angle on each side. It has been found that a substantial variation in the width of the knife blade **13** still allows an acceptable tolerance of angular contact of the blade edge.

The invention claimed is:

1. A knife sharpener for holding a knife at a predetermined angle on a whetstone, comprising:

first and second members hingedly attached at their central portions by pivotally connected opposed extensions on said members;

first and second opposite surfaces at one end of said first and second members, said surfaces being of a dimension for carrying a knife therebetween;

adjustment means at another end of said first and second members operable for adjusting the distance between said first and second surfaces;

first and second shoulders on said first and second members, respectively, and extending outwardly therefrom, said first and second shoulders being dimensioned for defining a predetermined angle between a knife carried by said first and second surfaces and a whetstone;

and said adjustment means comprises a single thumb wheel positioned between said first and second members that is threadably coupled to said first and second members.

2. The knife sharpener of claim **1** and further including:

first and second neoprene pads fixedly attached to and substantially covering said first and second surfaces, respectively.

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