

May 12, 1959

M. J. ROBITAILLE

2,885,836

KNIFE HONING AND SHARPENING DEVICE

Filed Aug. 29, 1957

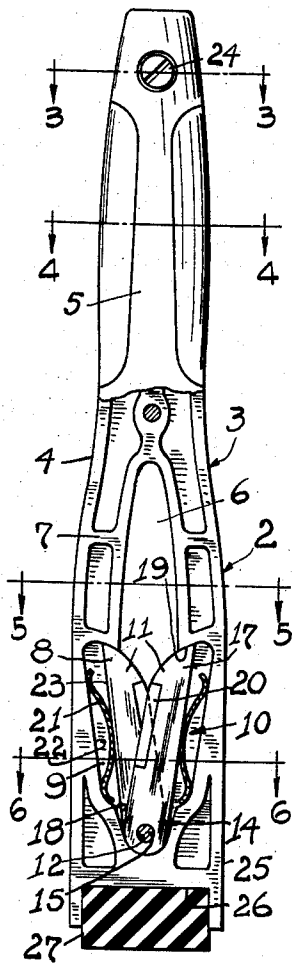


FIG. 1

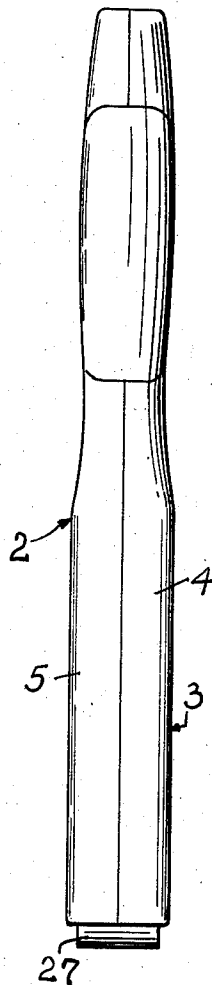


FIG. 2

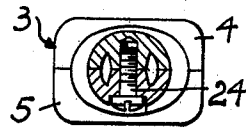


FIG. 3

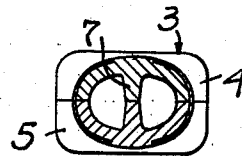


FIG. 4

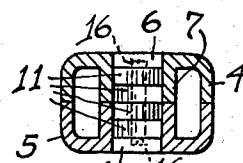


FIG. 5

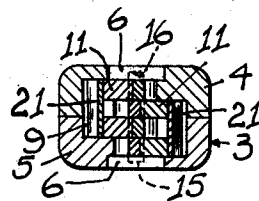


FIG. 6

INVENTOR.
MARTIAL J. ROBITAILLE
BY

Gustav A. Wolff.

ATT.

1

2,885,836

KNIFE HONING AND SHARPENING DEVICE

Martial J. Robitaille, Cleveland, Ohio

Application August 29, 1957, Serial No. 681,078

2 Claims. (Cl. 51-214)

This invention relates in general to devices for honing and sharpening cutting tools and, more particularly, to a device adapted to hone and sharpen tapered cutting edges of knives, or similar articles, to the desired bevel or taper.

The general object of the invention is the provision of a new and practical device of the character referred to which is simple in construction, inexpensive in manufacture, and efficient in function and operation for use by inexperienced operators.

Another object of the invention is the provision of a device of the character described, which includes symmetrically arranged pivotally mounted abrading element supporting sharpening blocks, arranged in angularly yielding relation with respect to each other to accommodate knives, and the like, having various beveled or tapered cutting edges.

A further object of the invention is the provision of a device of the character described, which includes stop means for the pivotally mounted supporting sharpening blocks, limiting the angular movement of these sharpening blocks in opposite directions.

Still another object of the invention is the provision of a device of the character described, in which the sharpening blocks are yieldingly forced toward each other by preloaded spring means and in honing and sharpening shifted against the force of the preloaded spring means to permit proper honing and sharpening of knives, and the like, to any desired beveled or tapered cutting edge.

Still further objects and novel features of construction, combinations and relation of parts by which the objects in view have been attained will appear and are set forth in detail in the course of the following specification. The drawing, accompanying and forming part of the specification, illustrates a certain practical embodiment of the invention, but it will be apparent as the specification proceeds that the structure may be modified and changed in various ways without departure from the true spirit and broad scope of the invention.

In the drawing:

Fig. 1 is a front elevation, partly in section, of a knife honing and sharpening device constructed in accordance with the invention.

Fig. 2 is a side view of the knife honing and sharpening device shown in Fig. 1.

Fig. 3 is a cross sectional view taken on line 3-3 of Fig. 1.

Fig. 4 is a cross sectional view taken on line 4-4 of Fig. 1.

Fig. 5 is a cross sectional view taken on line 5-5 of Fig. 1; and

Fig. 6 is a cross sectional view taken on line 6-6 of Fig. 1.

Referring now more particularly to the exemplified form of the invention shown in the drawing, reference numeral 2 denotes a knife honing and sharpening device embodying a body 3 including two substantially identical constructed cast or pressed sections 4 and 5, each of

2

which embodies an elliptically shaped cut-out portion 6. Sections 4 and 5, preferably ribbed at 7 to reduce weight, embody elongated pocket-like recesses 8 adjacent to cut-out portion 6 to form therewith a working chamber 9 for knife sharpening assembly 10 pivotally supported in body sections 4 and 5 and shiftably extended into working chamber 9 for operation in a plane rectangularly related to the axis of working chamber 9.

Knife sharpening assembly 10 embodies elongated flat levers 11 provided with bores 12 in their one end portion 14 and a pivot pin 15 which is extended through bores 12 and supported in aligned circular recesses 16 in body sections 4 and 5. The movements of levers 11 are limited by their end portions 14 and 17, end portions 14 cooperating with wall portions 18 of working chamber 9 in arresting lever movements in one direction, and end portions 17 cooperating with wall portions 19 of working chamber 9 in arresting lever movements in an opposite direction.

Levers 11 are symmetrically arranged in knife sharpening assembly 10 and include ceramic abrading stones or insets 20. These levers 11 cooperate with each other in scissor-like fashion and are yieldingly forced toward each other by leaf springs 21 in working chamber 9, which leaf springs abut wall portions 22 of the working chamber 9 and rear faces 23 of levers 11. Leaf springs 21 are preferably pretensioned to provide sharpening device 10 with sufficient resistance in all positions of the levers and permit honing and sharpening of cutting knives with various beveled or tapered cutting edges.

Sections 4 and 5 are secured to each other by screw members 24 and provide body 3 with a recessed base portion 25, recess 26 of which mounts a rubber block 27 to facilitate proper support of body 3 during knife honing and sharpening operations. In such honing and sharpening operations body 3 is supported on a desk, or the like, on rubber block 27 and held in substantially vertical position, and knives to be honed or sharpened are extended through elliptical cut-out portion 6 to contact the cutting edges of the knives with levers 11 of sharpening assembly or device 10. In these operations, pressure exerted on knives controls bevel or taper of the cutting edge produced. Honing operations are best effected with pressures smaller than the force necessary to overcome the force of preloaded leaf springs 21, tending to shift levers 11 against wall portions 19 of working chamber 9.

Having thus described my invention, what I claim is:

1. A knife honing and sharpening device comprising a supporting member having an elongated slot axially thereof, chambered means in said body adjacent to the slot forming a working chamber, a scissors-like sharpening assembly including two symmetrically arranged, elongated sharpening levers connected with each other and opposed walls of said working chamber by a single pin arranged in alignment with said slot, and pretensioned spring means in said working chamber arranged to yieldingly tilt the sharpening levers toward each other.

2. A knife honing and sharpening device comprising a supporting member having an elongated slot axially thereof, chambered means in said body adjacent to the slot forming a working chamber, a scissors-like sharpening assembly including two symmetrically arranged, elongated sharpening levers jointly pivoted to opposed walls of the working chamber, said working chamber including stop means cooperating with the sharpening levers of the sharpening assembly in limiting swing movements of the sharpening levers in opposite directions, and pretensioned spring means in said working chamber held in preten-

sioned position by said stop means to offer predetermined resistance against scissors-like opening of the sharpening levers in knife honing and sharpening operations.

References Cited in the file of this patent

UNITED STATES PATENTS

1,041,631 Johnson ----- Oct. 15, 1912

5

1,083,490
1,570,083
2,124,646
2,509,636

131,130

Haywood ----- Jan. 6, 1914
Runzi ----- Jan. 19, 1926
Barsch ----- July 26, 1938
Goldstein ----- May 30, 1950

FOREIGN PATENTS

Great Britain ----- Apr. 12, 1919