No. 699,890. Patented May 13, 1902.

A. M. McLERAN.

KNIFE SHARPENER.

(Application filed June 10, 1901.)

(No Model.)

Fig. 1

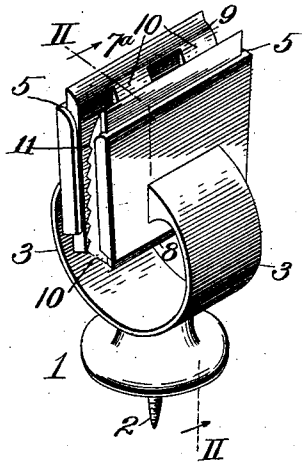


Fig. 2.

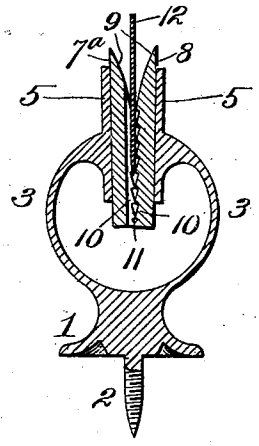


Fig. 3.

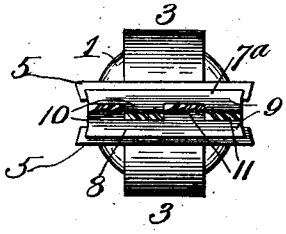


Fig. 4.

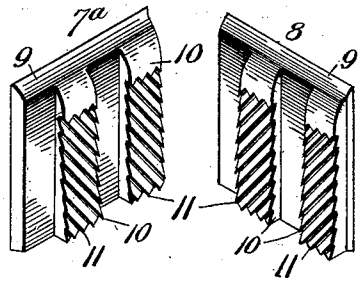
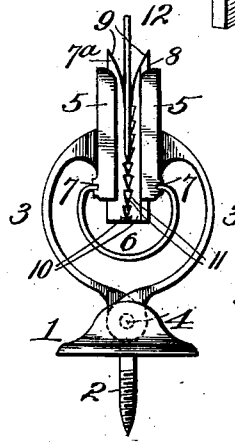


Fig. 5



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UNITED STATES PATENT OFFICE.

ALVORD M. McLERAN, OF ROSEDALE, KANSAS.

KNIFE-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 699,890, dated May 13, 1902.

Application filed June 10, 1901. Serial No. 63,914. (No model.)

To all whom it may concern:

Be it known that I, ALVORD M. McLERAN, a citizen of the United States, residing at Rosedale, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Knife-Sharpeners, of which the following is a specification.

My invention relates to knife-sharpeners, and more especially to that class whereby a knife is sharpened by drawing it longitudinally between a pair of sharpening-blades of suitable material; and my object is to produce a device of this character which in sharpening bevels the blade accurately and uniformly and maintains such bevel in subsequent operations, thereby making it possible to keep the blade always sharp by simply drawing it through the device once or twice at frequent intervals—say every day or two. A further object is to produce a device of this character which can be easily and quickly attached to or removed from a table or the woodwork of a room, which is simple, strong, and durable, and which can be manufactured cheaply.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a perspective view of a knife-sharpener embodying my invention. Fig. 2 is a vertical section of the same, taken on line II II. Fig. 3 is a top plan view of the device. Fig. 4 is a detached perspective view of the file or sharpening-blades of the device. Fig. 5 is an edge view of a modified construction of the device.

Referring now to the drawings in detail, 1 designates a base provided centrally with a wood-screw 2, to be screwed into a table or other woodwork, and provided at its opposite side with a pair of approximately semicircular arms 3, which may be integrally constructed with base 1 or may be independently constructed and hinged together and to the base, as shown at 4. In the former case they are tempered to possess the desired resiliency, for a purpose which hereinafter appears, and in either case are provided at their free end with longitudinally-grooved frames 5 to receive and hold the files or sharpening-blades, hereinafter described.

In the modified construction shown in Fig. 5, where the curved arms 3 are pivoted to the base, the frames at their free ends are held together with a yielding pressure by means of a curved spring 6, which has its ends engaging notches 7, formed in the outer sides and near the lower ends of said frames.

To prevent any possibility of the files or sharpening-blades 7^a and 8 slipping or working their way clear through the grooved frames 5 in the operation of sharpening a knife, said frames converge inwardly and the blades are correspondingly shaped, as will be seen by reference to Fig. 1, and the upper edges of the blades at their inner sides are beveled, as at 9, so as to provide a flaring mouth or chamber to act as a guide for the quick and easy insertion of the knife-blade therein. As the insertion of the knife-blade between said sharpening-blades tends to force the latter apart, it is essential in order to properly sharpen the knife-blade that the grinding-faces of the sharpening-blades shall not only converge inwardly, but shall also intersect or cross each other, so that whatever distance the knife-blade penetrates between the sharpening-blades the latter shall always present at their points of intersection a perfectly sharp edge, and therefore bevel the edge of the knife-blade correspondingly. To produce this inwardly converging and intersecting relation of the grinding-faces of the sharpening-blades, they are provided at their inner sides with longitudinal ribs 10, the outer ends of which form part of the beveled surfaces 9, hereinbefore referred to. Said ribs increase in thickness from their outer to their inner ends, and therefore when fitted together provide inwardly-converging surfaces, and the ribs of one blade fit between the ribs of the other, and consequently not only extend convergingly inward, but intersect and cross each other.

For sharpening bread and meat knives, which need only a coarse edge, I preferably provide the ribs with obliquely-extending teeth 11, substantially the same as file-teeth,

which teeth when the blades are fitted together in proper operative position extend in the same general direction and present their most abrupt faces or shoulders correspondingly, it being necessary when sharpening a knife-blade, as at 12, Fig. 2, to draw it longitudinally between the sharpening-blades with considerable force, so that as it proceeds longitudinally it shall also gradually force its way down through the blades, and in practice it is found that the dullest kind of a knife when quickly drawn through this sharpening device two or three times, the whole operation being performed in a few seconds, is beveled to a point uniformly from one end to the other, and, due to the resilient pressure with which said sharpening-blades are held together, the bevel throughout is uniform, as the sharpening-blades follow any irregularity in the surface of the knife-blade. In all subsequent sharpening operations the device maintains the bevel produced on the knife-blade, and therefore enables the latter to be kept sharp without difficulty, all that is necessary to keep it sharp being to draw the blade once or twice through the device at intervals of a day or two. The yielding pressure on the sharpening-blades adapts them to admit knife-blades of varying size or thickness, as such blades are almost without exception of about the same bevel, which original bevel, it should also be stated, is about the same as that imparted to the knife-blade by the device.

Where it is desired to put a fine edge on a knife, I provide grinding-blades constructed wholly or with their grinding-surfaces of emery, and in either case they will be formed with interlocking or intersecting longitudinal ribs, and where an extremely fine edge is desired, as upon pocket-knives, the sharpening-blades or their ribs may be composed of hone or oil stone.

From the above description it will be apparent that I have produced a knife-sharpener embodying the features of advantage enumerated as desirable in the statement of invention, and it is to be understood that I reserve the right to make such changes in its form, proportion, detail construction, and arrangement of the parts as properly fall within its spirit and scope.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends pressed toward each other with a yielding pressure, and sharpening-blades mounted in said frames and having their grinding-surfaces intersecting or crossing each other, substantially as described.

2. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, and sharpening-blades mounted in said frames and having their grinding-surfaces converging with respect to each other, substantially as described.

3. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, and sharpening-blades mounted in said frames, and having their grinding-surfaces converging and intersecting or crossing each other, and beveled to provide a flaring mouth, substantially as described.

4. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, and sharpening-blades mounted in said frames and provided with interlocking or overlapping ribs having their inner faces adapted to operate upon the knife to be sharpened, substantially as described.

5. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, and sharpening-blades mounted in said frames and provided with interlocking or overlapping ribs; said ribs having their inner faces formed with teeth which extend in the same general direction when fitted together, substantially as described.

6. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, and provided with longitudinal grooves of gradually-varying width, and sharpening-blades corresponding in form to said grooves and fitting snugly therein, and having their inner or grinding faces converging with and intersecting each other, substantially as described.

7. A knife-sharpener, comprising a base portion, a pair of arms attached thereto and provided with frames at their free ends held pressed toward each other with a yielding pressure, sharpening-blades mounted in said frames and having their grinding-surfaces intersecting or crossing each other, and means for attaching the device to a suitable support, substantially as described.

8. In a knife-sharpener, a pair of frames held toward each other with a yielding pressure, said frames being formed at their inner or opposing sides with longitudinal grooves, whose sides converge inwardly or in the direction of the pressure applied as the knife-blade is forced down between them, and sharpening-blades of corresponding taper at their side edges and of size to fit snugly in said grooves, substantially as described.

9. In a knife-sharpener, a pair of frames

held toward each other with a yielding pressure, said frames being formed at their inner or opposing sides with longitudinal grooves, whose sides converge inwardly or in the direction of the pressure applied as the knife-blade is forced down between them, and also inwardly toward the opposite frame, and sharpening-blades fitting snugly in said grooves and of corresponding contour so as to be held reliably in the frames, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

ALVORD M. McLERAN.

Witnesses:
H. C. RODGERS,
G. Y. THORPE.