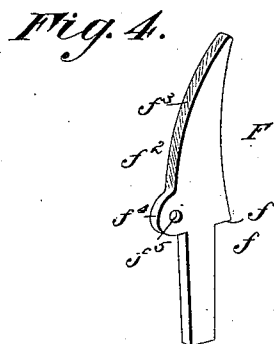
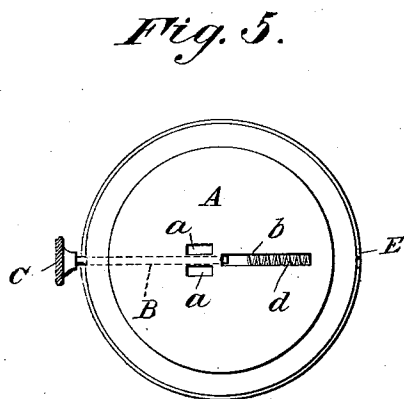
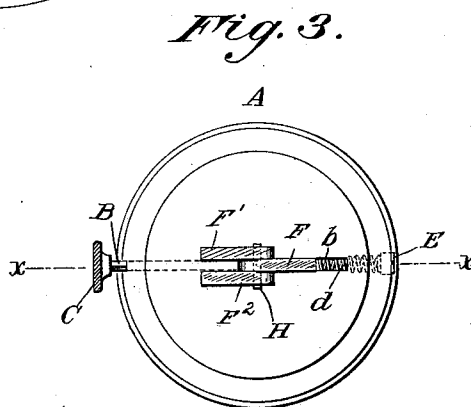
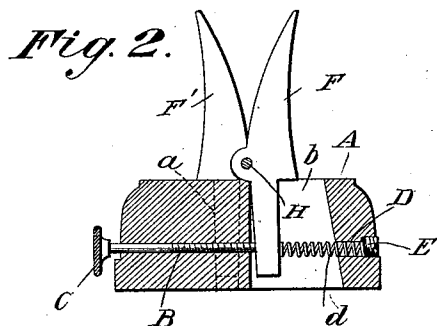
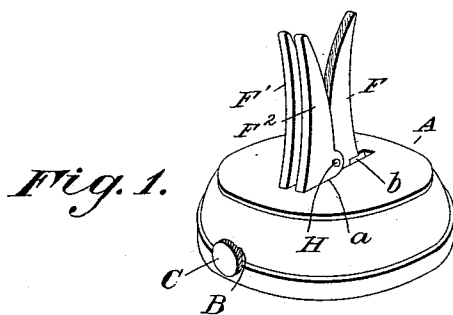


(No Model.)

C. A. MILLER.
KNIFE SHARPENER.

No. 558,407.

Patented Apr. 14, 1896.



WITNESSES

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CHARLES A. MILLER, OF MERIDEN, CONNECTICUT.

KNIFE-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 558,407, dated April 14, 1896.

Application filed October 5, 1894. Serial No. 525,002. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. MILLER, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Knife-Sharpeners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in knife-sharpeners; and it consists in the construction and arrangement of parts hereinafter described, and definitely pointed out in the claims.

The aim and purpose of the invention is the provision of improved means and special constructions whereby a quick, accurate, and positive adjustment of the relative position of the several jaws may be acquired.

In the drawings like letters of reference indicate corresponding parts in the several views, in which—

Figure 1 is a perspective view of the sharpener. Fig. 2 is a vertical section on the line xx of Fig. 3. Fig. 3 is a plan view indicating portions in dotted lines. Fig. 4 is a detail view of one of the jaws, and Fig. 5 is a plan view of the base with the jaws removed.

In the drawings, A represents the base, having the square vertical sockets a formed therein on opposite sides of its center. These sockets extend entirely through the base. In the center of the base, in alinement with the space between the sockets a , is an elongated slot b , extending from a point adjacent the sockets to a point near the edge of the base. Passing horizontally through the base and terminating at the inner end of the slot b is a threaded opening in which an adjusting-screw B is placed. This screw B is of a length sufficient to carry its end into the slot b , and carries on its outer end a milled nut or disk C, by which the same is turned. In the base opposite the screw-opening is formed a circular cavity D, opening into the slot b and through the side of the base. In this cavity is located a spiral spring d , the same closely fitting and thereby being supported in the cavity, while its inner end projects into

and partly across the slot b longitudinally and terminates at a point in proximity to the inner end of the screw. The tension of the spring is varied by a small abutting screw E, threaded into the outer end of the cavity D. By adjusting the screw inward the spring d can be moved farther inward toward the screw B.

F, F', and F² represent the sharpening-jaws of like or uniform construction, having the tapered rectangular shanks f at their lower ends, the shoulder f' near the upper end of the shank, and the blades f^2 , which have curved sharpening edges f^3 . On the lower portion of the inner or sharpening edge is formed a curved lug or lateral projection f^4 , through which a suitable eye or aperture f^5 is formed.

In arranging the jaws in the base the shanks of any two thereof, such as F' F², are driven into the sockets a , and owing to the taper of the shanks the same are tightly held in the sockets when the shanks have been forced down until the shoulders f and under edge of the lugs f^4 rest on the upper face of the base. The jaws F' F² being thus fixed in position in the base the eyes f^5 thereof will be in direct alinement. The jaw F is now adjusted by passing the shank thereof into the slot b and interposing the same between the ends of the screw B and spring d . When in that position, the lug f^4 is forced in between the lugs on the other jaws, and a suitable pintle H is passed through the eyes of the respective lugs, thereby pivotally uniting the jaws.

In operation should the cutting-surface of the jaws become worn the screw B is turned, forcing the shank of the jaw F inward against the spring and the blade with its cutting edge in between the edges of the other jaws, so that the exposed surface or apex of the space between the jaws will be changed and a new sharpening-surface be presented. By loosening the screw B the spring will force the jaws apart. It will be observed that all pressure placed on the jaws F is received by the screw rather than the spring, so that the jaw is fixedly held in operative position.

By forming the jaws of uniform shape and size they are interchangeable and can be quickly assembled. It will be further ob-

served that by pivotally uniting the jaws a very simple and strong fulcrum is provided, avoiding complicated or expensive mountings and all independent sliding or vibrating movement.

When it is desired to remove the jaws $F' F^2$, it is only necessary to drive them from the sockets by inserting a suitable driving implement into the base of the sockets. This may be necessary when the pivoted jaw is worn more than the other jaws and it is desired to interchange the same.

It is evident that many minor changes in the construction and arrangement of the parts can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a knife-sharpener, the combination with a base, of jaws fixedly secured in the base, a jaw pivotally secured to said other jaws and having a shank thereon, a spring engaging one side of the shank for spreading the jaws, and adjustable means engaging the opposite side of the shank for closing the jaws, substantially as described.

2. In a knife-sharpener, the combination with a base, of a series of like interchangeable jaws, means for securing one or more of the jaws fixedly on the base, a pivotal connection between all the jaws, a spring for normally forcing the jaws apart, and means for

closing the jaws against the tension of the spring, substantially as described.

3. In a knife-sharpener, the combination with a base, of a plurality of interchangeable jaws on the base, a pivotal connection for one of the jaws, and means for adjusting the pivotal jaw relative to the other jaws, comprising a screw passing through the base and loosely engaging the jaw substantially as described.

4. In a knife-sharpener, the combination with a base having two sockets therethrough, and an elongated slot in line with the space between the sockets, of a screw projecting into the slot, a spring in the slot opposed to the screw, jaws fixedly secured in the sockets, and a pivoted jaw having a shank entering the slot and projecting between the screw and spring, substantially as described.

5. In a knife-sharpener, the combination with a base, of a series of like interchangeable jaws thereon each formed with shanks, inclined blades and lateral perforated lugs at the lower edge of the blades, a pintle passing through the perforations, and means for adjusting one of the jaws relative to the other jaws, comprising a screw passing through the base and loosely engaging the movable jaw substantially as described.

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

CHARLES A. MILLER.

Witnesses:

FRED M. MILLER,
BIRNETT W. NORTON.