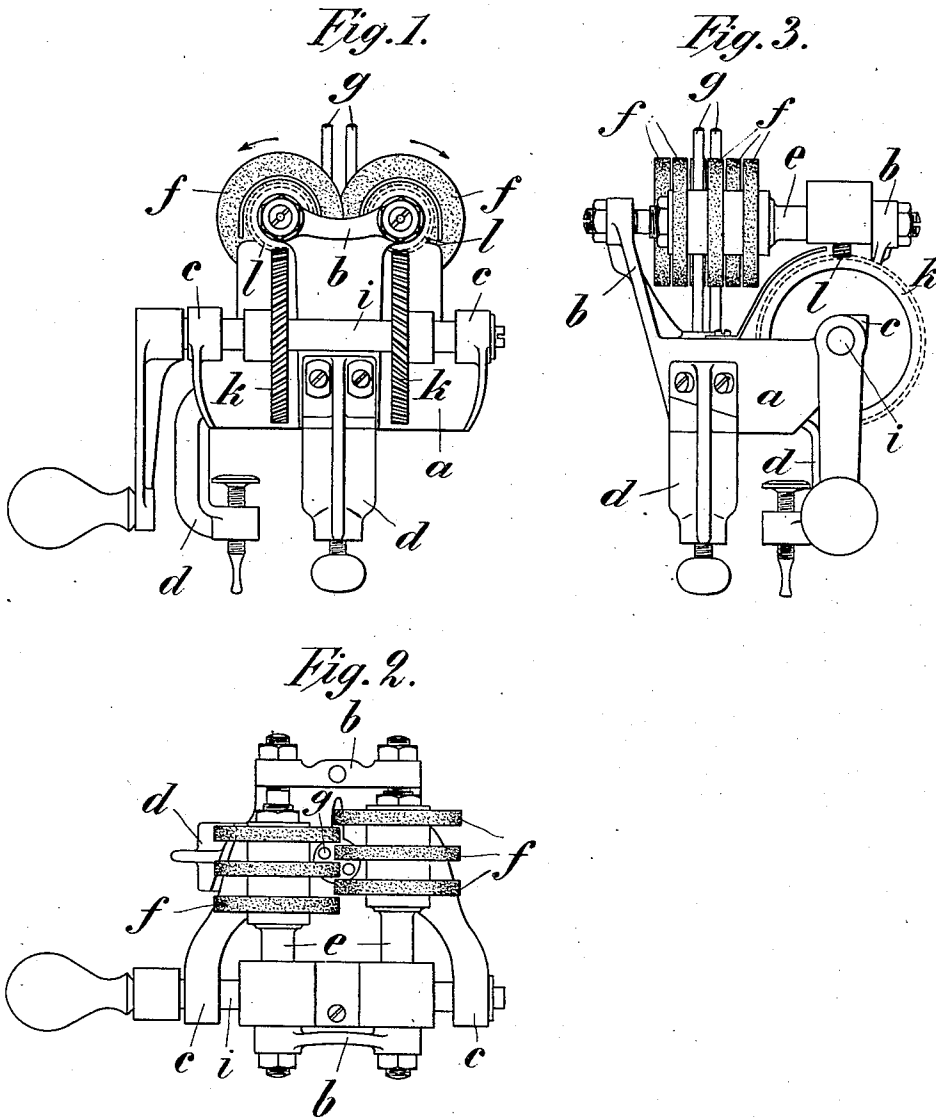


H. A. H. GUHL.
MACHINE FOR SHARPENING KNIVES.
APPLICATION FILED JULY 23, 1908.

977,624.

Patented Dec. 6, 1910.



Witnesses.
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MACHINE FOR SHARPENING KNIVES.

977,624.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HEINRICH AUGUST HERMANN GUHL, a citizen and resident of Hamburg, in the German Empire, have invented certain new and useful Improvements in Machines for Sharpening Knives and the Like, of which the following is a specification.

The present invention has for its object a machine for sharpening knives and the like which is characterized by its simplicity and its convenient construction and also in particular by its convenient manipulation and the speed with which it produces a sharp edge.

The body of the knife sharpening machine is cast and is provided with bearing brackets arranged in such a manner that two grinding disk shafts can be arranged parallel one with the other and that transversely of these shafts a driving shaft provided with a handle is able to turn in two bearing brackets and drive the grinding disk shafts through worm wheels. At its lower part the frame of the machine is provided with two clamps arranged at right angles to each other and by means of the clamping screws the machine may be fixed in a reliable manner to the corner of a table top or the like.

The circular grinding disks which alternately engage one with the other are fixed to the grinding shafts which are rotated in opposite directions. As the grinding disks on one of the shafts overlap those on the other shaft with a small part of their edge, an angle is formed by the two rows of grinding disks for the insertion of the knife blade to be ground and a good smooth cutting edge may be formed by drawing the blade once only over the grinding disks which are rotating against the blade in opposite directions.

This knife grinding machine therefore consists merely of the cast machine frame or body, the two grinding shafts and the driving shaft arranged transversely thereof.

The main features of the invention are the alternately engaging grinding disks and their operation by means of worm wheels and the driving shaft arranged transversely of the shafts of the grinding disks. This method of arranging and driving the grinding disks render possible a speedy, smooth grinding of the blade and also simplifies

the construction and manipulation of the machine.

The knife sharpening machine is illustrated in the accompanying drawing in which:—

Figure 1 is a side elevation of the machine showing the sharpening angle formed by the interfitting grinding disks. Fig. 2 is a top view of the same and Fig. 3 is a front elevation.

Similar letters of reference refer to similar parts throughout the figures.

The machine frame *a* which is preferably of cast iron comprises the upper, upwardly directed bearing brackets *b* and at right angles thereto the lateral brackets *c* and the clamps *d* provided with clamping screws and arranged at right angles one to the other by means of which the machine can be fixed to the angle or corner of a table top or the like. The brackets *b* serve for the reception of the two grinding disk shafts *e* which are mounted between adjustable points fixed in the brackets in such a manner that each of the brackets *b* carries one end of the grinding disk shafts *e*. On each of these shafts *e* three grinding disks *f* of emery or the like are fixed in such a manner that the disks *f* on one of the shafts *e* engages with a small part of its edge between the disks on the other shaft *e* so that the two rows of grinding disks *f* form a grinding angle into which the knife blade to be sharpened is introduced between the guide pins *g*.

The driving shaft *i* provided with a handle *h* is mounted in the lateral brackets *c*; by means of this shaft the grinding disks *f* may be caused to rotate in opposite directions by means of worm wheels *k* and *l* fixed upon the said shaft *i* and the shafts *e* respectively.

In order to sharpen a knife it will be sufficient to draw it once between the grinding disks *f* rotating in the direction indicated by the arrows in Fig. 1; for obtaining a keen edge the pair of grinding disks which act last may advantageously be formed of a finer grinding material.

I claim:

A sharpening machine comprising a frame composed of a single piece of cast metal provided with upwardly extending parallel arms, lateral arms extending at right angles to the aforesaid arms, parallel

shafts journaled in said parallel arms, a series of grinding disks spaced apart on each shaft, a worm wheel fixed on each shaft, a driving shaft journaled in the lateral arms at right angles to and below the parallel shafts, worm wheels on the driving shaft in mesh with the worm wheels on the parallel shafts, straight guide-pins mounted on the frame extending up between the grinding disks and downwardly extending clamping arms fixed on the frame at right angles to each other.

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