W. S. HANNAN.

GRINDING DEVICE.

APPLICATION FILED OCT. 14, 1907.

914,718.

Patented Mar. 9, 1909.

Fig. 1.

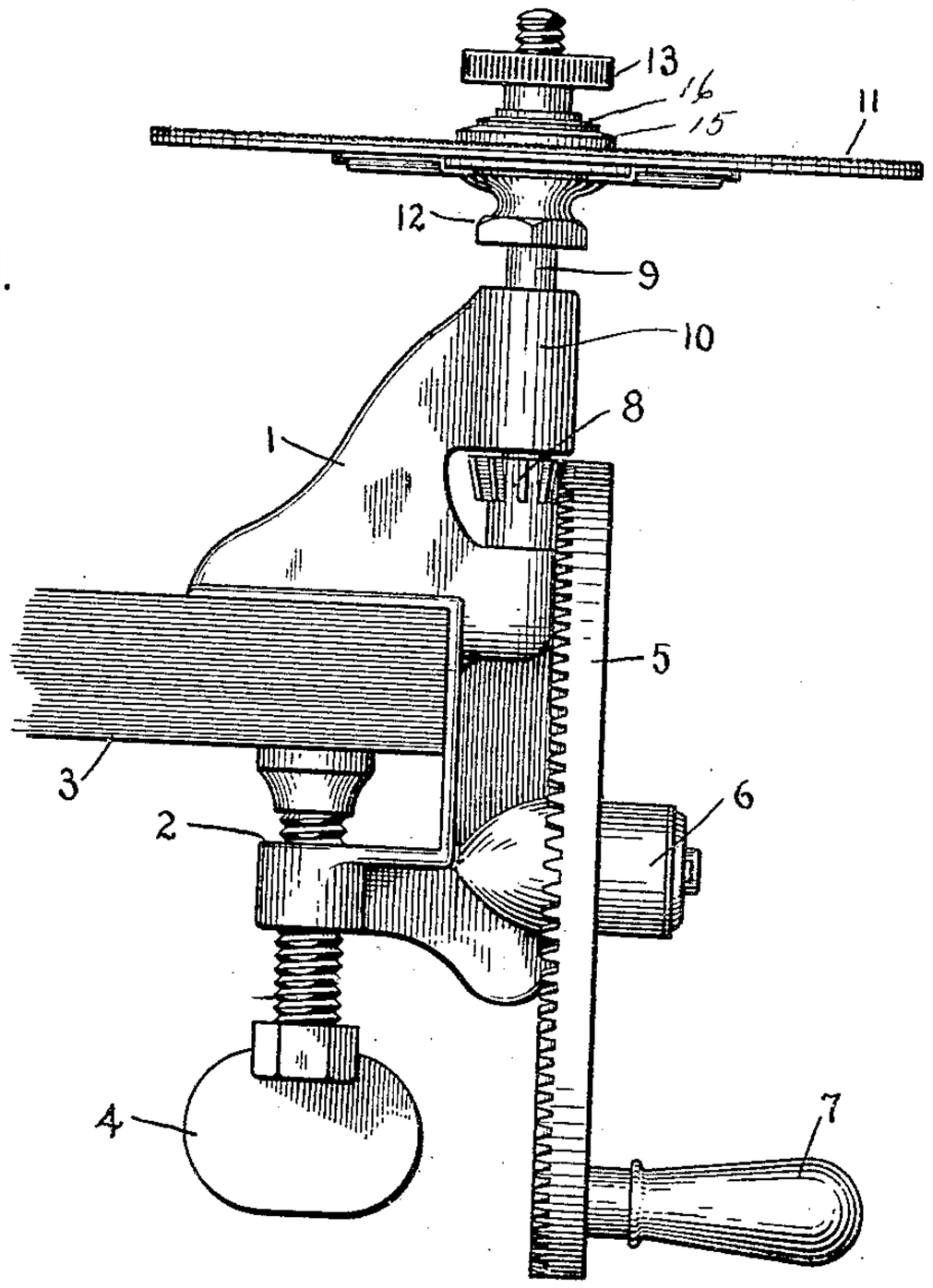
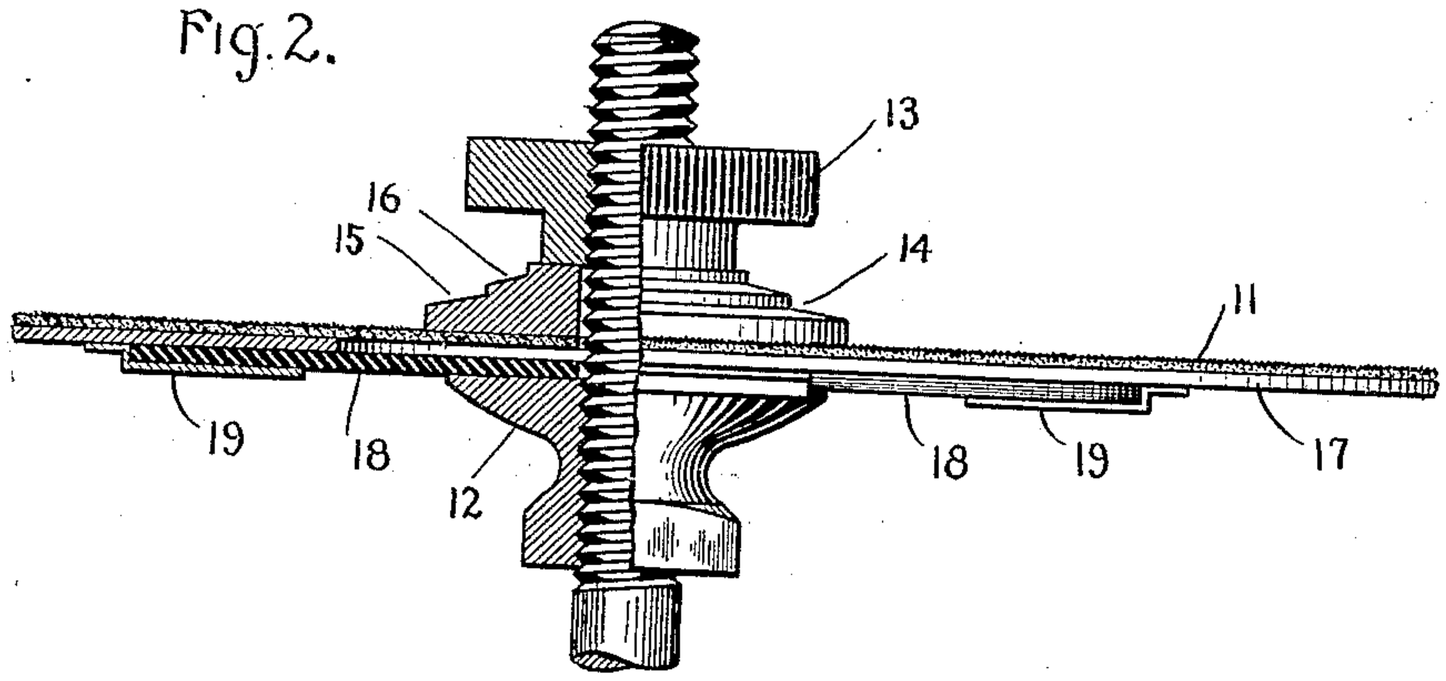


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM S. HANNAN, OF SCHENECTADY, NEW YORK.

GRINDING DEVICE.

No. 914,718. Specification of Letters Patent. Patented March 9, 1909.

Application filed October 14, 1907. Serial No. 397,258.

To all whom it may concern:

Be it known that I, WILLIAM S. HANNAN, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Grinding Devices, of which the following is a specification.

This invention relates to grinding or abrading devices and has for its object the provision of means whereby a grinding operation may be performed in a simple, accurate and reliable manner.

My invention relates more specifically to devices for grinding knives and the like in which the operation is performed by hand through the agency of an abrading or grinding disk or wheel.

In carrying out my invention I employ a grinding wheel having an abrading surface on the flat portion and not on the edge or the periphery of the wheel. In connection with this grinding surface I employ a guiding or resting device so arranged that the knife may be held at a definite angle with the abrading surface by an unskilled hand. I also employ a disk having a flexible central portion by which it is supported so that the grinding surface will yield under the pressure of the knife and produce a uniform result in a very simple manner.

My invention therefore comprises the features of construction and the arrangement and combination of elements hereinafter set forth and pointed out in the claims annexed hereto.

In the accompanying drawings in which I have shown my invention embodied in a concrete form, Figure 1 represents an elevation of the device and Fig. 2 a detail of the grinding wheel partly in section.

Referring to the drawings, 1 is a supporting bracket on which the grinding device is mounted being provided with a jaw portion 2 adapted to fit on to a table 3 or other support and held there by means of the thumb nut 4 arranged in a well known manner. A bevel wheel 5 has a bearing at 6 in the bracket and is provided with a handle 7 for turning the same. A bevel pinion 8 is revolubly mounted so as to mesh with the gear 5. This pinion is fixedly mounted upon the shaft or arbor 9 having a bearing in the bracket at 10. This shaft has a screw portion at its upper end to which the grinding disk 11 is secured by means of the lower nut 12 and a thumb screw 13. Between the nut 12 and the screw 13 is provided a graduated rest block 14 having beveled surfaces 15 and 16. This block is circular, as shown, and is clamped down on to the disk by means of the thumb screw 13, the grinding disk 11 being preferably made with a flexible central portion. For purposes of illustration I have shown the disk as made up of a rigid metallic collar or ring 17 and a central portion of rubber 18 secured to the metal ring by means of the clamps 19. Upon the collar 17 is mounted an abrasive material, such for instance as emery or carborundum cloth. The particular material, however, used upon this wheel forms no part of my invention and may be varied at will.

To perform the grinding operation, the back of the knife or other implement is laid upon one of the surfaces 15 or 16, depending upon the width of the knife and the angle at which the grinding is desired. The knife is held upon this rest with one hand while with the other hand the wheel 5 is turned by means of the handle 7. The flexible wheel prevents any injury to the knife by excessive pressure and produces an even and smooth cutting edge. If it is desired to grind at a different angle, the knife may be moved on to the other guiding surface. The grinding disk may be changed in a very simple manner by loosening the screws and substituting a new grinding surface, as for instance by putting in a new piece of emery cloth.

It will be understood, of course, that while I have shown my invention in connection with specific details of construction that I do not limit my invention to this particular arrangement since various modifications will suggest themselves to those skilled in the art without departing from the spirit of my invention, the scope of which is set forth in the annexed claims.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A knife grinding machine comprising an abrading disk, and a central rotatable support therefor provided with means for supporting a knife at different angles with the disk.

2. A knife grinding machine comprising a flexible abrading disk a support for the knife, and means for rotating the disk and support.

3. A knife grinding machine comprising an

abrading disk, means for rotating the same in a horizontal plane, and a central support for the disk having a graduated resting surface mounted to support the knife at different angles, with the disk.

4. A knife grinding machine comprising a flexible abrading disk, means for rotating the same in a horizontal plane, and a central rotatable support for the disk having a tapered resting surface for the knife.

In witness whereof, I have hereunto set my hand this 2nd day of October, 1907.

WILLIAM S. HANNAN.

Witnesses:
F. J. SEABOLT,
CHARLOTTE SECOR.