A. O. S. TAYLOR.

GRINDING MECHANISM.

APPLICATION FILED DEC. 27, 1920.

1,422,635. Patented July 11, 1922.

Fig. 1.

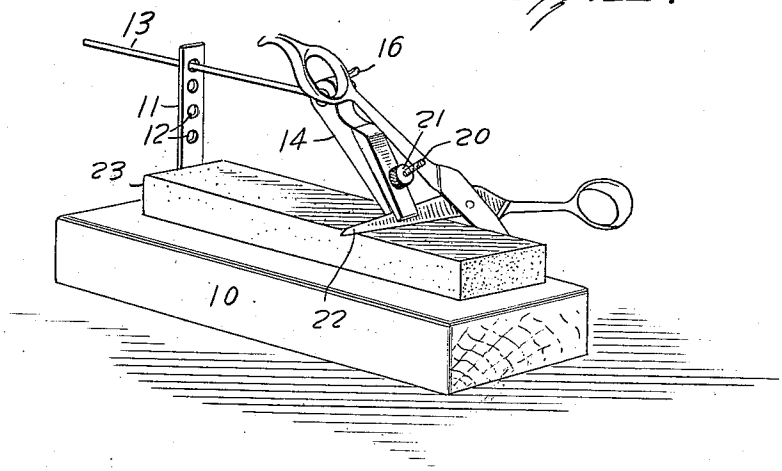


Fig. 2.

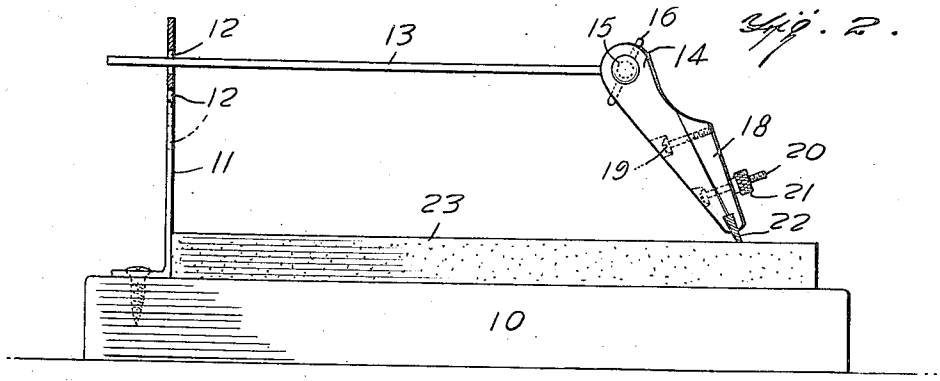


Fig. 3.

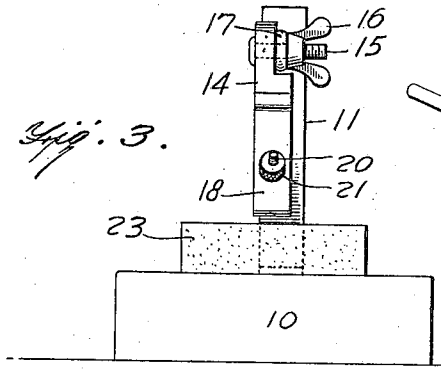
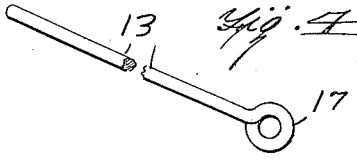


Fig. 4.



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GRINDING MECHANISM.

1,422,635. Specification of Letters Patent. Patented July 11, 1922.

Application filed December 27, 1920. Serial No. 433,258.

To all whom it may concern:

Be it known that I, ARTHUR O. S. TAYLOR, a citizen of the United States, residing at Billings, in the county of Yellowstone and State of Montana, have invented certain new and useful Improvements in Grinding Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to grinding guides and has for an object to provide a mechanism to be used in conjunction with an abrading member for holding in proper position an article to be moved in engagement with such abrading member for grinding purposes.

A further object of the invention is to provide a device which may be rigidly connected with a cutting mechanism such as a shear, and for holding the said cutting mechanism at the proper angle relative to the abrading member while permitting the manual moving of such mechanism relative to the abrading member, both longitudinally and laterally for the purpose of grinding the member so held.

With these and other objects in view, the invention comprises certain novel elements, units, parts, structures, combinations and functions as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a perspective view of the device assembled in conjunction with a shear to be ground;

Figure 2 is a view of the device in side elevation also connected with a shear blade;

Figure 3 is a view in end elevation as indicated by the arrow 3 at Figure 2, and

Figure 4 is a perspective view of the holding rod removed from connection with the other parts.

Like characters of reference indicate corresponding parts throughout the several views.

The improved grinding guide which forms the subject matter of this application comprises a base 10 of any convenient or desired size, shape and material, rising from one end of which is an upright 11. The upright is provided with a plurality of spaced perforations 12, and a rod 13 is provided slidable through said perforations, as may be required, permitting both longitudinal movement therein and lateral, or swinging, movement, or oscillation relative thereto.

A clamping member, shown as an entirety at 14, is attached to the rod adjustably by means of a screw 15 with a wing nut 16, the screw being inserted through the eye 17 of the rod 13, whereby the clamping member 14 and the rod 13 may be secured together at any desired or required angle. As a part of the clamping member 14 a jaw 18 is provided, connected therewith in any approved manner, as by a screw 19 loosely fitting the threads in the jaw 18 and with a screw 20 having a knurled nut 21 thereon for the purpose of exerting clamping stress upon the jaw 18 to clamp the blade of the implement being operated upon, as shown at 22.

Upon the base 10 an abrading member 23 is carried, which may be secured thereon as desired, or may be simply placed thereon and held by its own weight.

In operation, the angle of the rod 13 to the clamp 14 is adjusted to correspond to the angle of the grind which is to be applied to the implement as the blade 22. It is obvious that the angle may be changed as circumstances may require, whereby the angle of grinding will also be changed, or the angles may be relatively adjusted so that the angle already provided upon the cutting blade may be accurately maintained. With the blade clamped in the position shown at Figures 1 and 2, the device is moved over the abrading member 23 manually by moving in any direction found convenient, both longitudinally to the rod 13 and by oscillating the rod, the perforations 12 being sufficiently larger than the rod 13 to permit such oscillation. This permits the blade to be ground throughout its entire length where it is longer than the abrading member, as shown at Figure 1.

If the angle of grinding is considerably acute so that the angle between the rod 13 and the clamp 14 is more obtuse than that shown at Figures 1 and 2, the screw 15 will naturally be lowered relative to the abrading member 23 requiring the rod 13 to be inserted and operated through some of the perforations 12 other than that shown in the drawings.

When one blade has been ground the device is released from the clamp and another blade applied either of the same shear or a different article.

It is obvious that the device is capable of minor changes in construction and adjustments whereby other articles than shears may

readily be clamped thereto and ground thereon.

What I claim to be new is:

A base, a vertical standard attached to said base near the end of said base forming an abutment for an abrasive stone on said base, said standard having a vertical series of holes, a rod of smaller diameter than said holes, the rod adapted to reciprocate in either of said holes, and a transverse clamp adjustably attached to one end of said rod to hold a blade against the upper surface of said stone.

In testimony whereof I hereunto affix my signature.

ARTHUR O. S. TAYLOR.