S. R. AND L. C. ADAMS.

GRINDSTONE.

APPLICATION FILED MAR. 30, 1920.

1,375,343. Patented Apr. 19, 1921.

FIG. 1.

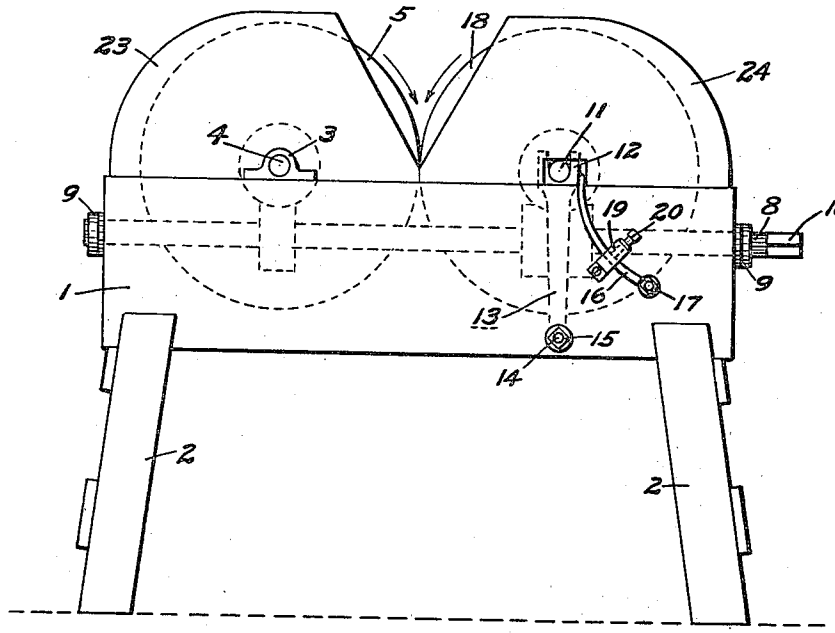


FIG. 2.

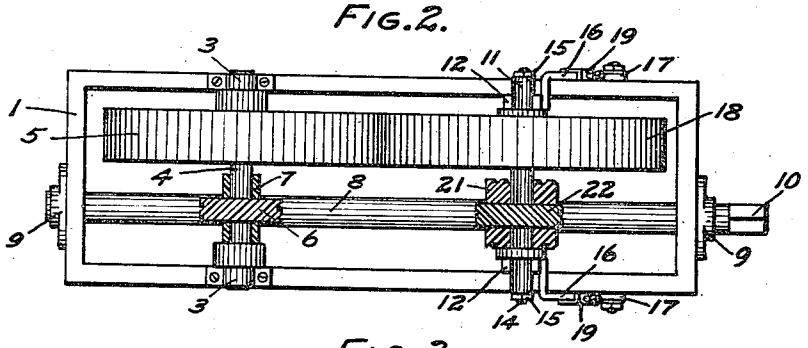
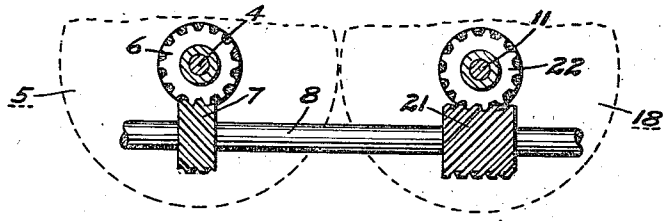


FIG. 3.



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GRINDSTONE.

1,375,343. Specification of Letters Patent. Patented Apr. 19, 1921.

Application filed March 30, 1920. Serial No. 369,893.

To all whom it may concern:

Be it known that we, SHERMAN R. ADAMS and LLOYD C. ADAMS, citizens of the United States, residing at Long Beach, in the county of Los Angeles and State of California, have invented new and useful Improvements in Grindstones, of which the following is a specification.

Our invention is a grind stone and consists of the novel features herein described and illustrated in the annexed drawing which forms a part of this specification.

Referring to the drawing,

Figure 1 is a side elevation of our grind stone.

Fig. 2 is a plan of our grind stone with the hoods removed.

Fig. 3 is a side view of the drive gearing.

In the drawing 1 indicates a box-shaped frame which is mounted at its ends on legs 2. In bearings 3 secured to the upper edge of the sides of the frame 1 is journaled a shaft 4 extending transversely of the frame on which shaft is secured a circular grinder 5, preferably of emery. On the shaft 4 is also secured a spiral gear 6 which meshes with a spiral gear 7 secured on a shaft 8 extending longitudinally in the frame 1 below the gear 6 through the end walls of the frame and journaled in bearings 9 secured to said end walls. The shaft 8 has a squared end 10 on which may be secured a crank or a pulley for driving the shaft. A shaft 11 extends transversely above the frame 1 on a level with the shaft 4 that is journaled in forked bearings 12, on the upper end of a pair of upstanding arms 13, which arms are fulcrumed at their lower ends on a shaft 14 extending transversely of the frame 1 through the side walls thereof. Nuts 15 are secured on the outer ends of the shaft 14 against the side walls of the frame 1. Springs 16 are secured at one end at 17 to the outside of the side walls of the frame 1 and extend upwardly and over the upper edge of the side walls of said frame and engage at their upper ends with the upper ends of the arms 13 which springs force the arms 13 to the left and maintain the grinder 18, which is secured on the shaft 11, in contact with the grinder 5.

The grinder 18 like the grinder 5 is preferably made of emery.

Yokes 19 are secured to the outside of the side walls of the frame 1 through which yokes extend the springs 16. Set screws 20 are screw-seated in the ends of the yokes 19 for engaging the springs 16 to vary the tension thereof applied to the arms 13. By means of said screws 20 the tension of the grinder 18 against the grinder 5 may be adjusted.

A spiral gear 21 is secured on the shaft 8 which meshes with a spiral gear 22 secured on the shaft 11, the spiral gear 21 being of sufficient length to permit the arms 13 to swing to the right or left for accommodating the grinder 18 to the grinder 5. Hoods 23 and 24 are placed over the grinders 5 and 18 and rest on the upper edge of the frame 1, said hoods being cut at an angle at their inner ends to expose the meeting surfaces of the grinders 5 and 18 for grinding purposes.

The operation of our grindstone is as follows:

Power is applied to the shaft 18 through a crank or pulley secured on the squared end 10 of the shaft. As the shaft rotates the gears 7 and 21 engage the gears 6 and 22 respectively and rotate the grinders 5 and 18 respectively in a clockwise and counter-clockwise direction. A tool is inserted between the grinders 5 and 18 and is sharpened thereby. As the grinders wear the springs 16 engage the arms 13 and swing the grinder 18 to the right and maintain said grinder in contact with the grinder 5 thus taking up the wear of said grinders.

Various changes may be made without departing from the spirit of the invention as claimed.

What is claimed is:

A grind stone including a frame, a grinder wheel journaled in said frame, a pair of arms fulcrumed in said frame, a shaft journaled in the upper ends of said arms, a second grinder wheel secured on said shaft for engaging said first grinder wheel, springs engaging said arms for maintaining said second grinder wheel in engagement with said first grinder wheel, means for driving said grinder wheels for sharpening a tool therebetween, and means for varying the tension of said springs.

In testimony whereof we have signed our names to this specification.

SHERMAN R. ADAMS.
LLOYD C. ADAMS.