

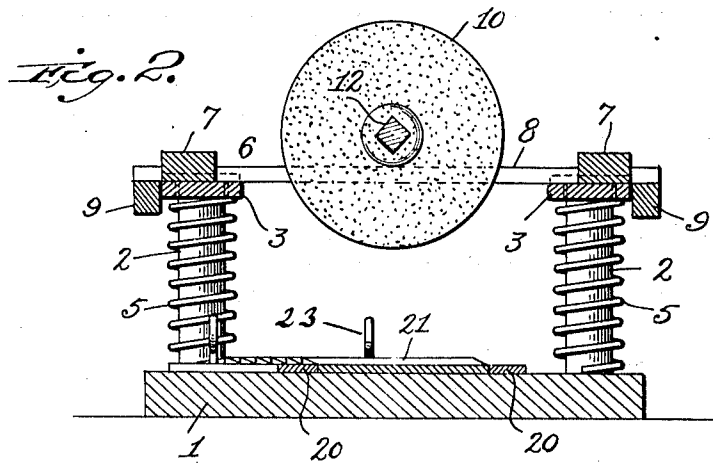
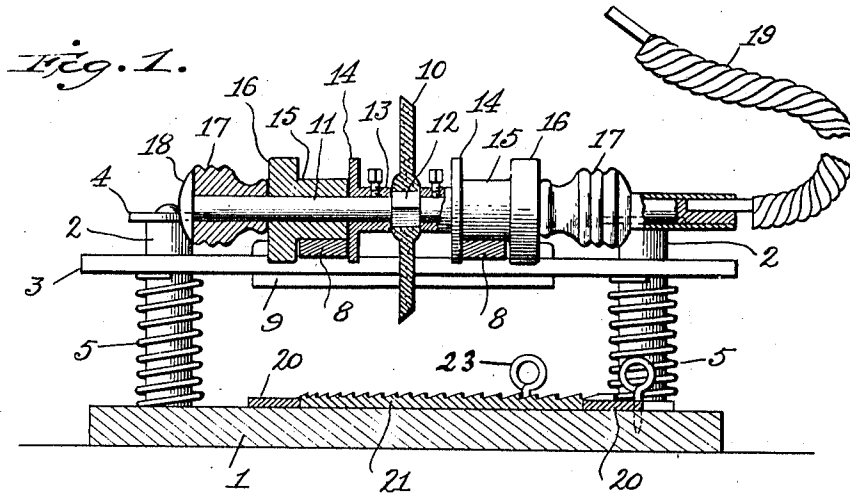
J. C. CRAMER.
GRINDING MACHINE.

APPLICATION FILED JUNE 17, 1912.

1,051,695.

Patented Jan. 28, 1913.

2 SHEETS—SHEET 1.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

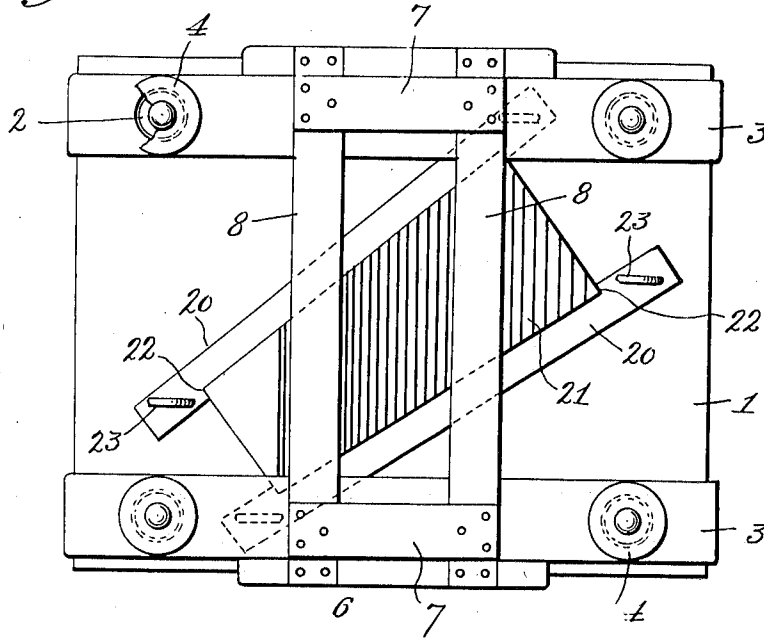
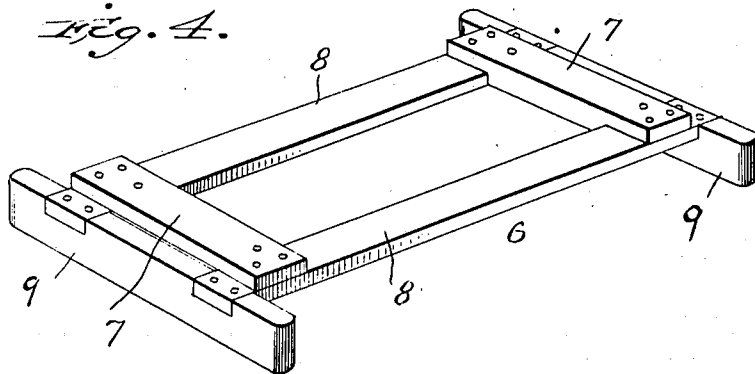


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH C. CRAMER, OF ROSEBURG, OREGON.

GRINDING-MACHINE.

1,051,695.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed June 17, 1912. Serial No. 704,157.

To all whom it may concern:

Be it known that I, JOSEPH C. CRAMER, a citizen of the United States, and a resident of Roseburg, in the county of Douglas and State of Oregon, have invented certain new and useful Improvements in Grinding-Machines, of which the following is a specification.

The invention relates particularly to grinding machines such as are employed in dressing the channeled surface of grinding plates used in flour-mills.

It has for its object the provision of means whereby the cutting edges of the grinding surface can be readily sharpened to meet the requirements.

The invention consists in the novel construction, combination and arrangement of parts hereinafter described, pointed out in the appended claims, and illustrated in the accompanying drawings.

In the drawings, in which similar reference characters designate corresponding parts, Figure 1 is a longitudinal vertical sectional view of a grinding machine embodying the invention. Fig. 2 is a transverse vertical sectional view. Fig. 3 is a plan view with grinding member removed. Fig. 4 is a detail perspective view of the sliding carriage.

Projecting upwardly from the four corners of the base-plate 1 are the studs 2. Movable mounted on these studs, one on each side are the longitudinal guide-ways 3. Each guide-way has openings in its ends through which pass the studs 2 on that side. The upward movement of the guide-way on the studs is limited by the disks 4 fastened to the tops of the studs. On each stud is a spiral spring 5 normally pressing the end of the guide-way upward against the disk. Movable mounted on the longitudinal guide-ways 3 is the carriage 6, extending transversely across the machine. This carriage comprises the end-pieces 7 and the cross-bars 8 rigidly joined together. On each end of the carriage is the downwardly projecting flange 9 outside of the guide-way 3 on that side. The flanges 9 extending over the outer edges of the guide-ways 3 hold the carriage to its path of travel along the longitudinal guide-ways 3.

The tool for dressing the surfaces of the grinding plates comprises the abrasive wheel 10 fast on the spindle 11. The spindle is angular in cross-section, as at 12, and fits

a similarly shaped socket in the hub of the wheel. The wheel is clamped in place on the spindle between the collars 13 secured to the spindle by set-screws. On the outer end of each collar is the flange 14. Adjacent to the flanged end of each collar is the roller 15 journaled on the spindle. The body of this roller is of less diameter than the flange 14, and on the outer end of the roller is the flange 16 of the same diameter as the flange 14. Journaled on the spindle outside of each roller is the handle 17, held in place by the disk 18 fast on the spindle. It is to be observed that the spindle is free to rotate in both the roller 15 and the handle 17. Each roller is adapted to travel on one of the cross-bars 8 of the movable carriage, and is held in its path of travel thereon by the flanges 14 and 16. The spindle is rotated by the flexible shaft 19 leading from a suitable source of power.

On the base-plate 1 are the clamping-rods 20 for holding the grinding plate 21 in place for the dressing operation. These clamping-rods extend diagonally across the base-plate so as to position the grinding plate properly with relation to the path of travel of the dressing tool. The inner edges of the clamping-rods are recessed, as at 22, to engage the corners of the grinding plate to hold the latter firmly in place. The clamping-rods are secured to the base-plate by the thumb-screws 23. By loosening the thumb-screws the grinding plate can be readily removed and another placed in position for dressing.

The operation of the device is as follows: The grinding plate 21 having been positioned and secured on the base-plate by the clamping-rods 20 and the spindle 11 put in rotation by the flexible shaft 19, the carriage 6 is moved to one end of the longitudinal guide-ways 3, and the grinding tool is moved to end of the carriage. The two handles 17 are grasped by the operator and the tool is pressed downward until the edge of the abrasive wheel 10 engages one of the channels in the grinding plate 21. When the tool is pressed downward, it is moved against the action of the springs 5 on the studs 2 pressing against the under sides of the longitudinal guide-ways 3 carrying the carriage 6 supporting the tool. By moving the tool back and forth with the rollers traveling on the cross-bars 8, the channel can be dressed throughout its entire length.

When one channel is completed, the pressure on the handles is lessened to permit the springs 5 to lift the carriage so that the abrasive wheel clears the channel. The carriage is then moved along the longitudinal guide-ways 3 to position the abrasive wheel above another channel. The tool is then depressed into engagement with this channel and the operation is repeated.

10 In the drawings the grinding plate 21 is shown as being flat, but the machine is adapted to either concave or convex grinding plates.

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

1. In a grinding machine, a base-plate, clamping means for holding the article to be ground on the base-plate, depressible guide-ways mounted on the base-plate, a carriage movable on the guide-ways, and a grinding tool adjustable on the carriage.

2. In a grinding machine, a base-plate, clamping means for holding the article to be ground on the base-plate, studs on the base-plate, longitudinal guide-ways movable on the studs, springs on the studs normally pressing the guide-ways upward from the base-plate, a carriage movable on the guide-

ways, and a grinding tool adjustable on the carriage. 30

3. In a grinding machine, a base-plate, clamping means for holding the article to be ground on the base-plate, depressible guide-ways longitudinally mounted on the base-plate, a carriage longitudinally movable on the guide-ways, cross-bars on the carriage extending transversely of the guide-ways, and a grinding tool adjustable on the carriage along the cross-bars. 35

4. In a grinding machine, a base-plate, clamping means for holding the article to be ground on the base-plate, depressible guide-ways longitudinally mounted on the base-plate, a carriage longitudinally movable on the guide-ways, cross-bars on the carriage extending transversely of the guide-ways, an abrasion wheel, a rotatable spindle carrying the abrasion wheel, rollers on the spindle to travel on the cross-bars of the carriage, and handles on the spindle. 40 45 50

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

JOSEPH C. CRAMER.

Witnesses:

W. W. ELDER,
GRACE ELDER.