

J. H. MINER.
 SAW GRINDING MACHINE.
 APPLICATION FILED DEC. 2, 1907

908,304.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

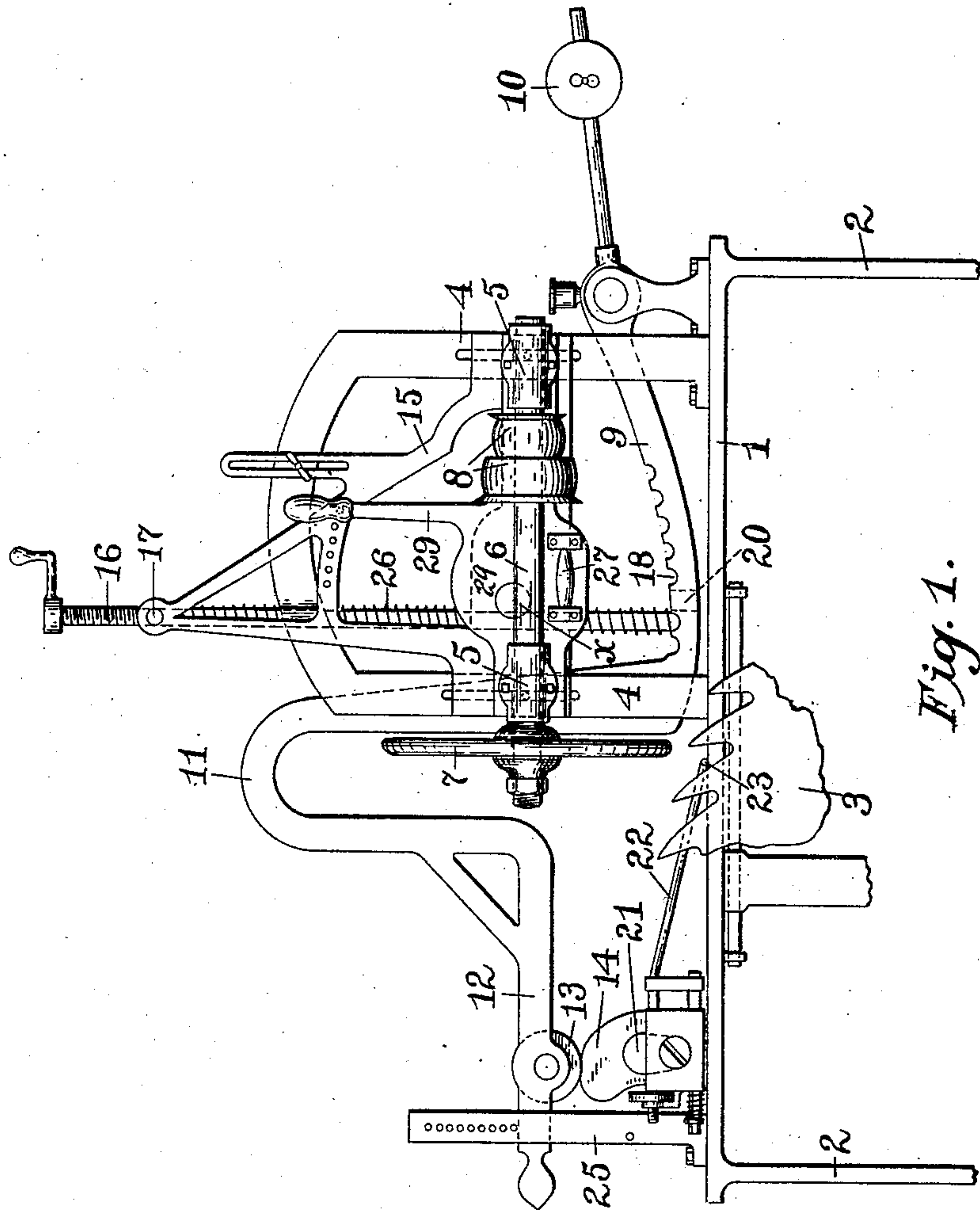


Fig. 1.

Attest:

Edw. L. Tolson
 Edward N. Sarton

By

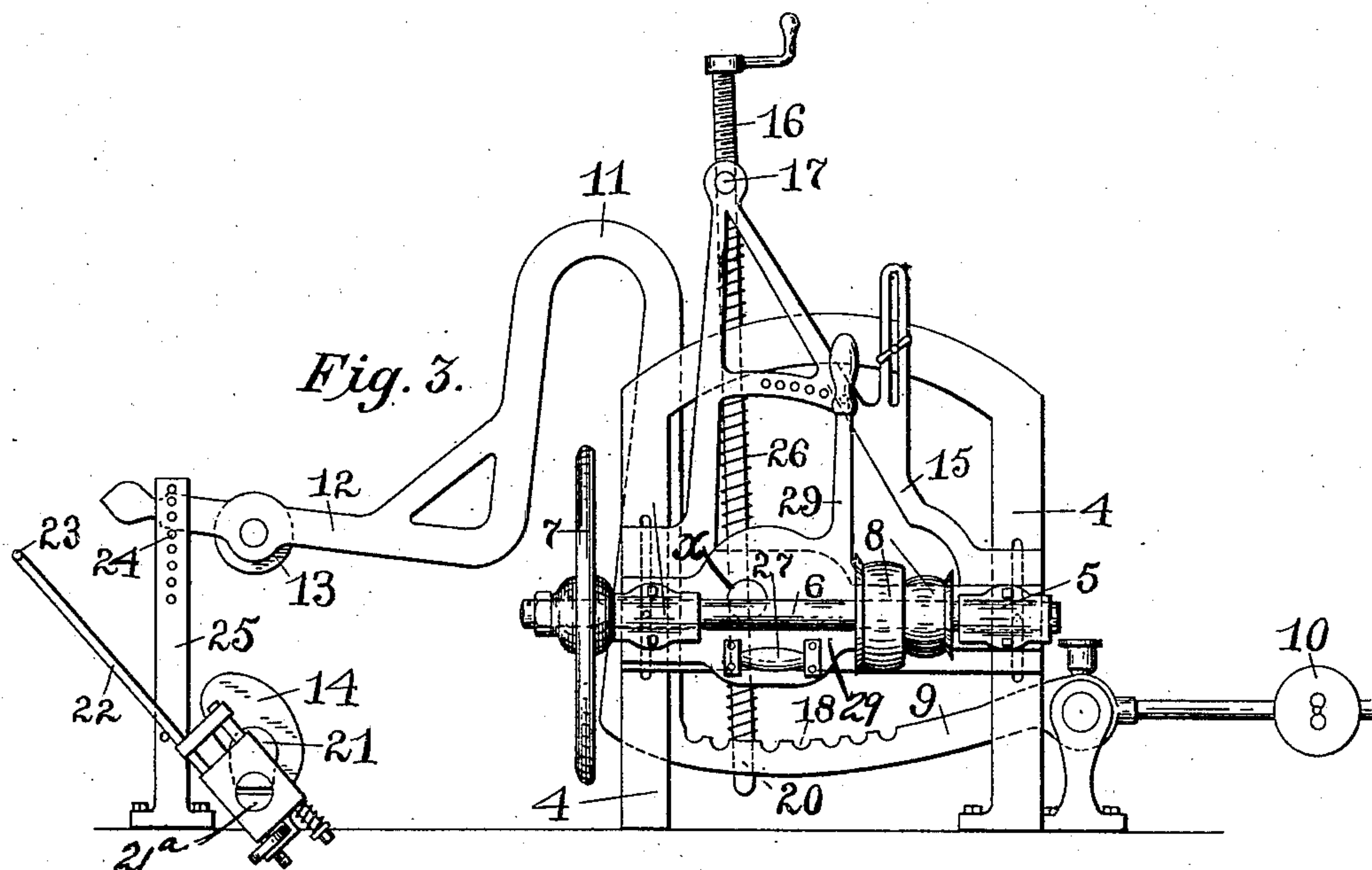
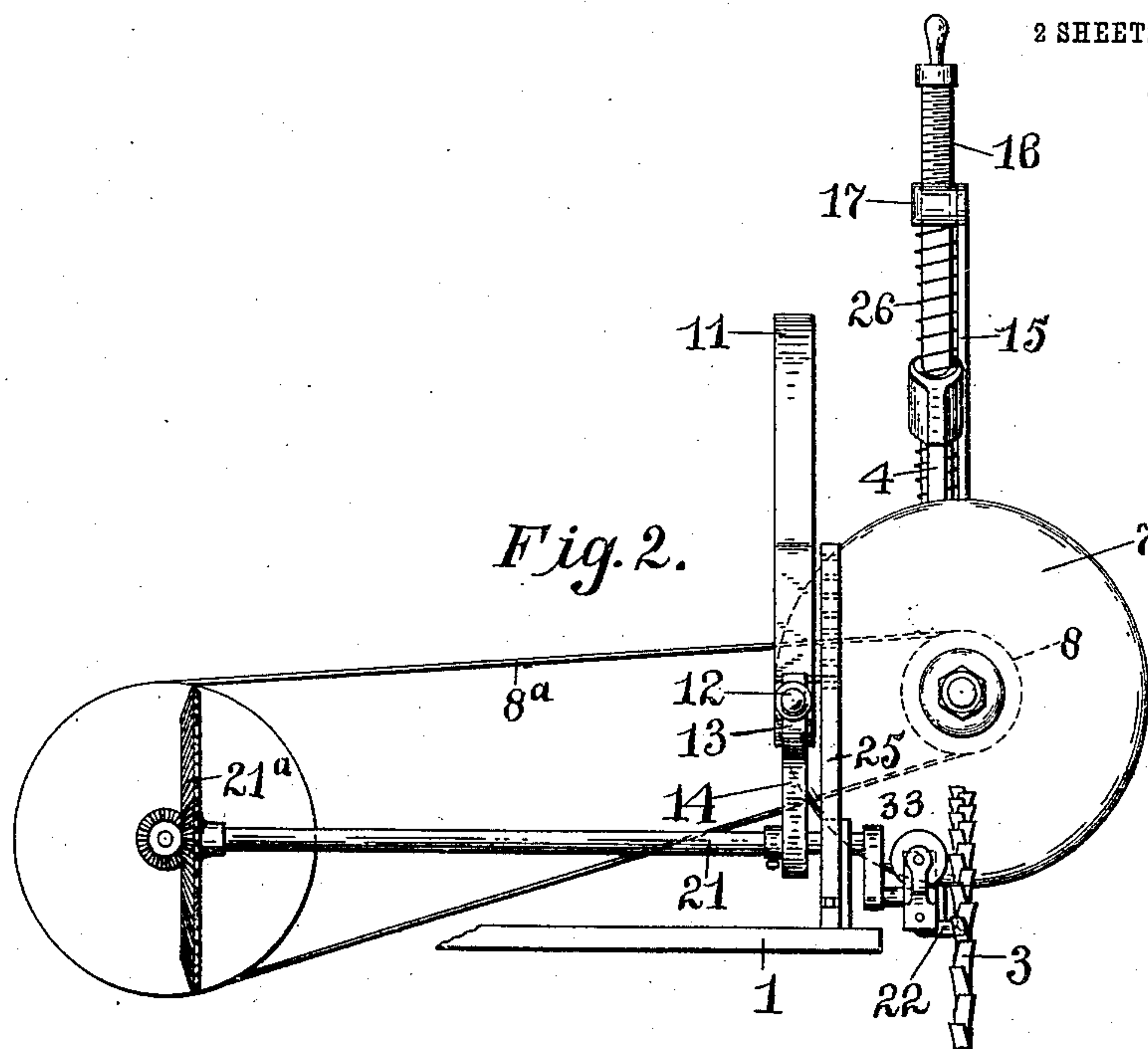
James Henry Miner
 Spec. Middleton Donaldson
 Attys.

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Attest:

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Inventor,

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UNITED STATES PATENT OFFICE.

JAMES H. MINER, OF LUMBERTON, MISSISSIPPI.

SAW-GRINDING MACHINE.

No. 908,304.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed December 2, 1907. Serial No. 404,745.

To all whom it may concern:

Be it known that I, JAMES H. MINER, a citizen of the United States, residing at Lumberton, Mississippi, have invented certain new and useful Improvements in Saw-Grinding Machines, of which the following is a specification.

My invention relates to improvements in machines for sharpening circular saws.

Among the objects of the invention are to provide a simple, economical and efficient machine for sharpening circular saws which shall be capable of being operated by automatic or hand feed, as desired.

The invention includes the particular features of construction and arrangement and combination of parts hereinafter described and particularly set forth in the appended claims.

An embodiment of the invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a front elevation. Fig. 2 is an end view. Fig. 3 is a view similar to Fig. 1 showing the parts in position for hand operation.

Referring by reference characters to this drawing, the numeral 1, designates a supporting table mounted upon suitable standards 2, these parts constituting a supporting frame upon which the operating parts are mounted. The circular saw, a portion of which is indicated at 3, is mounted to rotate upon the ordinary boss or stud which, as it forms no part of the present invention is not shown herein. Upon the table 1 are mounted standards 4, upon which are mounted to move vertically the lateral extensions of a frame 15. In the journal a frame or bar 29 pivoted to the frame 15 at x carries bearing boxes 5 in which is journaled a shaft 6 which carries the grinding disk or emery wheel 7 and also the pulleys 8, and by which power is imparted to rotate the grinding disk through a belt 8^a shown in Fig. 2, operated from any convenient source of power.

Pivotally supported near the right hand standard 4 is a lever arm 9, which is preferably suitably weighted as shown at 10 and is provided with a goose neck 11 passing over the grinding wheel. The extension or portion 12 of this arm carries an anti-friction roller 13 which normally rests on a cam 14. The vertically moving frame 15 extends upwardly as shown and has a swiveled nut 17 carried at its upper end through which

passes a threaded shaft 16, the lower end of which is shaped to fit into any one of a series of recesses 18 formed in the upper surface of the lever 9. In addition to these recesses the lever 9 has an opening 20, through which the end of the rod is designed to be passed, when the machine is to be utilized as a hand controlled machine. A cam 14 is mounted upon a shaft 21 designed to be operated and rotated continuously from a moving part of the machine, such as a bevel gear 21^a at the rear, and to a crank pin on this shaft is connected a rod 22 which has an angularly turned end 23 designed to drop into the space between the teeth. The play or stroke of the rod 22 is just sufficient to cause the saw to be rotated the distance of one tool at each reciprocation of the rod, arrangements being made to change the stroke for different space teeth by lengthening or shortening the crank connections. When the parts are in the position shown in Fig. 1 and the device is ready for automatic operation, the rotation of the shaft 21 will cause the cam 14 acting on the roller 13 to rock the lever 9. The upward movement of the lever 9 by reason of the lower end of the rod 16 resting in one of the recesses 18 will cause the frame 15 to be raised carrying with it the cross member 29 and shaft and elevating the grinding disk 7 out of contact with or out of the path of the teeth of the saw. During this interval the rod 22 will have moved or rotated the saw one step to bring a fresh tooth into line with the grinding disk and into position to be ground by the disk when the lever 9 is again lowered by the cam 14 moving to its lowest point. By the arrangement of the series of notches in the lever 9 and also the adjustment which can be secured by the rod 16 being threaded in the swiveled nut 17 any desired adjustment of stroke can be readily secured. The stroke of the feed finger 23 can also be changed to suit a longer or shorter stroke to accommodate finer or coarser teeth by adjusting the screw bolt 21^a along the crank arm nearer to or further from the axis of shaft 21.

When the device is to be used as a hand operating device, the lever 9 is raised and held in its elevated position by a pin 24 inserted in one of a series of openings in a standard 25, the link or rod 22 and its corresponding parts being thrown back into the position shown at the left of Fig. 3. The lower end of the rod 16 has of course been

previously placed in the opening 20. A spring 26 encircling the rod bears against the lever 9 and tends to counterbalance the weight of the vertically moving parts. In this position the vertically moving journals and grinding disk may be raised and lowered by hand to bring the grinding disk into and out of grinding position, by the handle 27.

Having thus described my invention what I claim is:—

1. A circular saw sharpening machine comprising vertical standards, a carriage vertically movable thereon and carrying a grinding tool with means for operating it, a rocking lever, means for automatically rocking said lever to keep pace with the saw, a rod having a pivoted connection with the carriage, said lever having a series of recesses adapted for engagement with the lower end of the rod, said rod being capable of entire disengagement with the lever, substantially as described.

2. A circular saw grinding machine comprising a supporting frame, a vertical sliding frame guided thereby, a grinding disk carried by the sliding frame, a rocking lever having a series of recesses and also an open-

ing therethrough, a rod connected with the sliding frame and having its lower end adapted to be inserted in any one of said recesses or to be passed into the said opening to disconnect the lever and carriage, and means for operating the lever, substantially as described.

3. A circular saw grinding machine comprising a supporting frame, a vertical sliding frame guided thereby, a grinding disk carried by the sliding frame, a rocking arm having a series of recesses and also an opening therethrough, a rod connected with the sliding frame and having its lower end adapted to be inserted in any one of said recesses or to be passed into the said opening to disconnect the lever and carriage, and a spring for yieldingly supporting the frame when the lower end of the rod is in the opening in the lever, substantially as described.

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

JAMES H. MINER.

Witnesses:

F. L. COOK,
T. C. McLAIN.