No. 895,579. PATENTED AUG. 11, 1908.

M. NEFF.

GRINDING MACHINE.

APPLICATION FILED SEPT. 16, 1907.

FIG. 1.

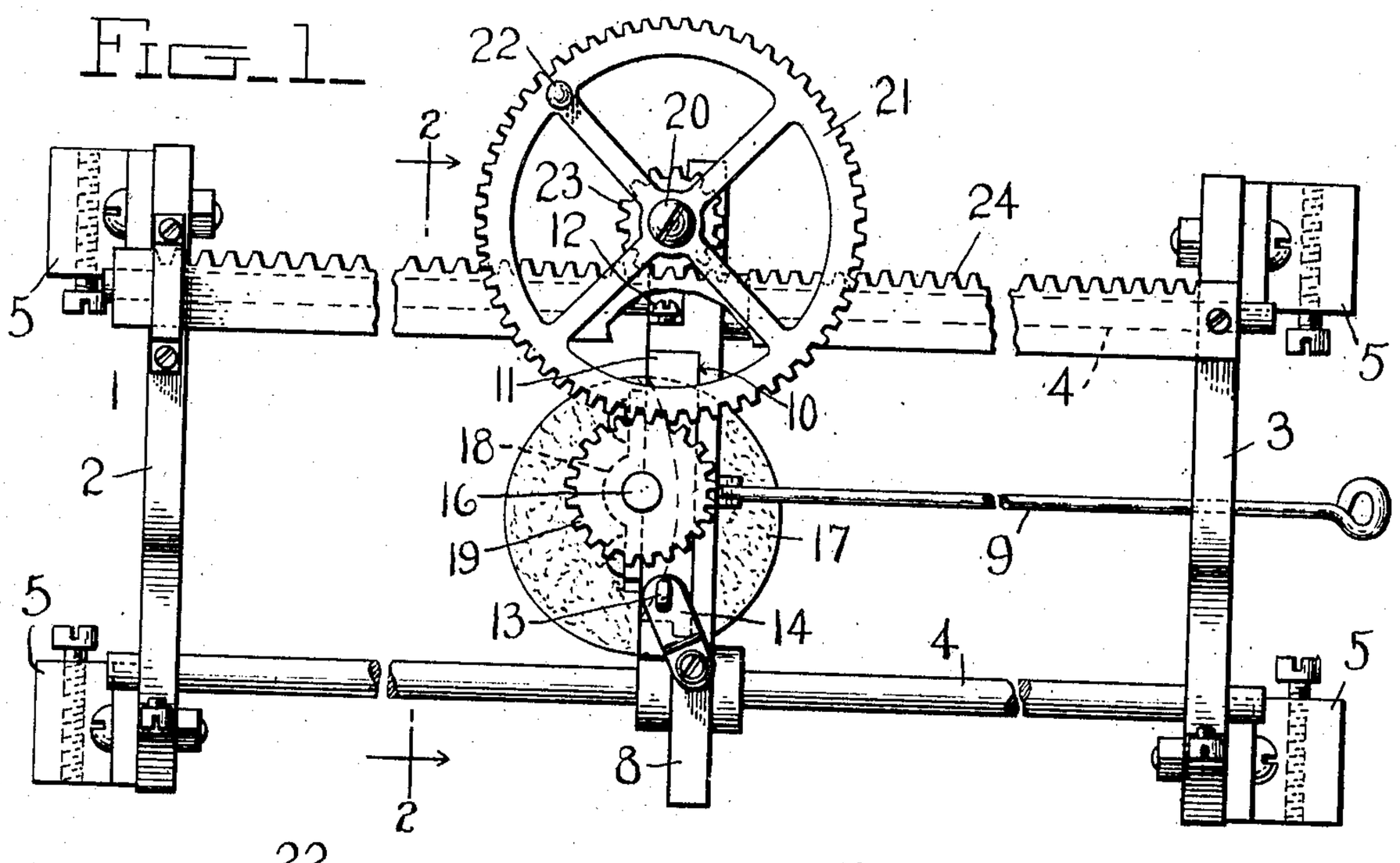
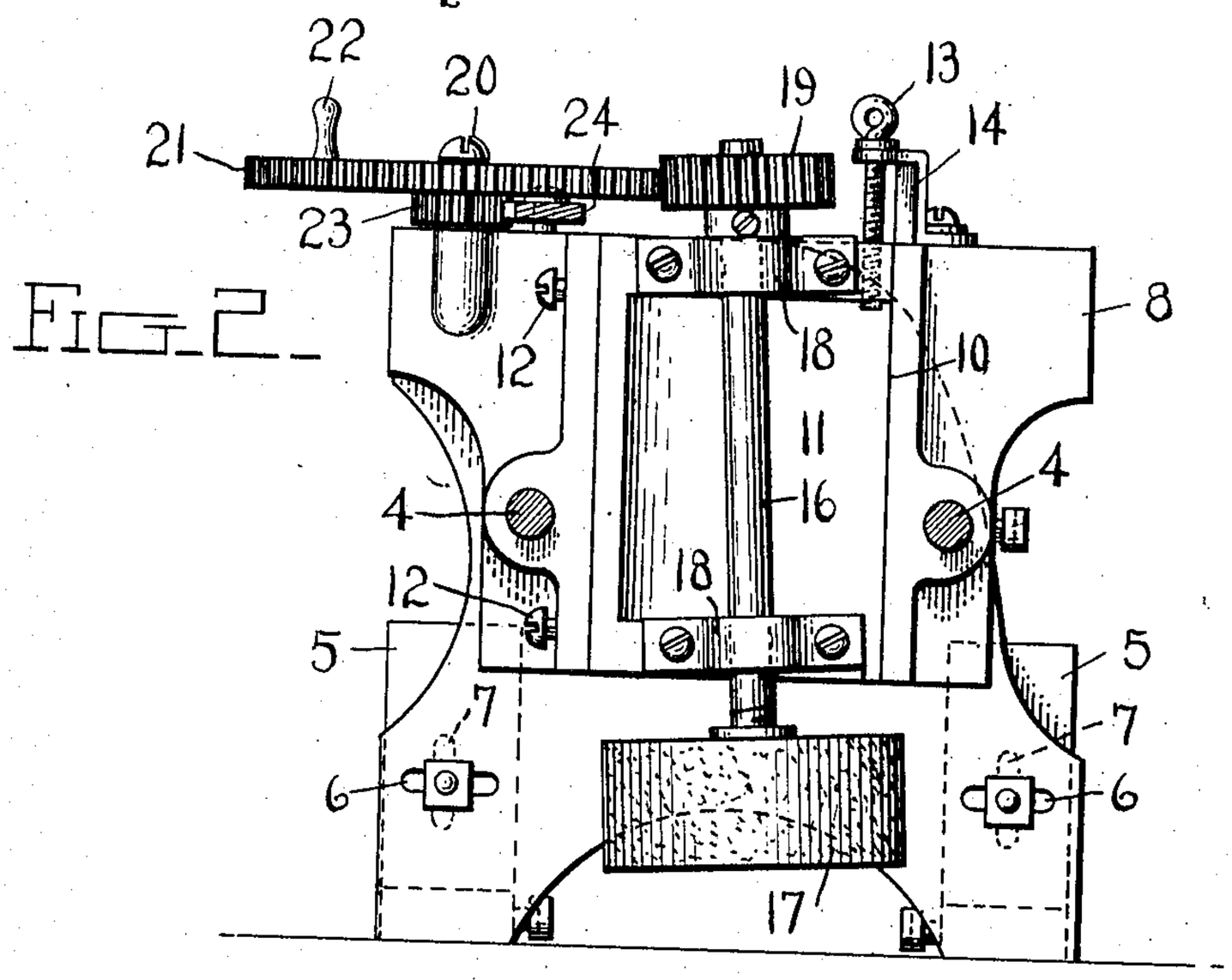


FIG. 2.



Witnesses

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MICHAEL NEFF, OF NEWCASTLE, INDIANA.

GRINDING-MACHINE.

No. 895,579. Specification of Letters Patent. Patented Aug. 11, 1908.

Application filed September 16, 1907. Serial No. 393,094.

To all whom it may concern:

Be it known that I, MICHAEL NEFF, a citizen of the United States, residing at Newcastle, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Grinding-Machines, of which the following is a specification.

This invention relates to grinding machines, and has for its object to produce a machine of this general type, especially adapted for the sharpening of planer knives without removing the same from the planer, and having operating mechanism and features of adjustability which render it particularly efficacious in the attainment of the object above broadly stated.

What constitutes my invention, therefore will be hereinafter fully set forth, and succinctly defined in the annexed claims.

In the accompanying drawings, which are to be taken as a part of this specification, and in which I have illustrated a merely preferred form of embodiment of the invention: Figure 1 is a top plan view of a machine embodying my invention; and Fig. 2 is a transverse vertical section on the line 2—2 of Fig. 1, looking in the direction of the arrows.

Referring to the numerals on the drawings, 1 indicates in a general way the frame of my device, which comprises end pieces 2 and 3, and connecting rods 4, which also serve as tracks for the carriage as hereinafter described. The end pieces 2 and 3 are provided with attaching legs 5 by means whereof the device is connected to a planer table or the like. For the purposes of adjustment the said attaching legs are fastened to the end pieces by an adjustable connection, as afforded, for instance, by coöperating relatively transversely arranged slots 6 and 7 in the end pieces and attaching legs.

Slidable on the rods 4 is a carriage 8, said carriage, for the sake of steadiness of movement, being of considerable relative size and weight, and bored at extreme opposite sides to receive the rods. An operating lever 9, extending through an aperture in one of the end pieces of the frame, is connected to the carriage, and constitutes means for reciprocating the same.

Movable vertically in a cut-out portion 10 of the carriage, is a block 11, which is secured in desired relative position in said cut-out portion by means of set screws 12 adapted to bear against said block. When said screws are loosened, the desired movement of the block is accomplished by means of an adjusting screw 13, whose upper end is secured in a bracket 14 secured to the carriage proper, and whose lower end is screw-threaded and takes into a correspondingly threaded aperture in the movable block. Rotation of the screw in one direction or the other raises or lowers the block, as will be evident.

Block 11 is shaped on its outer surface to form a pillow for the shaft 16 of a grinding wheel 17, clips 18 completing the bearing. At one end the said shaft carries the grinding wheel, and at the other is a gear wheel 19, by means of which the shaft may be rotated, and mounted on the carriage proper is a shaft 20, carrying a relatively large gear wheel 21 adapted to coöperate with the gear wheel 19, said wheel 21 being provided with a handle as 22 for emergency operation of the device. Fast on shaft 20 and below wheel 21 is another and relatively small gear wheel 23, which is adapted to coöperate with a rack 24 which joins the end pieces. It will be evident that upon reciprocation of the carriage shaft 23 and 21 will be caused to rotate, and the rotation of shaft 21 is transmitted through gear-wheel 19 to grinding wheel. Thus the reciprocatory movement of the carriage causes rotation of the grinding wheel.

Adjustments to suit the varying conditions of practice may be made by means of the adjustable attaching legs, and movable block 11, and it is thought that the operation of the device, and the utilities and advantages thereof will be apparent to one skilled in the art; further description is therefore omitted.

It is to be understood that I do not limit myself herein to specific forms, materials, or relations, other than those set out in the claims, except such as may be necessary to the practical embodiment of the invention there defined.

What I claim as new is:—

1. In a device of the character described, a main frame, an attaching frame relatively horizontally and vertically adjustable, a carriage adapted to be reciprocated on said attaching frame, a grinding wheel rotatably mounted on said carriage, means for adjusting said wheel relatively to said carriage, and means for moving the carriage.

2. In a device of the character described, a frame, a carriage adapted to be reciprocated on said frame, a block movable in said

carriage, means for moving said block, comprising a thumb-screw attached at one end to the carriage and at the other end in screw-threaded engagement with the block, a grinding wheel mounted on said block, a shaft for said grinding wheel, a pinion on said shaft, a drive gear on said carriage in mesh with said pinion in the adjusted positions of said block, means whereby the reciprocation of the carriage will cause rotation of said drive gear, and means for reciprocating the carriage.

3. In a device of the character described, a frame, a carriage adapted to be reciprocated on said frame, a block movable in said carriage, means for moving said block, comprising a thumb-screw attached at one end to the carriage and at the other end in screw-threaded engagement with the block, a grinding wheel mounted on said block, a shaft for said grinding wheel, a pinion on said shaft, a drive gear on said carriage in mesh with said pinion in the adjusted positions of said block, a short shaft for said drive gear, a pinion on said shaft, a rack-bar on said frame engaging said pinion, and means for reciprocating the carriage.

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

MICHAEL NEFF

Witnesses:
MILTON C. HARROLD,
ROBT. S. HUNTER.