No. 729,196. PATENTED MAY 26, 1903.

A. MATHIEU.

GRINDING OR SHARPENING MACHINE.

APPLICATION FILED MAR. 11, 1903.

NO MODEL.

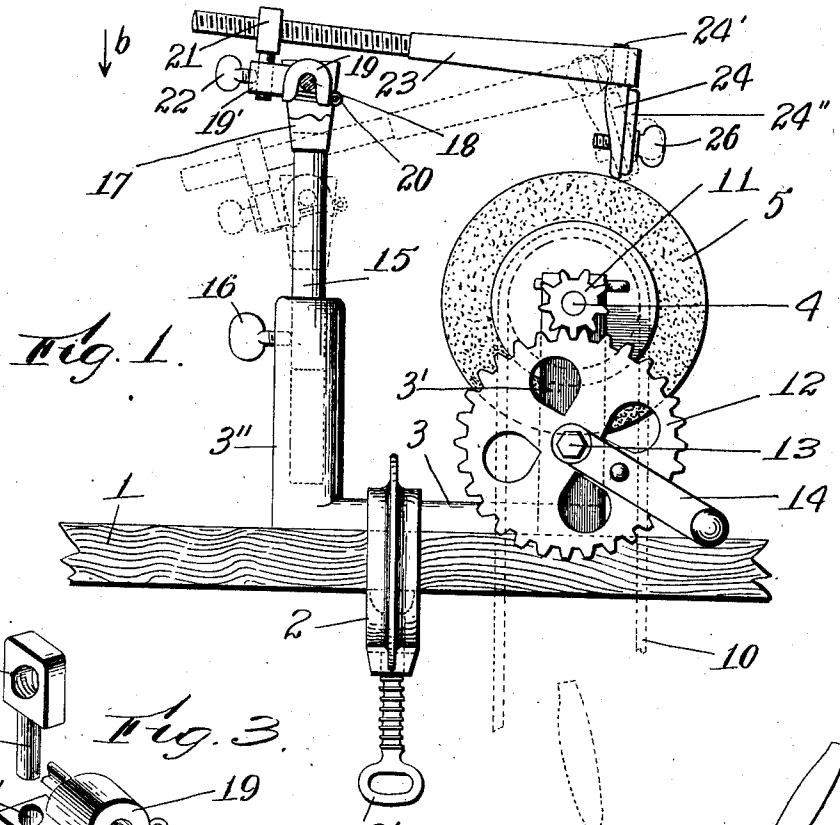

Fig. 1.

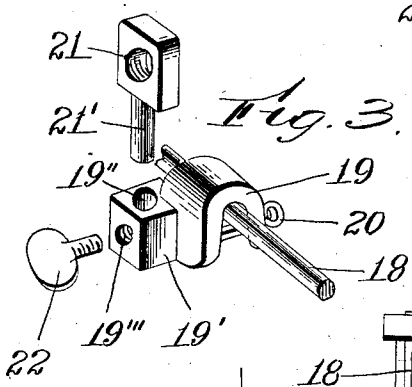

Fig. 3.

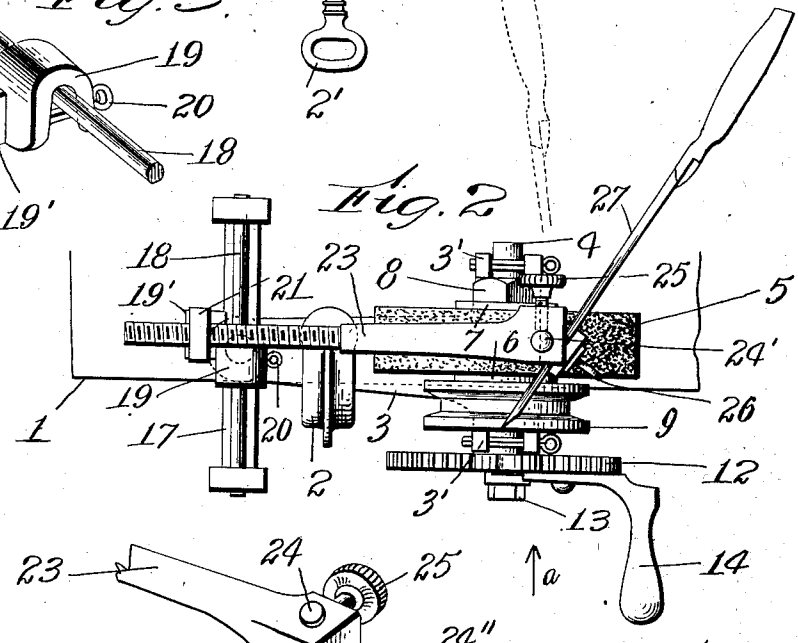

Fig. 2.

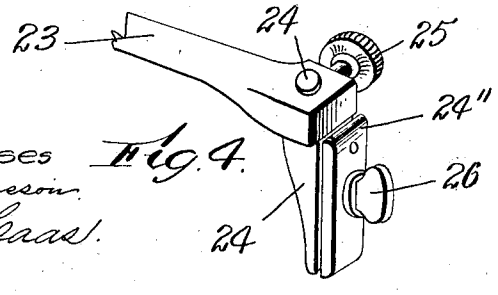

Fig. 4.

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UNITED STATES PATENT OFFICE.

ALFRED MATHIEU, OF WORCESTER, MASSACHUSETTS.

GRINDING OR SHARPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 729,196, dated May 26, 1903.

Application filed March 11, 1903. Serial No. 147,216. (No model.)

To all whom it may concern:

Be it known that I, ALFRED MATHIEU, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Grinding or Sharpening Machines, of which the following is a specification.

My invention relates to a grinding or sharpening machine, and more particularly to a portable machine for grinding or sharpening barbers' shears and other articles.

The object of my invention is to provide a portable machine for grinding or sharpening barbers' shears, &c., of simple construction and having a grinding-wheel operated by hand or foot power, as desired, and provided with means for holding the shears, &c., to be ground in different positions relative to the grinding-wheel, said means being adjustable as desired.

My invention consists in certain novel features of construction of my grinding or sharpening machine, as will be hereinafter fully described.

Referring to the drawings, Figure 1 is a partial sectional side view of a grinding-machine embodying my improvements looking in the direction of arrow *a*, Fig. 2. The broken lines show a different position of the shears-holding mechanism. Fig. 2 is a plan view of the parts shown by full lines in Fig. 1 looking in the direction of arrow *b*, same figure. A blade of shears is shown secured in the holding device. The broken lines show a different position of the shears. Fig. 3 is on an enlarged scale a detached detail of a portion of the adjustable holding mechanism, and Fig. 4 is a detached detail of the shears-holding device or clamp.

In the accompanying drawings, 1 is the top of a table or frame to which my portable grinding-machine is secured, in this instance by a metal clamp 2 of ordinary construction, provided with a clamping-screw 2'.

3 is the frame or base of my machine, preferably made of cast metal and having two vertical stands 3' 3' thereon at one end, the upper ends of which form bearings for the shaft 4, on which is fast the grinding-wheel 5, held in this instance between two washers 6 and 7 by a nut 8, turning on a threaded part on the shaft 4. (See Fig. 2.) A grooved pulley 9 is in this instance also fast on the shaft 2 and is adapted to receive a belt 10, (shown by broken lines in Fig. 1,) which extends to a foot-treadle (not shown) and by means of which the shaft 4 and grinding-wheel 5 may be revolved. On the end of the shaft 4 is fast a pinion 11, which meshes with and is driven by a gear 12, loose on a stud or bolt 13, secured to the upright stand 3'. To the gear 12 is secured the handle 14, by means of which the gear is revolved, and through pinion 11 the grinding-wheel 5 is revolved. On the opposite end of the frame 3 from the upright stands 3' 3' is an upright post 3'', which is centrally and vertically cored to receive the vertically moving and rotating rod 15, which is held in its adjusted position by a set-screw 16, turning in a threaded hole in the post 3''.

The rod 15 has upon its upper end the forked stand 17, carrying a rod 18, on which is loosely mounted to have a rocking and also a sliding motion the opened end slotted block 19, which in this instance is held on the rod 18 to move freely thereon by a split pin 20. The block 19 has an extension 19' thereon, with a hole 19'' therein to loosely receive a pin 21' on the nut 21, and also a threaded hole 19''' to receive a thumb-screw 22, by means of which the pin 21' on the nut 21 is secured in position. Extending through the threaded hole 21' in the nut 21 is the threaded end of an arm 23. Said threaded end is free to turn in or out in the threaded hole 21' in the nut 21. In the outer end of the arm 23 is a vertical opening, which loosely receives the pin 24' on the upper end of the holder or clamp 24.

A set-screw 25 extends in a threaded hole in the end of the arm 23 and holds the stud 24' in its adjusted position. The holder or clamp 24 has the movable clamp-plate 24'', which is adjustably secured to the stationary part of the clamp by a thumb-screw 26.

The blade of the shears 27 to be sharpened (shown in Fig. 2) is secured at the lower end of the clamp 24, between the stationary part and the movable plate 24''.

The operation of my grinding or sharpening machine will be readily understood by those skilled in the art from the above de-

scription, in connection with the drawings, and briefly is as follows: The frame 3 is secured to the top of a table or to some stationary part by the clamp 2. The blade of the shears to be ground is secured in the lower part of the clamp 24. The vertically-moving rod 15 is then raised or lowered and rotated according to the desired position of the blade of the shears on the grinding-wheel and secured in its adjusted position by the set-screw 16. The position of the clamp 24 is adjusted by turning the pin 24′ in the end of the holder 23 and securing it by the set-screw 25, and the position of the holder-arm 23, to bring the blade of the shears on top of the wheel or on one side thereof, is regulated by turning the threaded portion of said arm through the nut 21. By means of the pin 21′ on the nut 21 the position of the arm 23 is adjusted as desired. The arm 23, carrying the clamp 24 and the shears secured in said clamp, is free to be raised or lowered by reason of the movable connection of the block 19 with the rod 18 and to be moved sidewise to cause the shears-blade to travel back and forth in the direction of the width of the grinding-wheel 5. It will thus be seen that by means of my mechanism for holding and moving the blade of the shears any desired position of the blade relative to the grinding-surface of the grinding-wheel may be obtained, and the operator with one hand by means of the arm 14 can rotate the grinding-wheel and with the other hand he can control the movement of the shears-blade and the pressure thereof on the grinding-wheel. If preferred, the grinding-wheel may be rotated by belt-power to a treadle or some driven mechanism instead of by hand.

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

In a grinding or sharpening machine, the combination with the grinding or sharpening wheel, and means to operate the same, of adjustable means for holding the article to be ground or sharpened, consisting of a vertically-adjustable rod or support, carrying a horizontal rod supported thereon, a block loosely mounted on said horizontal rod to move longitudinally and rock thereon, and a swivel-nut on said block, a supporting-arm threaded at one end to turn in said nut, and an adjustable clamp on its other end to extend over the grinding-wheel, substantially as shown and described.

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