A. LO CASTO.

DEVICE FOR HONING RAZORS.

APPLICATION FILED APR. 8, 1912.

1,091,939.

Patented Mar. 31, 1914.

3 SHEETS—SHEET 1.

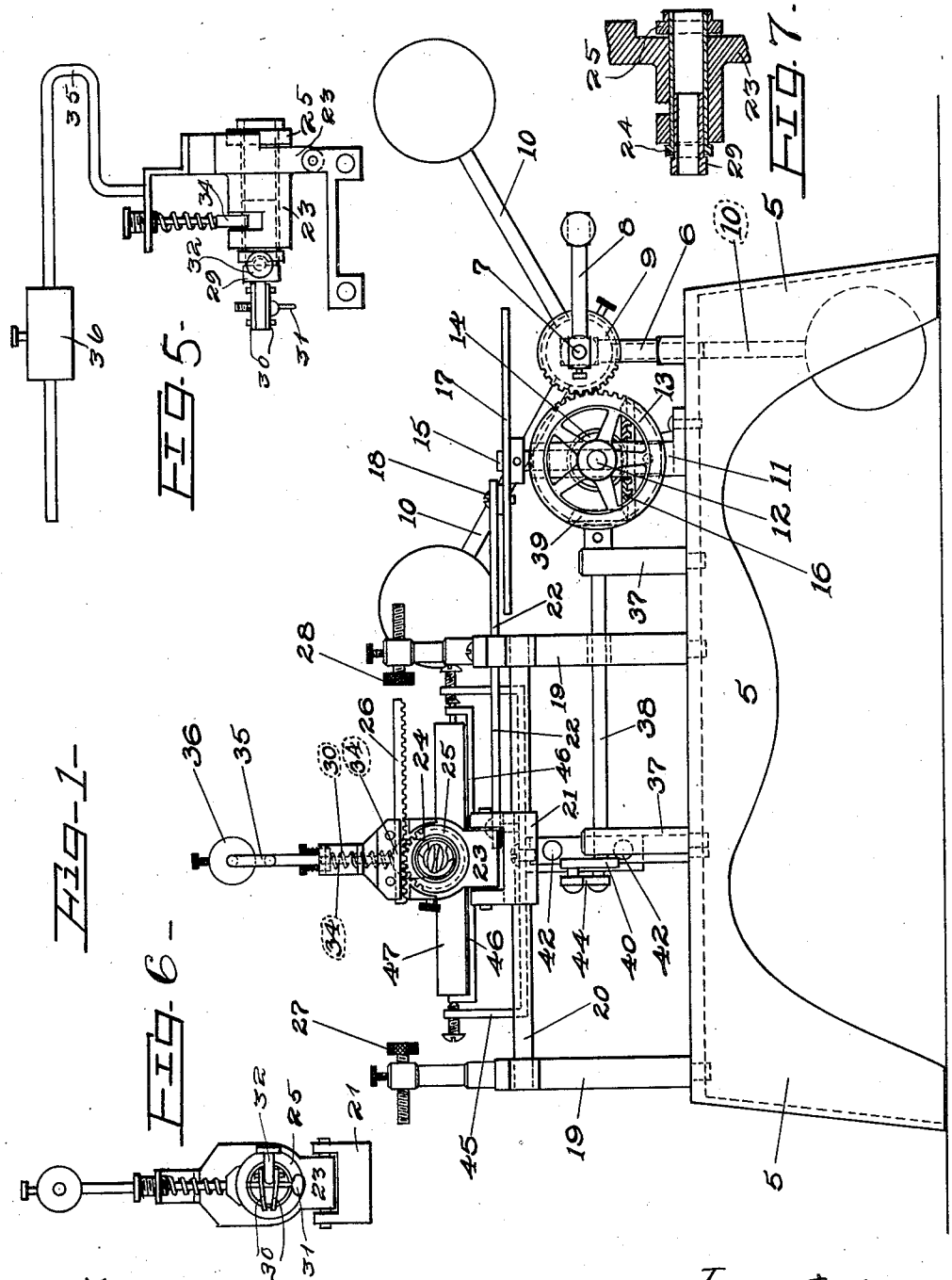


FIG. 1.

FIG. 6.

FIG. 5.

FIG. 7.

Witnesses:

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3 SHEETS—SHEET 2.

Fig-2-

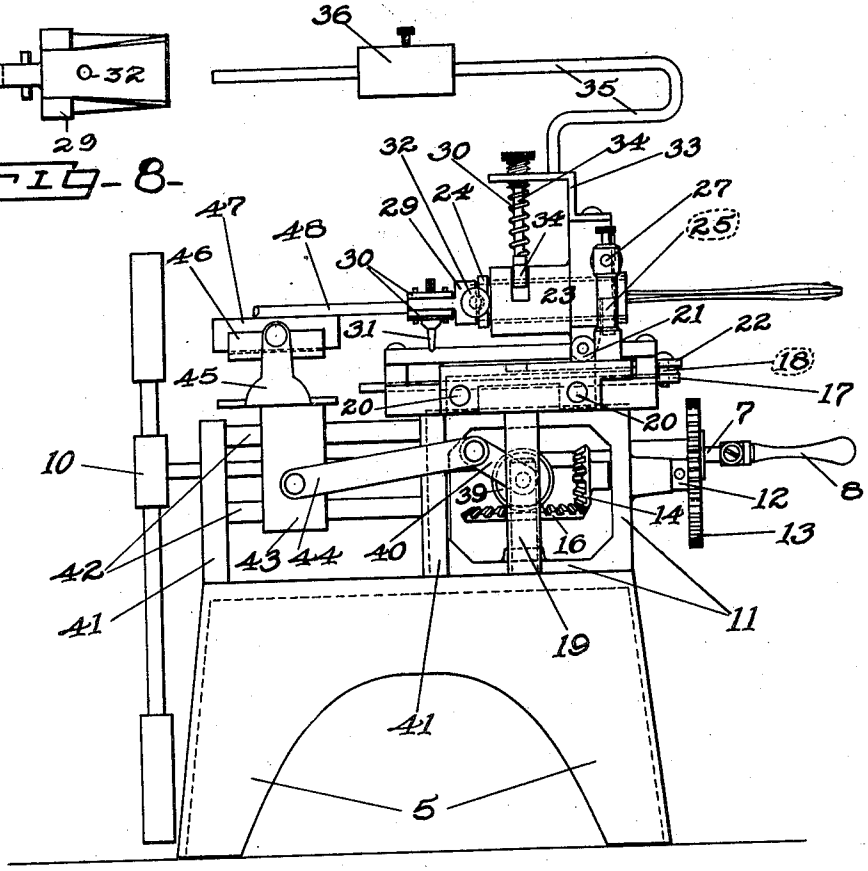


Fig-8-

Fig-3-

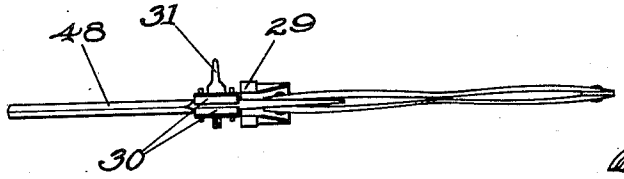




Fig-9-



Fig-10-

Witnesses:

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3 SHEETS—SHEET 3.

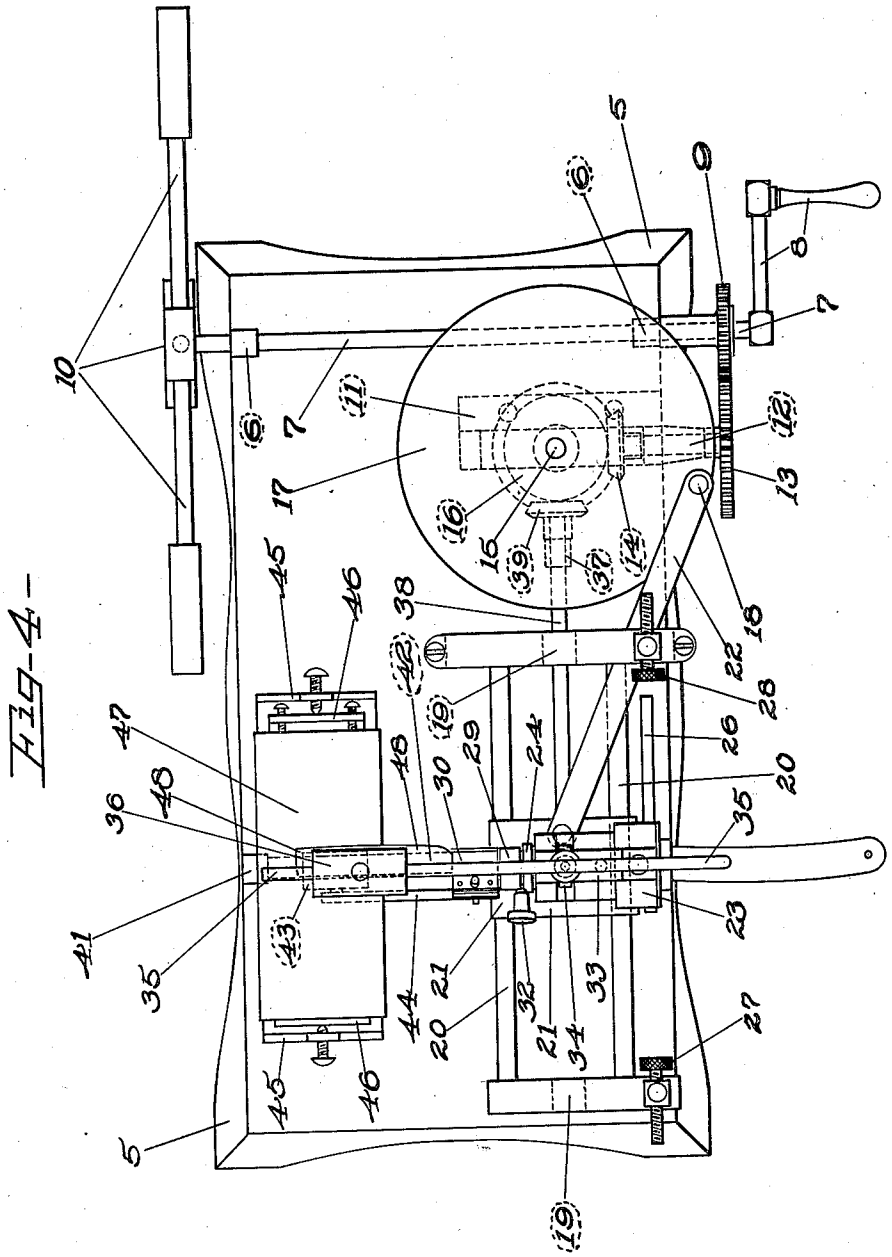


FIG-4-

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UNITED STATES PATENT OFFICE.

ANTONINO LO CASTO, OF CHICAGO, ILLINOIS.

DEVICE FOR HONING RAZORS.

1,091,939. Specification of Letters Patent. Patented Mar. 31, 1914.

Application filed April 8, 1912. Serial No. 689,237.

To all whom it may concern:

Be it known that I, ANTONINO LO CASTO, a citizen of the United States, and resident at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Devices for Honing Razors, of which the following is a specification.

The object of my invention is, to simplify and cheapen the construction; secure greater ease and certainty in the adjustment; and more perfect results in the operation of honing razors.

The manner in which I accomplish my object is described in the following specifications and illustrated in the accompanying drawings in which:—

Figure 1 is a front elevation, the several parts being in position for operation. Fig. 2 is a left end elevation, the parts being in the same positions as in Fig. 1. Fig. 3 is a detail showing the chuck and razor secured therein. Fig. 4 is a top plan. Fig. 5 is a side elevation of a crosshead, pivot head, chuck, friction brake, and pressure bar. Fig. 6 is an end elevation of Fig. 5. Fig. 7 is a vertical section on the line 7—7 Fig. 6 part of the head being broken away. Figs. 8, 9 and 10 are details of the detachable part of the chuck.

In the drawing 5^a indicates a base, on which the several parts of the device are mounted. At the right end of this base, are two standards 6^a, adapted to support a transverse shaft 7^a. On the front end of this shaft is a crank handle 8^a. Adjacent to this handle and fixed on the shaft is a gear wheel 9^a, and on the opposite end are balance weights 10^a. Located to the left of the shaft 7^a, and parallel with it, is an arched bearing frame 11. Rotatably supported in this frame is a shaft 12. Fixed on the outer end of this shaft is a gear wheel 13 meshed with the gear 9^a on the shaft 7^a. On the opposite end of the shaft 12 within the frame 11 is a miter gear 14. Rotatably supported in the same frame is a vertical shaft 15. Fixed on this shaft is a miter gear 16 which is in mesh with the miter gear 14. Secured on the top of this shaft is a disk 17 provided with a pivot pin 18. To the left of the frame 11 are two T standards 19, adapted to support two guide rods 20, which are located in the same plane and parallel. Slidably supported on these rods is a cross head 21. Pivotally supported on the disk 17, and crosshead 21, is a connecting rod 22. Pivotally secured in the crosshead 21 is a pivot head 23. This pivot head is bored at right angles to the travel of the crosshead. Rotatably supported in this bore is a hollow shaft 24. Fixed on the front end of this shaft is a gear 25. In mesh with this gear is a rack bar 26, which is slidably supported in the pivot head. The ends of this rack alternately engage adjustable stops 27 and 28, which are supported on the T standards 19. Removably supported in the hollow shaft 24 is a chuck 29. This chuck is adapted for the insertion of a razor therethrough, and is provided with a pair of jaws 30 adapted to grip the shank of a razor when tightened by a thumb screw 31. This chuck is adjusted in the hollow shaft by a screw 32 which fits into a slot in the shaft. Secured on the top of the pivot head 23 is a bracket 33. Adjustably secured in this bracket is a spring pressed friction brake 34, the head of which extends through a transverse slot in the pivot head, and is thereby adapted to be in pressure contact with the hollow shaft, and to thereby limit its rotation to the exact distance of the movement, caused by the action of the rack on the gear 25. Fixed on this bracket is a pressure rod 35 on which a weight 36 is adjustably supported.

Located in longitudinal line with the T standards, are bearing standards 37 adapted to support a shaft 38. Fixed on one end of this shaft is a miter gear 39 in mesh with the miter gear 16, and on the other end is a crank 40. Located to the rear and transversely to the shaft 38 are standards 41, adapted to support two guide rods 42. Slidably supported on these rods is a crosshead 43 which is connected with the crank 40 by a connecting rod 44. Fixed on this crosshead is a frame 45. Pivotally supported in this frame is a clamp 46, adapted to hold a hone 47. The frame 45, clamp 46 and the hone 47 are longitudinally in line with the travel of the crosshead 21 and pivot head 23.

When my device is constructed as described and illustrated in the drawings, its operations are as follows: The chuck 29 is removed from the shaft 24 and the razor 48 is inserted in the jaws 30, and secured therein by the thumb screw 31. The chuck is then placed in the shaft 24 and secured by the screw 32. In placing the razor in the shaft 24 the pivot head 23 is turned up vertically on the pivot pin in the cross head 21.

The head is then lowered till the blade of the razor rests on the hone 47 as shown in Fig. 2. The handle 8^a is then turned and the movement of the shaft 7^a is transmitted by the gears 9^a, 13, 14, and 16 to the vertical shaft 15, and by connecting rod 22 to the crosshead 23. The movement of these parts is continued in either direction until the end of the rack 26 is in contact with one of the stops 27 or 28. When this contact is made continued travel of the crosshead against the stationary rack rotates the gear 25, shaft 24, chuck 29 and the razor fixed therein. This rotation is continued until the crosshead has reached the limit of its travel by a complete revolution of the disk 17. The stop is then adjusted at that point that the cutting edge of the razor is in contact with the face of the hone which adjusts itself to the length of the blade by the pivotal movement of the clamp in which it is held. As the crosshead travels in the opposite direction the contact of the rack with the other stop rotates the shaft, chuck, and razor a half turn and brings the other face of the razor on to the hone. The same adjustment is then made by means of the other stop till the edge of the razor is in contact with the hone. When these end adjustments are made then the weight 36 is adjusted on the pressure rod 35. The rotation of the shaft 7 by the handle 8 can then be continued until the honing is completed. As the longitudinal travel of the crosshead and razor is continued, the miter gear 16 rotates the shaft 38 and crank 40, the movement of these parts is transmitted by the connecting rod 44 to the crosshead 43 which moves the hone back and forth in a direction at right angles to the line of travel of the razor. This movement of the hone is so adjusted by the set of the crank 40 that the edge of the hone is close up to the heel of the razor at each end of the movement of the crosshead 23 and the hone is at the limit of its outward movement when the crosshead 23 is in the center between the stops as shown in Figs. 1 and 2, whereby the hone is moved lengthwise of the blade outward and inward during the movement of the razor in one direction.

What I claim is:—

1. A honing device consisting of guides, a block slidable on the guides, a hone support carried by the block, a second set of guides, a block slidable on the second guides, a razor holder on the second block and provided with segmental gear teeth, a reversing rack in engagement with said segmental teeth, fixed abutments for the rack, and means for simultaneously moving the blocks to cause the rack to alternately engage the abutments and reverse the razor holder.

2. A honing device consisting of guides, a block slidable on the guides, a razor holder having pivot connection with the block, a hone holder, an upstanding member on said razor holder having a horizontal arm extending toward the hone holder, a weight slidable on the arm, a spring post for the arm, and means for moving the razor holder.

ANTONINO LO CASTO.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."