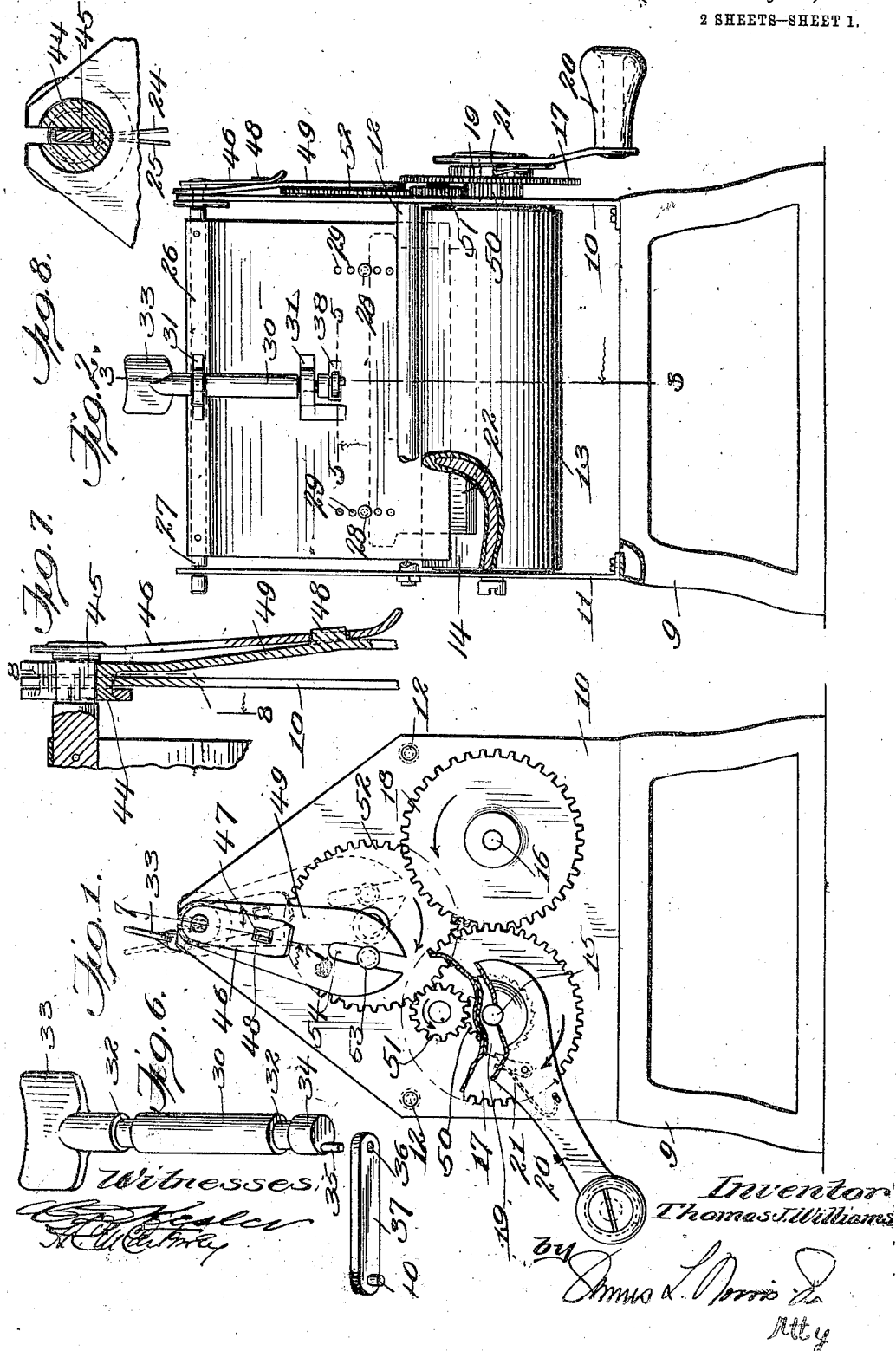


STROPPING DEVICE.

Patented May 28, 1912.

2 SHEETS--SHEET 1.

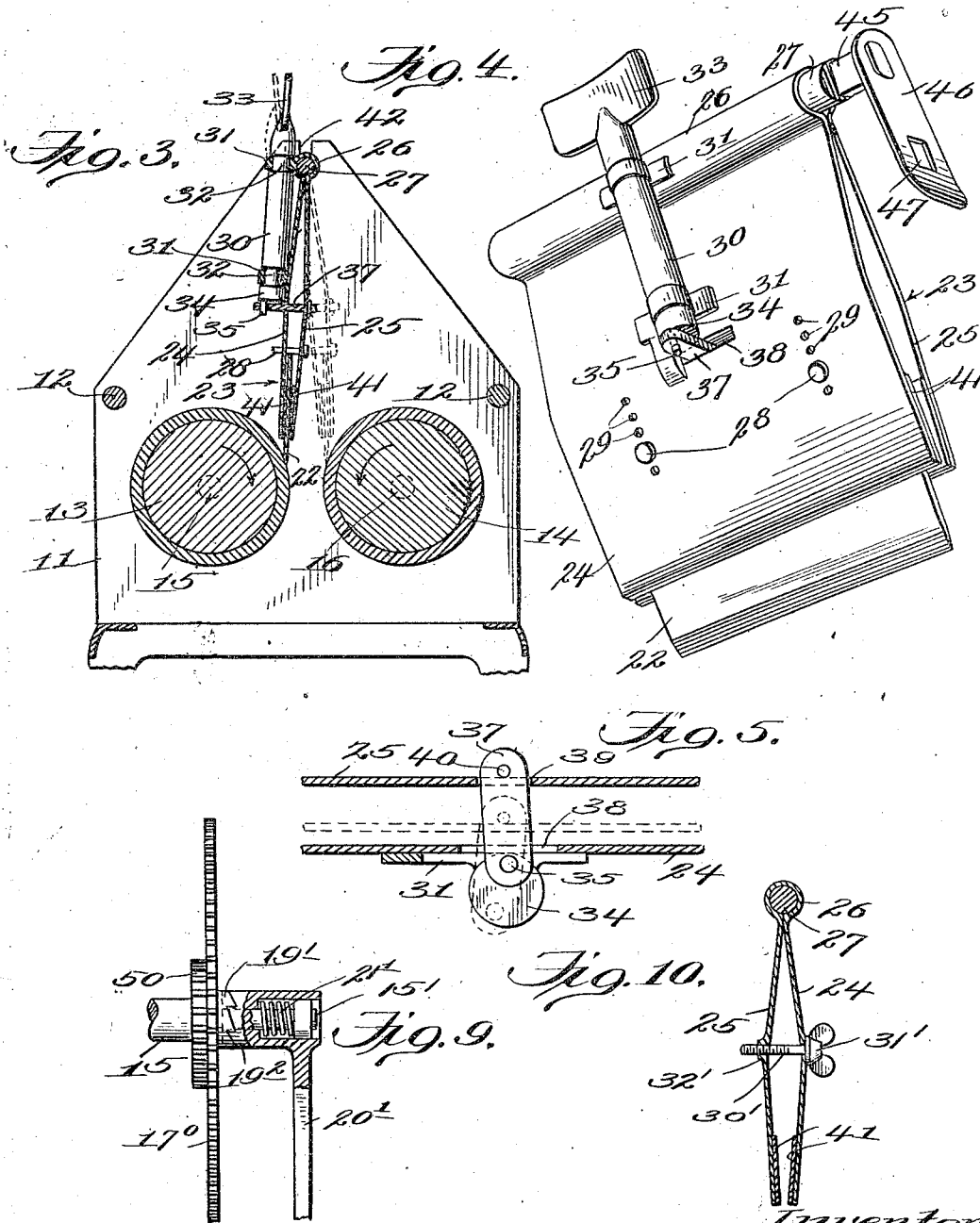
1,027,955.



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2 SHEETS-SHEET 2.



Witnesses:

[Signature]
A. E. McElroy

Inventor,
Thomas J. Williams
by

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UNITED STATES PATENT OFFICE.

THOMAS J. WILLIAMS, OF HITEMAN, IOWA.

STROPPING DEVICE.

1,027,955.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed January 26, 1912. Serial No. 673,664.

To all whom it may concern:

Be it known that I, THOMAS J. WILLIAMS, a citizen of the United States, residing at Hiteman, in the county of Monroe and State of Iowa, have invented new and useful Improvements in Stropping Devices, of which the following is a specification.

This invention has reference to stropping devices, and more especially to that type of device wherein the knife or blade to be sharpened is carried by a movable holder which presses its edge against the stropping element or elements, the movements of the holder serving to present both edges of the blade to the action of the aforesaid stropping element or elements.

It comprehends certain improvements, hereinafter described at length, in or relating to the means whereby the holder is held in place in the frame of the device and operated.

It is designed primarily for use in sharpening the blades of the so-called safety razors, and has been illustrated in that connection in the accompanying drawing, but it may obviously be used with equal facility to sharpen or strop surgical and other knives and various other cutting implements, whose blades are of such a size and shape as to admit of their being inserted in the holder.

In the said drawings, Figure 1 is a front elevation of an embodiment of the invention; Fig. 2 is a side elevation thereof; Fig. 3 is a transverse vertical section taken on the line 3—3 of Fig. 2; Fig. 4 is a perspective view of the holder; Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 2; Fig. 6 is an enlarged perspective view of the clamp with which the holder is equipped; Fig. 7 is an enlarged vertical section taken on the line 7—7 of Fig. 1; Fig. 8 is a vertical section taken on the line 8—8 of Fig. 7; Fig. 9 is an enlarged detail view, partly in section, of a modified form of operating device; and Fig. 10 is a transverse sectional view of the holder, showing a modified form of clamp employed in connection therewith.

The improved device comprises, essentially, a frame wherein the stropping means and the blade holder are arranged, and mechanism for operating said stropping means and, therefrom, said holder. The frame referred to is designed for attachment in any desired manner to a suitable

supporting base 9, and consists of front and rear plates 10 and 11 connected by a series of bolts 12. Between these plates is disposed the stropping means which, in the present instance, is constituted by a pair of spaced cylindrical rolls 13 and 14, of the same diameter, that are mounted upon a pair of parallel shafts 15 and 16 journaled in openings in said plates and occupying a common horizontal plane. These rolls may either be covered with leather or one of the known honing compositions may be applied thereto. Shafts 15 and 16 project an appreciable distance beyond the front frame plate and carry intermeshing gears 17 and 18.

To drive the stropping rolls, there are preferably provided a ratchet 19, which may be rigidly secured either to the outer face of one of the gears just mentioned, the gear 17, for example, or to the shaft 15 whereon that gear is fixed, and a crank handle 20 which is loosely mounted on shaft 15 and carries a spring-pressed pawl 21 on its inner face, said pawl actively engaging the teeth of the ratchet when the handle is turned in one direction, but slipping over said teeth on reverse movement of the handle. This arrangement, therefore, provides for rotation of the stropping rolls in one direction only. The same result may be obtained, however, by substituting for the ratchet-and-pawl construction, just described, a pair of cooperating toothed clutch members 19¹ and 19² provided, respectively, upon the gear 17¹ and the crank handle 20¹, and normally held coupled through the agency of a spring 21¹, which latter is disposed within a recess in the sleeved inner end of the handle, as depicted in detail in Fig. 9, and encircles the reduced end 15¹ of shaft 15. The two main gears 17 and 18 are of the same size and, accordingly, cause said rolls to rotate at the same surface speed. The covers with which the rolls are provided may be treated in the usual manner.

The implement 22 to be sharpened, here shown as a safety-razor blade, is supported in the holder 23, which latter is likewise disposed within the frame and is adapted to be oscillated during the rotation of the stropping rolls. Holder 23 preferably consists of a single sheet of spring metal that is folded transversely upon itself to produce the plate-like jaws 24 and 25 between which

said blade is introduced; these jaws are bent at their junction point, (*i. e.*, the fold line of the sheet), so as to form the cylindrical portion 26 which receives the supporting shaft 27, said shaft being soldered or otherwise retained in place. The holder is designed to receive blades of different types and sizes, the extent to which the blades may be inserted in the holder being determined by suitable stops, for example, horizontal pins 28, which are interchangeably engaged in pairs of alining openings 29 formed in the holder jaws, the back of the blade, (or one edge thereof when the blade is of the double-edged type), contacting with the pins. Said jaws are forced toward each other, to grip the blade, by a clamp which, in the present instance, comprises a vertical spindle 30 revolvably supported by a pair of straps 31 that are provided one on jaw 24 and the other on cylinder 26, these straps engaging the reduced portions 32 of the spindle. At its upper end, the spindle carries a finger piece 33, while the head 34 produced at the lower end thereof is provided with an upstanding eccentrically-located pin 35 that is inserted through a perforation 36 in the adjacent end of a tongue 37; said tongue is disposed laterally of the holder and the end wherein the perforation 36 is formed projects through a horizontal slot 38 in plate 24, its other end extending through a shorter slot 39 in plate 25 and carrying a vertical cross-pin 40. It will be seen, therefore, that the above described construction and arrangement of parts is such as to occasion a forward movement of tongue 37 through slot 38 when spindle 30 is turned in one direction, thus causing the holder jaws to exert a gripping action upon the blade, which action may be furthered by providing the inner surfaces of the jaws with suitable facing strips of adhesive material 41.

While the spindle construction is considered preferable, a simplified form of clamp may be substituted therefor, as illustrated in Fig. 10, such form consisting of a short threaded bolt 30¹ which is provided with a winged head 31¹ and has its free end extending through the threaded opening in a boss 32¹ formed on plate 25; bolt 30¹ is to all intents and purposes carried by plate 24, since it need not necessarily be completely detached from that plate.

The upper ends of the frame plates 10 and 11 are slotted vertically, as shown, the jaws produced by the slot in the rear plate straddling the reduced portion or neck at the adjacent end of shaft 27; in the slot in the front plate there is loosely mounted a collar 44 which is slotted to receive the reduced and squared front end 45 of said shaft. To the said end 45 is secured a spring catch or finger 46 that has an aper-

ture 47 formed therein, which aperture is designed to receive a stud 48 provided upon a vertically-disposed rocker 49 fastened to collar 44, the free end of said catch being bent slightly outward to facilitate the disengagement of the catch from the stud. The aforesaid slots in the frame plates, and the slot in collar 44, open upwardly, and thus enable the holder to be readily inserted into and withdrawn from position in the frame.

To effect the requisite movement of the holder, there is secured to the inner face of gear 17, or to shaft 15, if preferred, a small gear 50 that meshes with a second small gear 51 loosely mounted upon a stud affixed to plate 10. Gear 51 meshes, in turn, with a larger gear 52 mounted similarly thereto and provided with an eccentrically-located pin 53 that projects laterally into a longitudinal slot 54 formed in rocker 49. Accordingly, rotation of gear 52 will serve to oscillate rocker 49 and, in consequence, the holder, so that the edge of the blade will be held first against one of the stopping rolls and then against the other, the pin 53 exerting a positive and appreciable pressure against the walls of slot 54. The various gears are so proportioned that the blade edge is in contact with the periphery of each roll for slightly more than a complete revolution of the roll.

I claim as my invention:

1. In a stopping machine, the combination of a frame; a holder mounted therein; a pair of sharpening rolls mounted within said frame; means for rotating said rolls simultaneously in opposite directions; and connections between one of said rolls and said holder for oscillating the latter, to bring the edge of the blade into contact with said rolls alternately.

2. In a stopping machine, the combination of a frame; a holder mounted therein; a pair of sharpening rolls mounted within said frame; a rocker connected with said holder; means for rotating said rolls simultaneously in opposite directions; and connections between one of said rolls and said rocker for oscillating the latter and said holder.

3. In a stopping machine, the combination of a frame; a blade holder and a pair of sharpening rolls mounted therein; a slotted rocker connected with said holder; means for rotating said rolls simultaneously in opposite directions; a gear mounted upon said frame and provided with a crank pin projecting into the slot in said rocker; and connections between one of said rolls and said gear for rotating the latter, to oscillate said rocker and said holder.

4. In a stopping machine, the combination of a frame; a movable blade holder mounted therein and provided with a spring

catch; a sharpening element; a member with which said catch is releasably engaged for operating said holder; and means for operating said member.

5 5. In a stropping machine, the combination of a frame; a blade holder and a pair of sharpening rolls mounted therein, said holder being provided with a spring catch; a rocker with which said catch is releasably
10 engaged; means for rotating said rolls simultaneously in opposite directions; and connections between one of said rolls and said rocker for oscillating the latter and said holder.

15 6. In a stropping machine, the combination of a frame; a blade holder and a pair of sharpening rolls mounted therein, said holder being provided with a spring catch; a slotted rocker with which said catch is
20 releasably engaged; means for rotating said rolls simultaneously in opposite directions; a gear mounted upon said frame and pro-

vided with a crank pin projecting into the slot in said rocker; and connections between one of said rolls and said gear for rotating
25 the latter, to oscillate said rocker and said holder.

7. In a stropping machine, the combination of a frame; a pair of sharpening rolls mounted therein; means for rotating said
30 rolls simultaneously in opposite directions; a rocker pivotally connected to said frame; connections between one of said rolls and said rocker for oscillating the latter; and a rocking blade holder mounted in said frame
35 and provided with a spring catch releasably engaged with said rocker.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS J. WILLIAMS.

Witnesses:

ELMER DODD,

MYRTLE WILLIAMS.