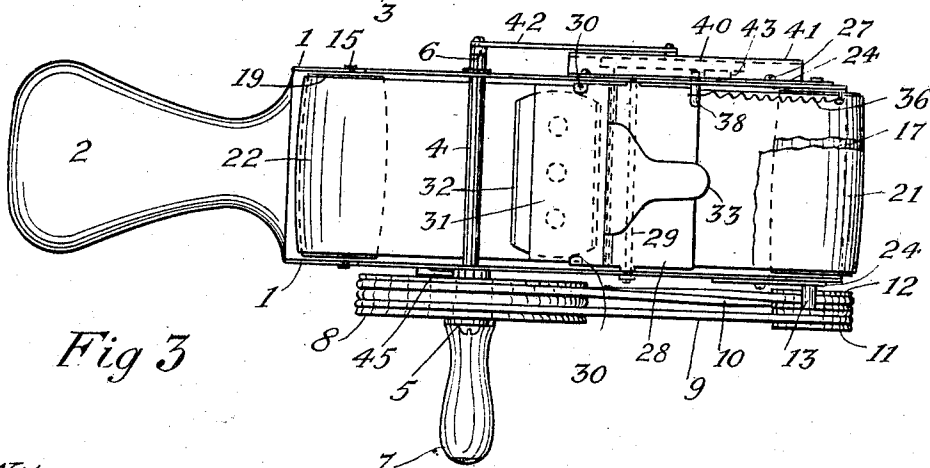
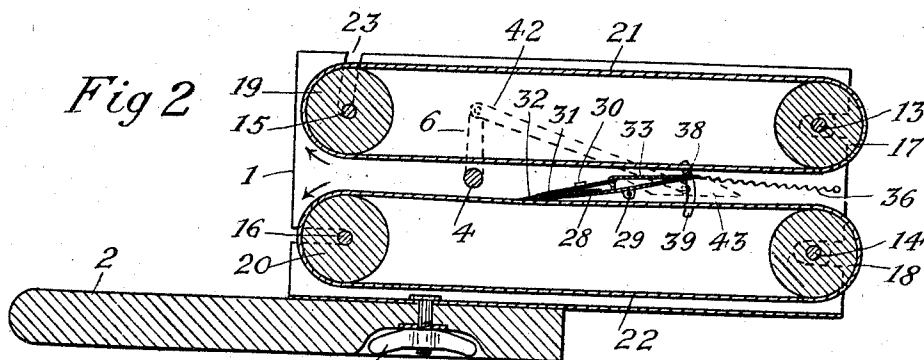
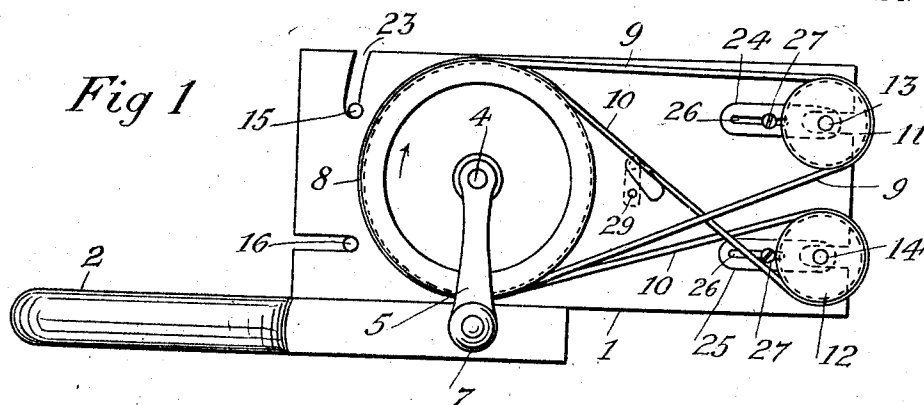


S. L. LONG.
 DEVICE FOR STROPPING RAZORS.
 APPLICATION FILED MAR. 29, 1909.

1,031,130.

Patented July 2, 1912.

2 SHEETS-SHEET 1.



Witnesses:
Thos. Lagaard
H. A. Bowman

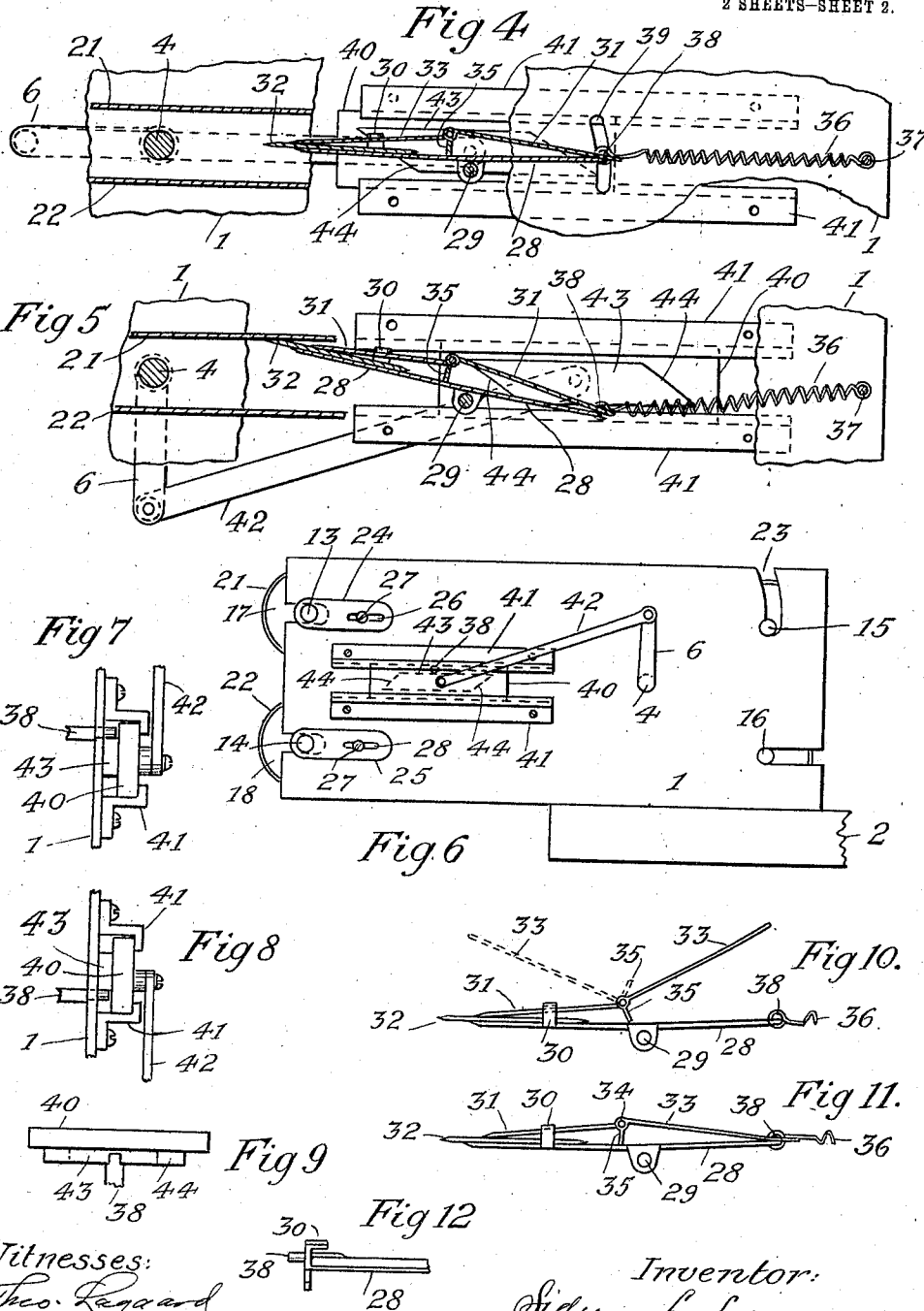
Inventor:
Sidney L. Long
 By *P. H. Gunkel*
 his Attorney.

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UNITED STATES PATENT OFFICE.

SIDNEY L. LONG, OF MINNEAPOLIS, MINNESOTA.

DEVICE FOR STROPPING RAZORS.

1,031,130.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed March 29, 1909. Serial No. 486,352.

To all whom it may concern:

Be it known that I, SIDNEY L. LONG, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Devices for Stropping Razors, of which the following is a specification.

My invention relates to devices for stropping razors, and particularly so-called safety razors; and its object is to provide a simple, cheap, and efficient stropping device adapted to be successfully operated by an unskilled and inexperienced person.

My improvements are illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a razor stropping device or machine embodying my improvements. Fig. 2 is a vertical longitudinal sectional view of the device of Fig. 1. Fig. 3 is a plan view of the same, with the upper strop partly removed. Fig. 4 is an enlarged view of the middle portion of Fig. 2, with portions broken away, and showing a razor blade and its holder in normal or inoperative position. Fig. 5 is a similar view showing the blade held in contact with the upper strop. Fig. 6 is a side elevation, showing the side of the device opposite that shown in Fig. 1. Figs. 7 and 8 are detail views of the cross-head and its guides employed for actuating the razor holder, showing the trip for the latter in its two extreme positions. Fig. 9 is a detail of the cross-head. And Figs. 10, 11, and 12 are detail views of the razor clamp or holder.

In the drawings 1 designates a frame or casing having two sides and a bottom, but open at the ends and top, and preferably made of metal; and 2 a handle attached to the bottom of the casing, preferably by a screw and thumb nut 3. The operating shaft 4 is journaled in the sides near one end of the frame and on the opposite ends of the shaft are crank arms 5 and 6; and the crank 5 is provided with a handle 7 for turning the shaft to operate the device. Between the latter crank and the casing a driving pulley 8, having two grooves, is secured on the shaft; and belts 9 and 10 extend therefrom to two pulleys 11 and 12 on shafts 13 and 14 journaled, one above the other near the other ends of the frame, one of the belts being crossed to cause the two driven pulleys to run in opposite directions.

Corresponding shafts 15 and 16 are journaled near the opposite end of the casing, and the shafts, 13, 14, 15, and 16, are provided with rollers, 17, 18, 19, and 20, on which are arranged the two endless strops 21 and 22, one above the other, with a suitable space between their adjacent surfaces for the razor holding device. It will be apparent that under this construction the operation of the crank shaft will cause the adjacent belt surfaces to travel in the same direction.

For convenience of access to the interior curved slots 23 are provided in the casing for inserting and removing the ends of the shaft 15 (or the trunnions of the roller 19), so that the upper strop can be readily removed, as indicated in Fig. 3.

Belt tighteners 24 and 25 are provided for the strops, and consist of a plate having a slot 26 in its inner end to receive an adjusting screw 27, and providing a bearing near its outer end for the pulley shaft.

The razor holder is arranged in the space intermediate the two strops, and its construction is as follows: A base plate 28 is centrally pivoted to the frame sides by means of a rocking rod 29, and is provided at its opposite edges with a pair of inwardly projecting lips 30 for receiving a loose upper plate, or clamp jaw, 31. The razor blade 32 is placed between these two plates or jaws, and the upper jaw is held in place and adapted to exert the required pressure upon the blade by a lever 33 pivoted by a pintle 34 to the jaw 31 and provided with a lateral flange or short lever arm 35 which bears upon the surface of the under jaw 28, when the longer lever arm is turned downward, as from the position shown in Fig. 10 to that shown in Fig. 11. As the lips 30 offer resistance to the upward movement of the pivoted end of the jaw the other end obviously will exert pressure upon the razor blade. By turning the lever to the position shown by broken lines in Fig. 10 the jaw 31 and its lever can be removed for placing or removing the blade. A coil spring 36, with one end connected to a stud 37 on the frame and the other connected to a laterally extending pin 38 secured to the jaw plate 28, serves to hold the clamp and blade in middle or normal position, as shown in Fig. 4, when the machine is not in operation.

For rocking the clamp or holder to pre-

sent the blade in alternation to the strops, the pin 38 is projected through a slot 39 in the casing to position to be engaged and moved up and down by the reciprocations 5 of a cross-head 40. This cross-head is in guides 41 extending lengthwise of the frame and is connected by a pitman 42 to the crank-arm 6 on the driving-shaft, so as to reciprocate when the strops are operated. 10 On the inner side of the cross-head is formed or attached a block 43 of rhomboidal shape and arranged in position to engage the pin 38 with its inclined ends 44 and thereby raise or lower it to the plane of the upper 15 or lower surface of the block. The reciprocations of the cross-head carry the block 43 beyond the points of contact with the pin 38 and when the latter is thus disengaged the tension of the spring 36 upon the pin 20 restores it and the clamp it serves to vibrate to normal or middle position, and the pin is then in position to be again engaged and actuated by the block. By these means the clamp is tilted on its axis to opposite incli- 25 nations and there held predetermined and equal periods, during the movements of the block 43 past the pin or trip 38, and the razor is thus presented in alternation to the action of the upper and lower strops at 30 equal inclinations and during equal periods of operation. To prevent the strops from being run in reverse direction and being cut by the razor a ratchet and dog device 45 is provided for locking the driving-shaft 35 against such reverse movement.

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

1. In a device for stropping razors, the 40 combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the adjacent parallel strop bodies to travel in the same direction, of a razor holder, and 45 means for causing it to present the blade in alternation to the action of the adjacent strop surfaces, substantially as set forth.

2. In a device for stropping razors, the 50 combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the adjacent parallel strop bodies to travel in the same direction, of a razor holder, and 55 means for causing it to present the blade in alternation and during equal periods of operation to the action of the adjacent strop surfaces, substantially as set forth.

3. In a device for stropping razors, the 60 combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the adjacent parallel strop bodies to travel in the same direction, of a razor holder, and 65 means for causing it to present the blade

operation and at like inclinations to the action of the adjacent strop surfaces, substantially as set forth.

4. In a device for stropping razors, the 70 combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the adjacent parallel strop bodies to travel in the same direction, of an oscillatory razor 75 holder, and connections between it and the strop operating mechanism for oscillating the holder to present the blade in alternation and during equal periods of operation to the action of the adjacent strop surfaces, 80 substantially as set forth.

5. In a device for stropping razors, the 80 combination with a pair of parallel endless strops and means for running them simultaneously in opposite directions, of a pivoted razor holder, a guided cross-head, con- 85 nections with the strop-driving mechanism for reciprocating the cross-head parallel with the strops, and connections between the cross-head and razor holder for oscillating the latter to present the blade in alterna- 90 tion to the action of the adjacent strop surfaces, substantially as set forth.

6. In a device for stropping razors, the 95 combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the adjacent parallel strop bodies to travel in the same direction, of a pivoted razor 100 holder, a guided cross-head, connections with the strop-driving mechanism for reciprocating the cross-head parallel with the strops, and connections between the cross-head and razor holder for oscillating the latter to 105 present the blade at like inclinations and during equal periods of operation and in alternation to the action of the adjacent strop surfaces, substantially as set forth.

7. In a device for stropping razors, the 110 combination with a pair of parallel endless strops and means for running them simultaneously in opposite directions, of a pivoted razor holder, a guided cross-head, con- 115 nections with the strop-driving mechanism for reciprocating the cross-head parallel with the strops, the cross-head providing a rhomboidal shaped surface, and a lateral projection provided on the razor holder ar- 120 ranged in position to be engaged by such cross-head surface for oscillating the holder to present the blade in alternation to the action of the adjacent strop surfaces, substan- 125 tially as set forth.

8. In a device for stropping razors, the 130 combination with a pair of parallel endless strops and means for running them simultaneously in opposite directions, of a pivoted razor holder, a guided cross-head, con- 135 nections with the strop-driving mechanism for reciprocating the cross-head parallel with the strops, connections between the 140

cross-head and razor holder for oscillating the latter to present the blade in alternation to the action of the adjacent strop surfaces, and a spring for restoring the razor holder to normal position when not engaged by the cross-head, substantially as set forth.

9. In a device for stropping razors, the combination with strops, each strop being mounted on a pair of drums for running them in the same direction along substantially straight courses, of a razor holder, and means for causing it to present the blade in alternation and during equal periods of operation to the action of the adjacent strop surfaces, substantially as set forth.

10. In a device for stropping razors, the combination with a pair of parallel endless strops, a pair of drums for each strop and means for rotating the drums to cause the

adjacent parallel strop bodies to travel in the same direction, of an oscillatory razor holder, connections between it and the strop operating mechanism for oscillating the holder to present the blade in alternation and during equal periods of operation to the action of the adjacent strop surfaces, and means operating automatically for restoring the razor holder to normal position, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses this 20th day of March, 1909.

SIDNEY L. LONG.

Witnesses:

F. B. Atwood,
Geo. E. Young.