

Dec. 16, 1924.

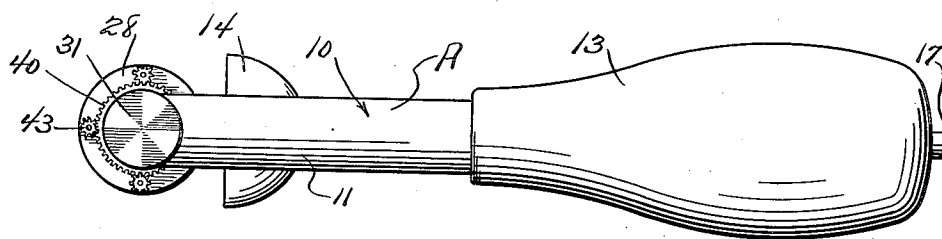
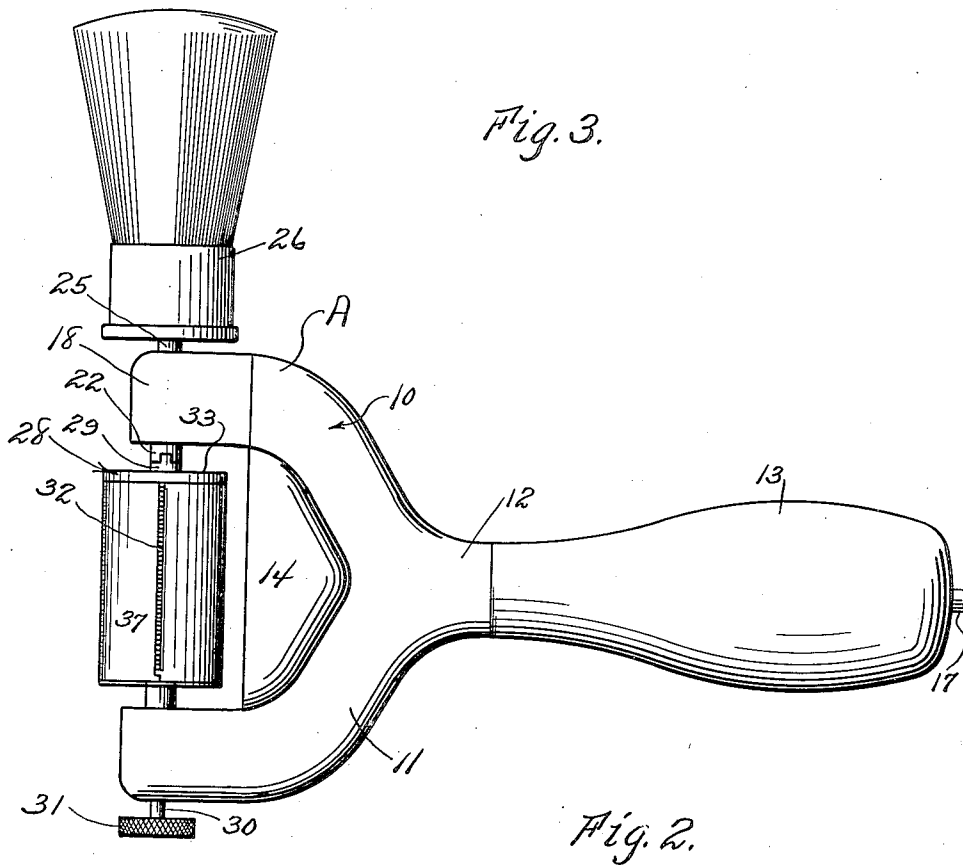
1,519,504

E. PANDO

ELECTRIC SHAVING MACHINE

Filed Jan. 7, 1924

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WITNESSES

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Fig. 4.

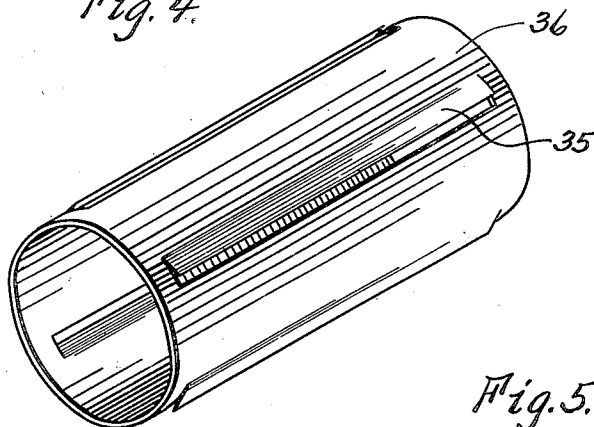


Fig. 5.

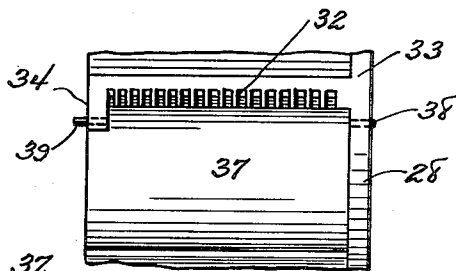
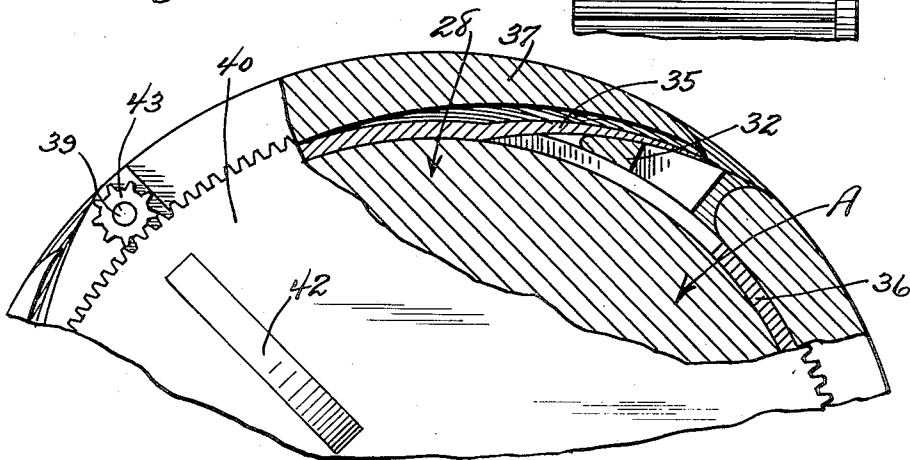


Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDGARDO PANDO, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC SHAVING MACHINE.

Application filed January 7, 1924. Serial No. 684,866.

To all whom it may concern:

Be it known that I, EDGARDO PANDO, a citizen of Republic of Cuba, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in an Electric Shaving Machine, of which the following is a specification.

This invention appertains to shaving appliances and the primary object of the invention is to provide a power driven machine for both applying and working a lather up on the face and for shaving the face.

Another prime object of the invention is the provision of a supporting handle carrying a rotatable drum and novel means for driving the drum, the drum having associated therewith suitable cutting blades and guards, whereby the beard can be quickly and readily removed by holding the drum in close proximity to the face.

A further prime object of the invention is the provision of novel means for forming the drum and the blades, whereby the blades can be readily removed from or associated with the drum when so desired.

A further object of the invention is the provision of novel guard comb members carried by the drum for receiving and supporting the blades, whereby the blades will be held in an operative position relative to the faced during the shaving operation.

A further object of the invention is the provision of novel guard plates for holding the blades on the combs and novel means for moving the plates to an inoperative position to facilitate the cleaning of the blades.

A further object of the invention is the provision of novel means for detachably mounting the drum upon the holder, so as to permit the disassembling of the device when necessary.

A still further object of the invention is the provision of novel means for associating a shaving brush with the drive shaft for the drum, whereby the brush can be rotated for facilitating the applying and working up of the lather on the face.

A still further object of the invention is to provide a novel shaving appliance of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the

invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described. claimed and illustrated in the accompanying 60 drawings, in which drawings:

Figure 1 is an enlarged longitudinal section through the improved shaving appliance illustrating the means for mounting the drum in position on the holder.

Figure 2 is an edge elevation of the improved shaving appliance.

Figure 3 is a front elevation of the improved shaving appliance showing the shaving brush incorporated with the holder.

Figure 4 is a detail perspective view of the blade utilized in the appliance.

Figure 5 is an enlarged fragmentary plan view of the drum showing the combs and guard plates associated therewith, and

Figure 6 is an enlarged fragmentary side elevation of the drum showing parts thereof in section, illustrating the blade, guard and combs and plates in position thereon.

Referring to the drawings in detail, 80 wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates the improved shaving appliance which comprises a U-shaped holder 10 including 85 arms 11 and a shank portion 12, which can have associated therewith any preferred type of hand grip 13. The U-shaped holder 10 has connected therewith between the arms 11 a suitable cup 14 for the reception 90 of lather and the like, as the same is shaved from off of the face. The shank 12 is of a hollow construction and is provided with suitable bearings 15 for the reception of a drive shaft 16 which can be operated in any 95 desired way from any preferred type of electric motor (not shown). This motor (not shown) can be contained in the handle or at a point distant from the handle. In case the shaft 16 is driven by a motor at a 100 point distant from the handle, a flexible shaft 17 is connected to the outer end thereof as shown in Figure 1 of the drawing. One arm 11 is provided with a gear housing 18 into which protrudes one end of a 105 flexible shaft 19 which is connected with a drive shaft 16. The end of the flexible shaft 19 which extends into the gear housing 18 is provided with a beveled gear 20 which meshes with a beveled gear 21 keyed 110 or otherwise secured to a supporting shaft 22. This supporting shaft 22 extends out-

wardly of the gear casing 18 as clearly shown in Figure 1 of the drawing, and is provided with a socket of polygonal configuration, for a purpose, which will be hereinafter more fully described. The beveled pinion 21 carries a screw-threaded sleeve 24 for receiving the threaded end of a shank 25 carried by the shaving brush 26. Thus it can be seen that the shaving brush 26 is also operated by the beveled pinion 21.

The opposite arm 11 of the U-shaped yoke 10 carries a sliding supporting pin 27 for engaging one end of the drum 28, the opposite end of which carries a pin 29 for engaging in the socket 23 of the shaft 22. The pin 27 is normally held in engagement with the drum 28 by the use of an expansion spring 30 which is coiled about the pin and which has one end in engagement therewith and one end in engagement with the last mentioned arm 11 of the yoke 10. This pin 27 is provided with a thumb piece 31, whereby the pin can be slid against the tension of the spring 30 out of engagement with the drum 28.

The drum 28 is of a solid construction and has extending longitudinally across the same in spaced relation to the periphery thereof at equidistant spaced points the combs 32 which act as rests for the active ends of the razor blades, which will be hereinafter more fully described. The guard combs 32 are formed integral with an annular flange 33 formed on one end of the drum 28 and the ends of the combs which are remote from the flange 33 are provided with bearing lugs 34, for a purpose, which will be hereinafter more specifically described.

The razor blades 35 correspond in number to the combs 32 and these blades are struck out from a cylindrical metal sleeve 36, which is adapted to be received on the drum 28. After the metal sleeve 36 is placed on the drum with one edge thereof in contact with the flange 33, the sleeve is rotated, so as to position the blades 35 over the combs 32 as clearly shown in Figure 6 of the drawings. An arcuate guard plate 37 is provided for each blade 35 and this guard plate is adapted to hold its blade in intimate contact with the guard comb 32. These guard plates gradually decrease in width toward their forward ends and have their rear ends rounded and provided with pivot pins 38 and 39. The pivot pins 38 extend through suitable bearing openings formed in the flange 28, while the pins 39 extend into the pivot lugs 34 supported by the combs 32.

In order to hold the metal sleeve 36 in position on the drum against lateral movement and to provide means for operating the guard plates 37 and for holding the same in intimate contact with the blades 35, a relatively

large gear wheel 40 is associated with the end of the drum, which is remote from the end supporting the flange 28. The axial center of the gear 40 is provided with an inwardly extending threaded hub 41 which extends into a threaded bore formed in one end of the drum 28. In order to permit the manipulation of the gear 40, suitable finger grips 42 are formed on the outer face thereof. After the large gear 40 is placed in position pinions 43 are slipped on the pintles 39 and secured thereto in any desired way. Now it is obvious that by turning the gear 40 in one way or the other, that the guard plates 37 can be raised or lowered.

From the foregoing description, it can be seen that I have provided an improved shaving machine embodying a power driven razor blade carrying cylinder and a shaving brush.

Changes in details may be made without departing from the spirit or the scope of this invention.

What I claim as new is:

1. In a power driven shaving machine, a U-shaped yoke, a power driven shaft carried by one arm of the yoke having a socket formed therein, a razor blade carrying drum having a pin at one end thereof for fitting in said socket and a recess in its opposite end, and a sliding spring pressed supporting pin arranged to fit in the recess in the drum.

2. A power driven shaving machine comprising a U-shaped yoke embodying hollow arms, a shank and a hand grip carried by the shank, a flexible power driven shaft disposed in one of said arms having a beveled pinion keyed thereto, a driven shaft rotatably carried by the last mentioned arm of the yoke extending out from said arm and provided with a socket, a beveled pinion keyed to said driven shaft and meshing with the first mentioned beveled pinion, a razor blade carrying drum disposed between the arms of the yoke having a pin at one end arranged to fit in the socket in said driven shaft and a pin receiving recess in its opposite end, and a spring pressed supporting pin carried by the other arm of the yoke for detachably fitting in said pin receiving recess in said drum.

3. In a power driven shaving machine, a U-shaped yoke embodying a pair of hollow arms, a shank, a hand grip fitted on the shank, a drive shaft arranged in one of said arms, a driven shaft carried by the said arms operatively connected with the drive shaft, means carried by the other arm of the yoke in direct alignment with the driven shaft, and a drum carried by the driven shaft and by said means carried by the last mentioned arm of the yoke.

4. In a power driven shaving machine, a drum, a flange formed on one end of the drum, guard comb members carried by the flange and extending over the periphery of

the drum at equidistant spaced points, a metal sleeve arranged to detachably fit over the periphery of the drum in engagement with the flange, struck-out razor blades formed on the sleeve arranged to overlie the comb guards, and movable guard plates carried by the drum and arranged to engage the razor blades to hold the same in intimate contact with the guard combs.

5. In a power driven shaving machine, a drum, a flange formed on one end of the drum, equidistantly spaced guard combs carried by the flange and arranged over said drum, a metal sleeve detachably fitted on the drum in engagement with the flange at one end, struck-out razor blades formed on the sleeve for overlying said guard combs, pivot arcuate guard plates supported by the flange and combs, and a rotatable gear carried by the end of the drum remote from the end carrying the flange for actuating said guard plates, and pinions carried by said guard plates meshing with the teeth of said gear.

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

EDGARDO PANDO.

Witnesses:

MARK SIBLEY,
SAMUEL E. SMITH.