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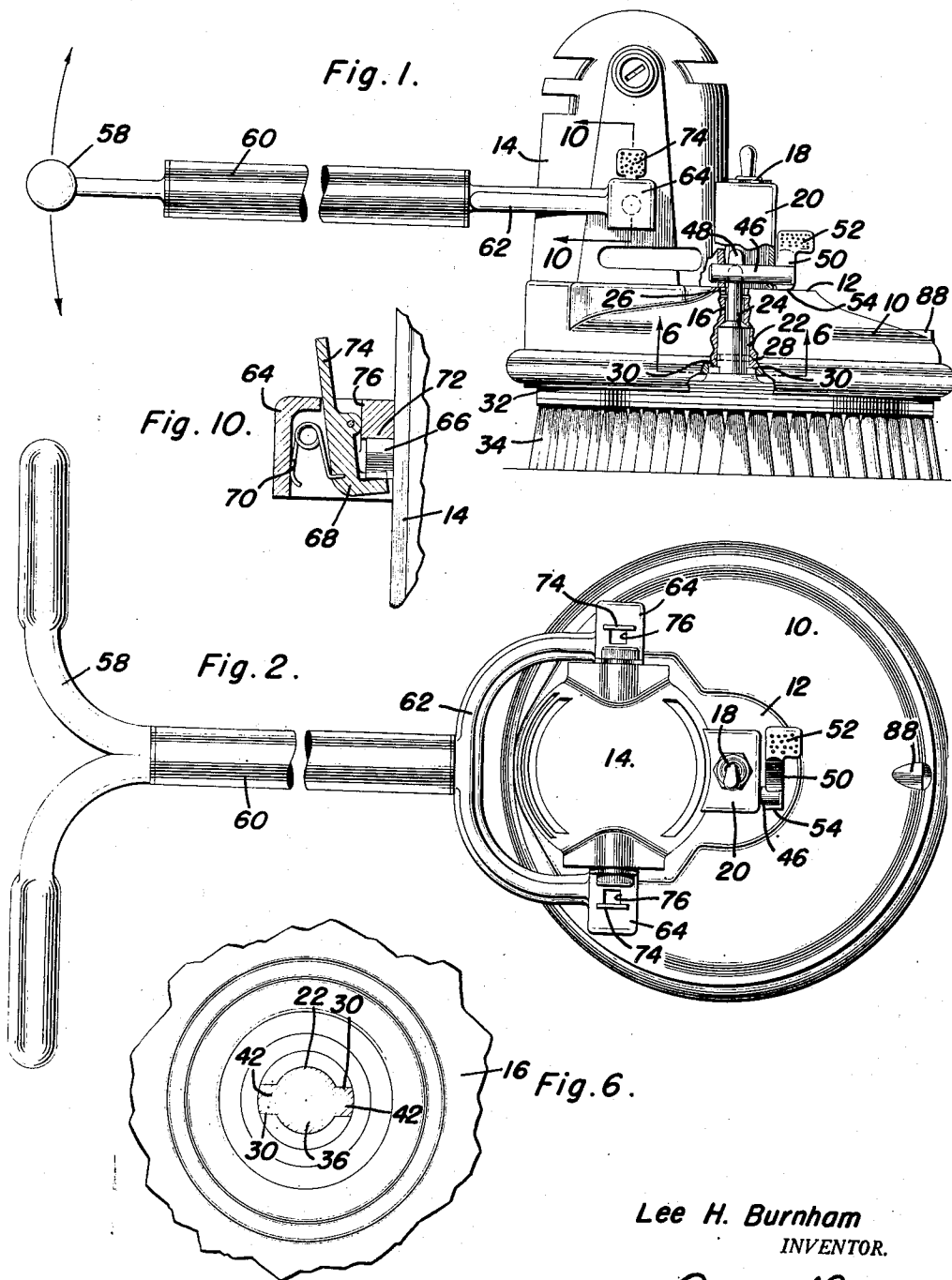
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2,672,634

BUFFING AND POLISHING MACHINE

Filed Jan. 19, 1950

2 Sheets-Sheet 1



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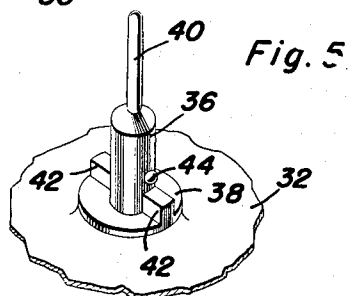
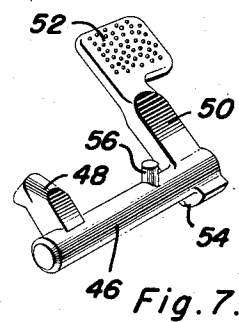
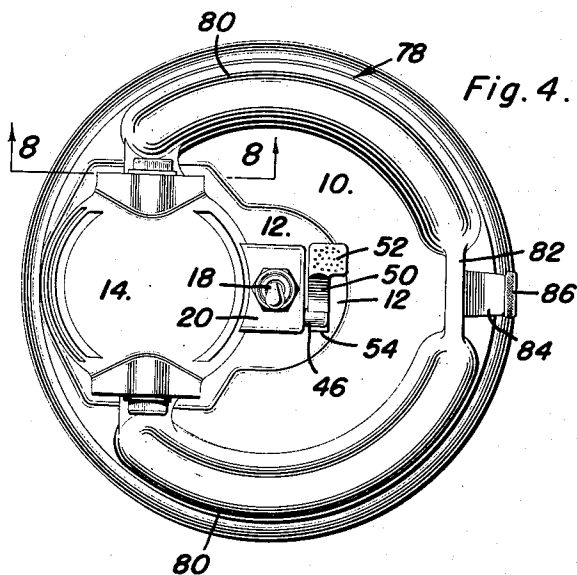
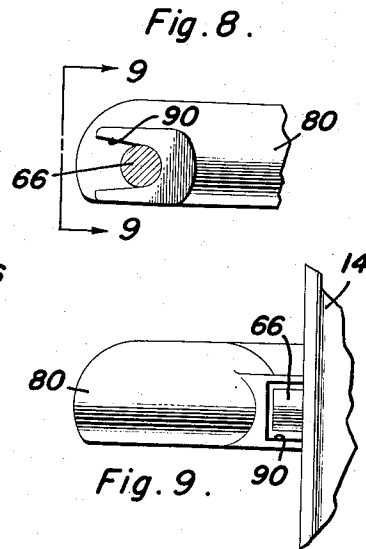
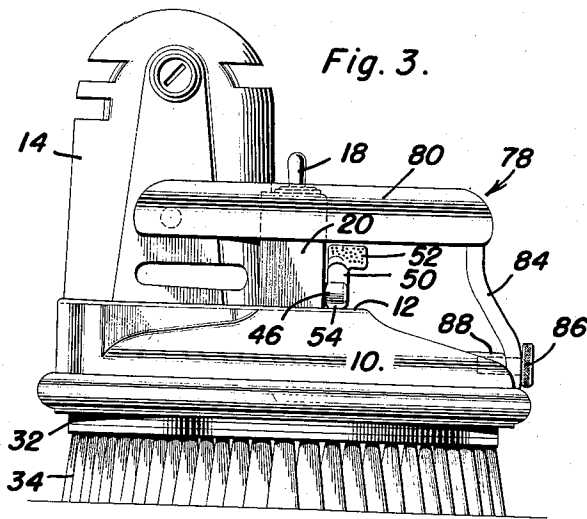
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BUFFING AND POLISHING MACHINE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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BUFFING AND POLISHING MACHINE

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2 Claims. (Cl. 15—28)

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This invention relates to new and useful improvements in buffing and polishing machines and the primary object of the present invention is to provide a buffing and polishing machine including a rotary member, a surface treating head detachably secured to and rotatable with the member and a novel and improved manually operated means for quickly and readily detaching the head from the rotary member to permit another head to replace the first head.

A still further aim of the present invention is to provide a buffing and polishing machine of the aforementioned character that is extremely small and compact in structure, relatively light in weight, strong and reliable in use, neat and attractive in appearance, efficient and durable in operation, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention showing the swingable handle attached thereto, and with parts of the machine broken away for the convenience of explanation;

Figure 2 is a plan view of Figure 1;

Figure 3 is a side elevational view of the present machine and showing a stationary handle mounted thereon;

Figure 4 is a plan view of Figure 3;

Figure 5 is a fragmentary perspective view of the surface treating head and more particularly the attaching post of the surface treating head;

Figure 6 is an enlarged sectional view taken substantially on the plane of section line 6—6 of Figure 1;

Figure 7 is a perspective view of the releasing means used in the present invention per se;

Figure 8 is an enlarged detail sectional view taken substantially on the plane of section line 8—8 of Figure 4;

Figure 9 is an elevational view taken substantially on the plane of section line 9—9 of Figure 8; and,

Figure 10 is an enlarged detail sectional view taken substantially on the plane of section line 10—10 of Figure 1.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a casing

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having an open bottom and an upper wall 12. A hollow slotted portion or motor housing 14, disposed eccentrically of the casing 10, rises from the upper wall 12 and is preferably integrally formed with the upper wall 12.

A suitable electric motor is mounted within the hollow portion 14 and is connected through any suitable drive means, such as gears, to a rotary member 16 that is enclosed within the casing 10 for rotation. A switch 18 controls the circuit to the motor within the portion 14 and is mounted upon a hollow support or switch casing 20 forming a unitary part of the main casing 10.

The rotary member 16 is provided with a vertical bore 22 having a reduced upper portion 24 that registers with an aperture 26 in the upper wall 12 of the casing 10. The inner wall of the bore 22 is formed with a continuous channel 28 and a pair of diametrically opposed keyways 30.

The numeral 32 represents a surface treating head or brush head having the usual bristles 34. A post 36 rises from a base 38 on the upper wall of the head 32 and includes a reduced upper end portion 40 for reception in the reduced portion 24 of the bore 22. A pair of diametrically opposed keys or lugs 42 join the post 36 to the base 38 and are adapted to enter the keyways 30 for rotation of the head 32 with the member 16.

Means is provided for releasably securing the head 32 to the rotary member 16. This means consists of a teat or protuberance 44 on the post 36 that will snap into the channel 28 as the post 36 is inserted into the bore 22.

Additional means is provided for releasing the post from the rotary member and more particularly forcing the protuberance 44 from the channel 28. This latest means is shown best in Figure 7 of the drawings and includes a rod 46 having lateral projection 48 and 50 at its ends. The projection 50 terminates in a finger grip 52 and the projection 50 is also provided with a cam surface 54 for riding against the upper wall 12 of the casing 10.

The rod 46 is journaled for rotation on the support 20 with the projection 50 exposed from the support 20 and with the projection 48 disposed within the support 20. The rod 46 is retained in position in the support 20 by any suitable means such as a lug 56 on the rod 46 and spaced from the projection 50. This lug functions as a stop to limit sliding movement of the rod relative to the support and may assume the form of a set screw.

The projection 48 overlies the upper extremity of the portion 40 which extends upwardly through

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the aperture 26, so that as the finger grip 52 is pressed toward the upper wall 12 of the casing 10, the cam surface 54, riding upon the wall 12 will rockably support the rod 46 as the same is rotated, whereby the projection 48 will contact the upper end of portion 40 to force the post downwardly and the protuberance 44 from the channel 28, thereby separating the head 32 from the member 16. The cam surface 54 binds against the wall 12 during upward movement of the finger gripping portion 52 which prevents accidental swinging movement of the rod 46 during use of the apparatus.

Two types of handles are employed with the present machine. The first type of handle is indicated by the numeral 58 and includes a shank 60 having a bifurcated portion 52 the ends of which are integrally formed with sockets 64 that receive a pair of diametrically opposed lugs 66 on the portion 14.

Locking dogs 68 are pivoted within the sockets 64 and springs 70, mounted in the sockets 64, urge the dogs 68 against the lugs 66 and thereby retain the lugs 66 between the dogs 68 and abutments 72 internally of the sockets 64. The dogs 68 include finger gripping pieces 74 that are slidably received in slots 76 in the upper walls of the sockets so that the dogs 68 can be moved, against action of the springs 70, to remove the handle 58 from the portion 14.

The surfaces of the abutments 72 and the dogs 68 contacting the lugs 66 are concave and the lugs 66 are cylindrical to permit pivotal movement of the handle 58 relative to the portion 14 with the lugs 66 functioning as pivots.

The second type of handle is indicated by the numeral 78 and includes a pair of arcuate grips 80 that are joined at one of their ends by a cross piece 82 having a depending portion 84 that supports a bolt 86. The bolt 86 is threaded into a boss 88 rising from the casing 10 to detachably secure the handle 78 relative to the casing.

The grips 80 terminate in sockets 90 for receiving the lugs 66 and the lugs 66 are held in the sockets 90 when the fastener 86 is threaded into the boss 88.

Obviously, either of the handles 58 or 78 may be used depending upon whether the user desires to employ the machine with a long lever arm or as a hand gripped brush.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the construction, operation and advantages of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A buffing and polishing machine comprising a casing, a rotatable member mounted in the casing and having a central opening, a surface treating head having an upstanding post received

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in said central opening, means releasably securing the post to the member for rotation of the head with the member, said casing including an upper wall having an aperture receiving the upper end of said post, a support rising from the casing, a horizontal rod rotatably supported by the support and disposed perpendicular to the post, means secured to said rod preventing sliding movement of the rod relative to the support, said rod including an inner end positioned in the support and an outer end projecting outwardly from the support, a first lateral projection on the inner end of said rod extending transversely across the upper end of said post, a second lateral projection on the outer end of said rod including a cam surface contacting the upper wall of said casing, and a finger grip integrally formed with said second lateral projection and manually forced against the upper wall of said casing to rotate said rod and cause said first lateral projection to engage and urge the post downwardly, said cam surface binding against said upper wall of said casing when the finger grip is raised above said upper wall.

2. A buffing and polishing machine comprising a casing having an open bottom, a rotatable member disposed in the casing and having a central opening, a surface treating head having an upstanding post extending upwardly through the opening, means yieldingly releasably securing the post to the member for rotating of the head with the member, said head having bristles projecting downwardly from the open bottom of said casing, a housing fixed to and extending upwardly from the casing, an electric motor in the housing operatively connected to the member for rotating the member and the head, a switch casing forming a part of the first named casing and extending upwardly from the central portion of said first named casing, a switch in the casing electrically connected to the motor, said switch casing having a pair of spaced walls with registering horizontal apertures therein, a horizontal rod rotatable in said apertures and disposed over the upper end of the post, a stop element carried by the rod engaging the switch casing to restrict sliding of the rod relative to the switch casing, said rod having a lateral projection intermediate its ends adapted to engage and lower the post as the rod is rotated, and a finger grip projecting laterally from the rod and disposed exteriorly of the switch casing for rotating the rod.

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