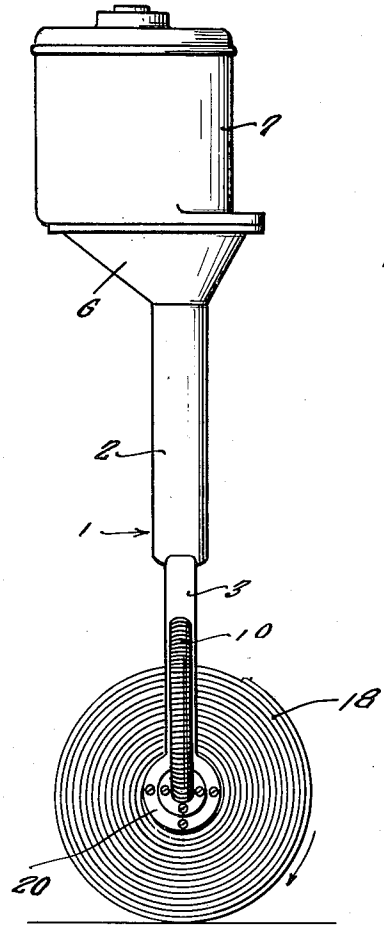
June 29, 1937. M. J. BAILEY 2,085,140

BUFFING AND POLISHING DEVICE

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Fig. 1.



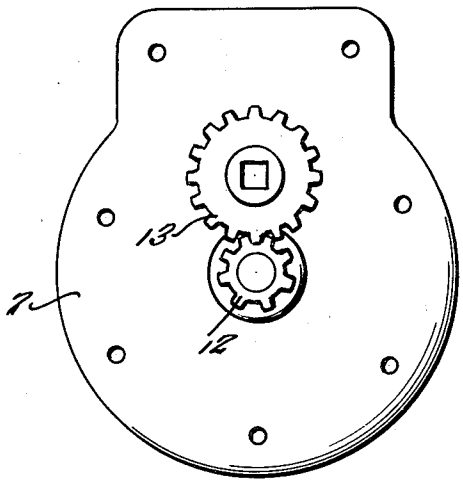
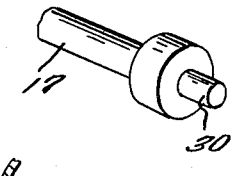


Fig. 3.

Fig. 7.



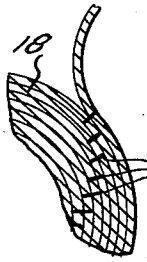
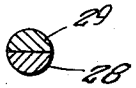


Fig. 8.

Fig. 6.



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BUFFING AND POLISHING DEVICE

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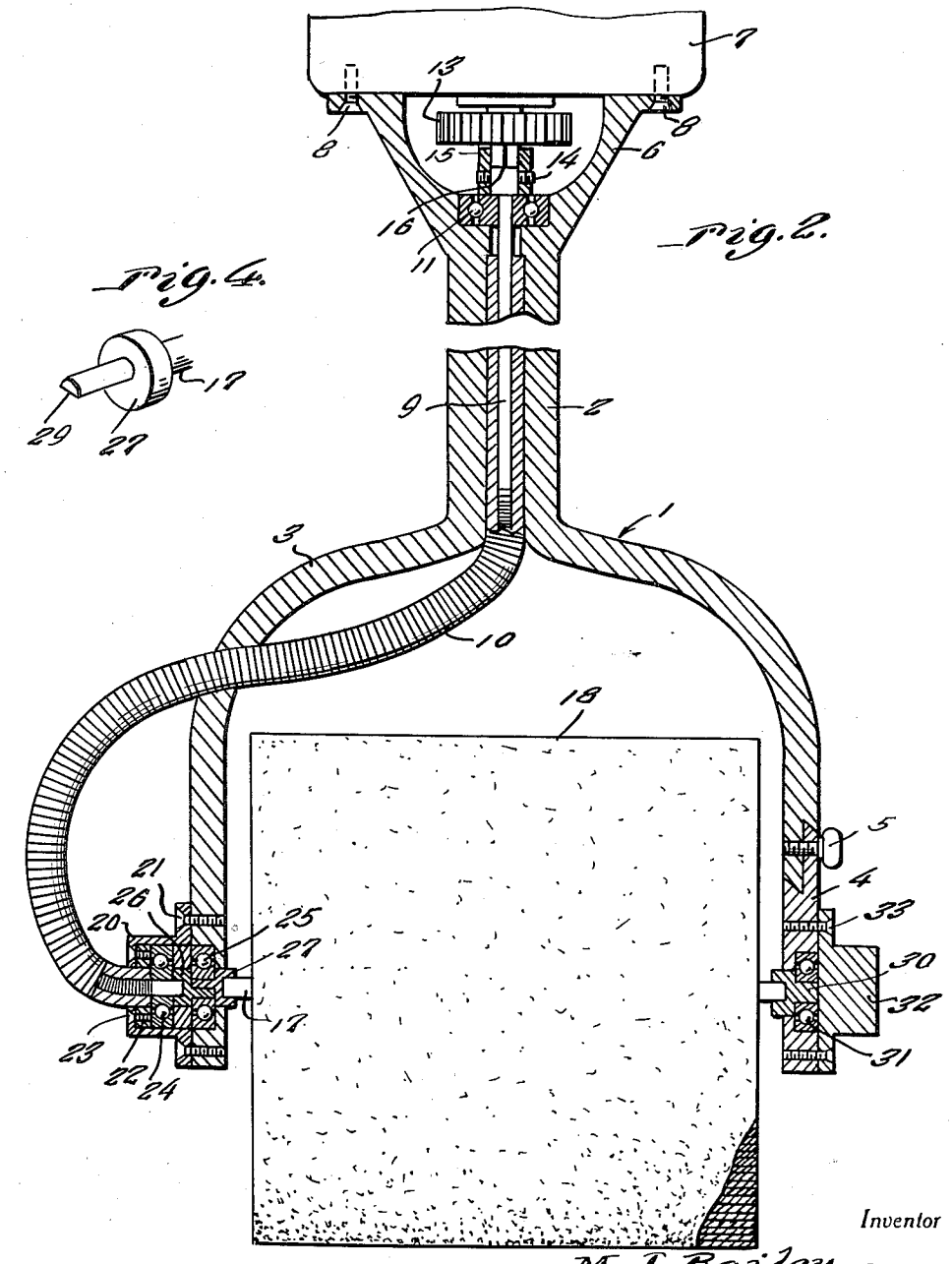


Fig. 2.

Fig. 4.

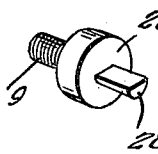


Fig. 5.

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UNITED STATES PATENT OFFICE

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BUFFING AND POLISHING DEVICE

Mora J. Bailey, Hilt, Calif.

Application January 3, 1936, Serial No. 57,403

1 Claim. (Cl. 51—170)

The present invention relates to new and useful improvements in buffing and polishing devices particularly for polishing automobiles, although it will be understood that a device in accordance with the present invention may be used for any purpose for which it may be found adapted and desirable.

An important object of the invention is to provide, in a device of the aforementioned character comprising a rotary buffer and an electric motor, novel means for connecting said buffer to said motor for actuation thereby.

Another very important object of the invention is to provide a device of the character described embodying a novel construction, combination and arrangement of parts whereby the rotary buffer may be expeditiously removed when desired to be renewed or exchanged.

Still another important object of the invention is to provide, in a buffing and polishing device, a rotary buffer of such construction that the work engaging surface may be repeatedly renewed in a minimum of time and with a minimum of labor.

Other objects of the invention are to provide an electrically driven buffing and polishing device which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, portable, light in weight and which may be manufactured and operated at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a view in side elevation of a buffing and polishing device constructed in accordance with the present invention.

Figure 2 is a view in vertical section through the frame, a portion of the rotary buffer being broken away in section.

Figure 3 is a view in bottom plan of the electric motor.

Figure 4 is a detail view in perspective of one of the elements which connect the flexible drive shaft to the rotary buffer.

Figure 5 is a detail view in perspective of the other element constituting the drive coupling between the rotary buffer and the flexible drive shaft.

Figure 6 is a view in transverse section through the coupling between the drive shaft and the buffer.

Figure 7 is a perspective view of one end portion of the buffer shaft.

Figure 8 is a fragmentary view in section through a portion of the buffer.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a frame of suitable metal which is designated generally by the reference numeral 1. The frame 1 includes a tubular handle 2 on one end of which is a yoke 3. One of the legs of the yoke 3 includes a removable free end portion 4 which is rigidly secured by a suitable joint, as at 5. On the other end of the handle 2 is a housing 6.

The reference numeral 7 designates an electric motor which is removably secured on the housing 6 by screws 8. Extending through the handle 2 into the housing 6 is a flexible drive shaft 9 which is enclosed in a flexible housing 10. Immediately adjacent the housing 6 a ball bearing 11 is provided for the flexible drive shaft 9. The drive shaft 9 is driven by the electric motor 7 through means including reduction gears 12 and 13 which are enclosed in the housing 6. Secured by set screws 14 on the drive shaft 9 is a female member 15 which receives a polygonal male member 16 on the driven gear 13.

Removably mounted in the yoke 3 is a shaft 17 which carries a buffer 18. The buffer 18 is formed from a single length of suitable material wrapped about the shaft 17 in a direction opposite to that in which said buffer rotates when the device is in use. For example, in Figure 1 of the drawings the arrow indicates that the buffer 18 rotates in a clockwise direction and it will be observed that said buffer is wrapped in a counterclockwise direction. Referring now to Figure 8 of the drawings, it will be noted that each wrapping of the buffer 18 is stitched, as at 19, or otherwise attached to the subjacent wrapping.

The reference numeral 20 designates a casing which is secured by screws 21 on one of the legs of the yoke 3. The flexible housing 10 extends into the casing 20 and is anchored in a collar 22 which is secured by screws 23 in said casing 20. The flexible drive shaft 9 extends beyond the flexible housing 10 in the casing 20 and is journaled in a ball bearing 24 which is provided therefor in said casing 20. The reference numeral 25 designates a ball bearing which is mounted in the yoke 3. Fixed on the adjacent ends of the drive shaft 9 and the buffer shaft 17 are substantially duplicate coupling elements 26 and 27, respec-

tively. The elements 26 and 27 comprise complemental segmental stub shafts 28 and 29, respectively, which are engaged with each other in the bearing 25 in a manner to connect the shaft 17 to the shaft 9 for actuation thereby.

Fixed on the other end of the buffer shaft 17 is a spindle 30 which is journaled in a ball bearing 31 in the detachable end portion 4 of the yoke 3. A cap 32 is provided for the bearing 31, said cap 32 being secured by screws 33.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. When the electric motor 7 is energized the buffer 18 is, of course, driven through the shaft 9, the gears 12 and 13, the coupling elements 14, 16, 26, 27, etc. When the surface of the buffer 18 which is being used becomes worn or soiled, or should it be desired for any other reason to renew said surface, the outermost wrapping of said buffer is simply removed, thus exposing the next wrapping and this operation may be repeated until substantially the entire roll forming said buffer 18 is exhausted. As hereinbefore stated, the end of each wrapping of the strip forming the buffer 18 is secured or anchored by stitches 19 or other suitable means.

When it is desired to renew or exchange the buffer 18, this may be conveniently accomplished by simply detaching the end portion 4 of the yoke 3 after which the buffer shaft 17 may be conveniently removed. The coupling element 27 is removed with the buffer shaft 17.

It is believed that the many advantages of a buffing and polishing device constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

A buffing and polishing device of the class described comprising a frame including a handle, a yoke on one end of said handle, an electric motor mounted on the other end of the handle, said yoke comprising a detachable end portion, a casing mounted on the other end portion of the yoke, a flexible housing having one end secured longitudinally in the handle and its other end anchored in the casing, a flexible drive shaft extending through said flexible housing, means connecting said drive shaft at one end to the electric motor for actuation thereby, a bearing in the casing for the other end of the drive shaft, a shaft journaled in the yoke, a buffer mounted on the second-named shaft, a bearing mounted in said other end portion of the yoke, and substantially segmental, complemental stub shafts fixed on the adjacent end portions of the first and second-named shafts and engaged with each other in the second-named bearing for detachably connecting the second-named shaft to the first-named shaft for actuation thereby, the other end of said second-named shaft being journaled in the detachable end portion of the yoke.

MORA J. BAILEY.