March 20, 1934. A. C. BURLEIGH ET AL 1,951,964

TOOL FOR SANDING, RUBBING, OR POLISHING SURFACES

Filed July 15, 1931

Fig.1.

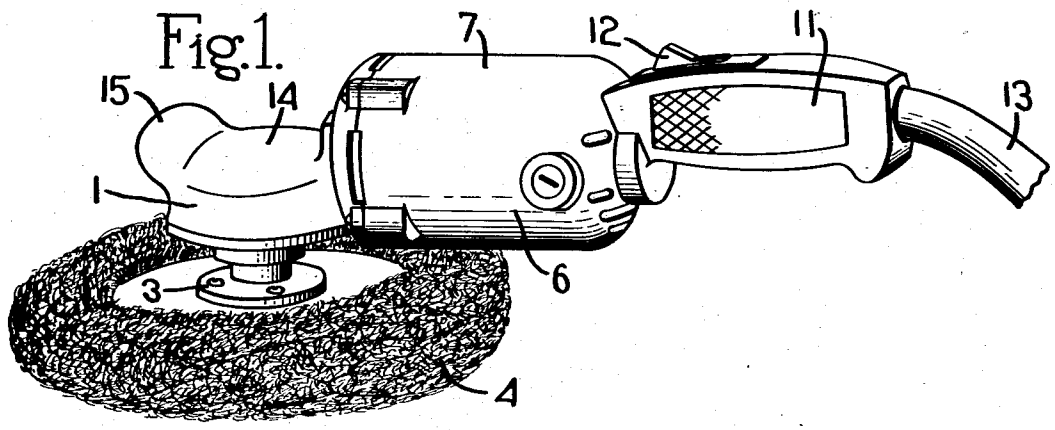


Fig.2.

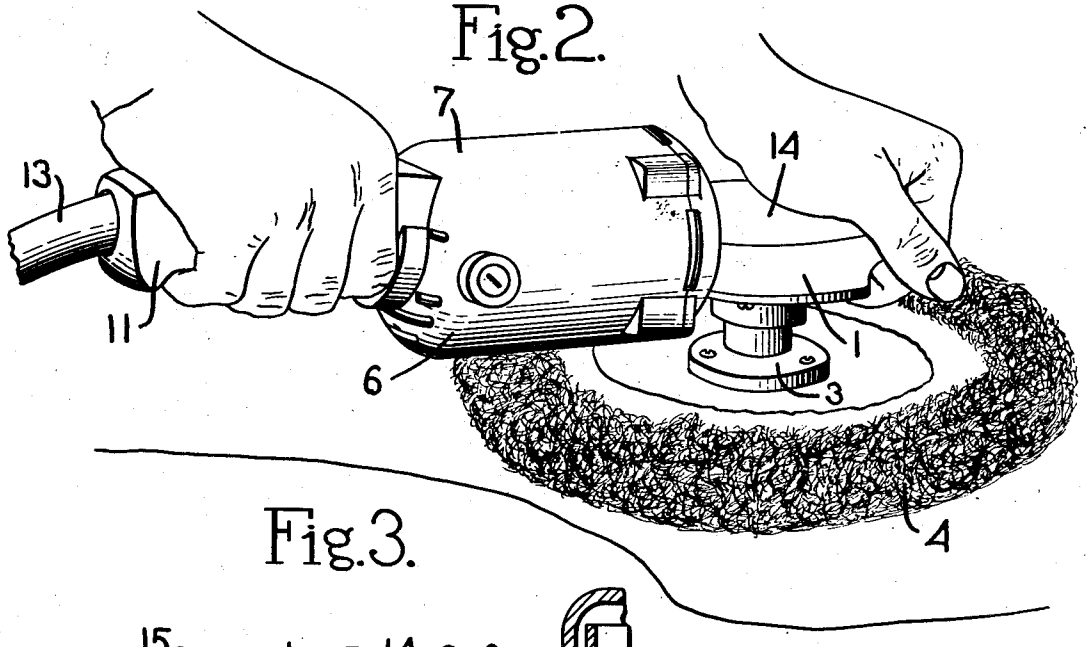
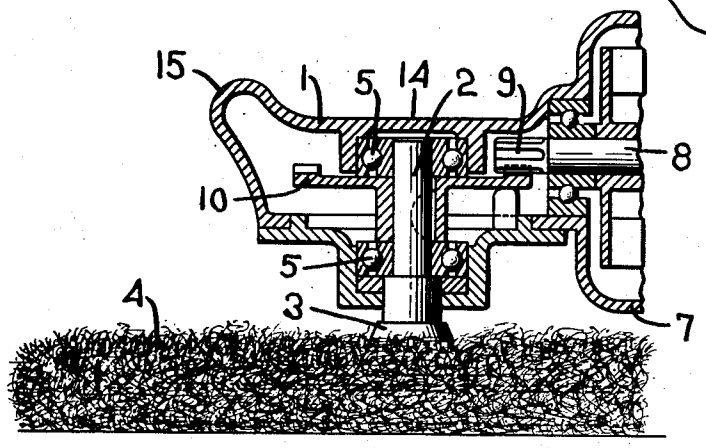


Fig.3.



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TOOL FOR SANDING, RUBBING, OR POLISHING SURFACES

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2 Claims. (Cl. 51—170)

This invention relates to a portable electric tool adapted for sanding, rubbing or polishing surfaces and it has for one of its objects to provide a novel device of this type which is easy to manipulate and which is so constructed that when used the pressure is applied to the sanding, rubbing or polishing disc substantially in the axial line thereof.

In order to give an understanding of the invention we have illustrated in the drawing a selected embodiment thereof which will now be described, after which the novel features will be pointed out in the appended claims.

In the drawing, Fig. 1 is a perspective view of a tool embodying our invention;

Fig. 2 is perspective view illustrating the manner in which the device is used;

Fig. 3 is a fragmentary sectional view.

Our improved tool comprises a hollow head, or gear case 1, in which is rotatably mounted a shaft 2 that projects through the casing and which is provided with a chuck or holder 3 to which the abrasive disc or rubbing or polishing pad 4 may be secured in any approved way. The shaft 1 is shown as mounted in suitable ball-bearings 5.

Said shaft is rotated by an electric motor indicated generally at 6, and which is mounted in a housing 7 that is suitably secured to the head 1. The motor 6 is arranged with its motor shaft 8 extending at right angles to the shaft 2 and the driving connection between the motor and shaft 2 comprises a pinion 9 fast on the motor shaft 8 and meshing with a crown gear 10 fast on the shaft 2 and located within the housing or head 1. The motor casing 7 is provided with a handle 11 which carries a suitable switch 12 by which the motor circuit may be controlled. The circuit wires may be led to the motor through a cable 13 which is shown as extending through the handle 11.

In accordance with our invention the gear casing 1 is provided with a flat top surface 14 against which pressure may be applied and at a point opposite the motor housing 7 both the top surface and the side wall of the gear casing extend upwardly and outwardly to form a projection or protuberance 15. The upper face of this projection or protuberance 15 merges into the flat face with a gentle curve and the outer or side wall face of the protuberance merges into the side wall of the gear casing with a gentle curve as clearly seen in Fig. 3. Moreover, the top and side surfaces of this projection or protuberance 15 merge together with a rounded curve. The thickness of the protuberance, that is, the distance between its top surface and its side surface is less than its dimension in a direction at right angles to the motor shaft 8 and thereby a projection or protuberance is provided which has a most convenient and comfortable shape to grasp.

In using the device the operator grasps the handle 11 with one hand, preferably the right hand, and grasps the projection 15 with the other hand. The base of the palm of the hand grasping the projection 15 rests on the flat top face 14 of the head, and the fingers of the hand may embrace the projection 15 as clearly seen in Figure 2.

This projection 15 makes a convenient hand hold by which the operator can hold and manipulate the head 1, and when the device is in use the pressure which the operator applies to the head 1 through the hand which is grasping the projection 15 will be applied flatly against the top face 14 of the head and hence in substantially the axial line of the pad 4. Since the pressure is applied to the head substantially in the axial line of the shaft 2, the pad will be pressed evenly against the surface to be rubbed or polished and there will be no tendency for the pad to be tilted to one side as is the case where the head is provided with a laterally extending handle designed to be grasped by the left hand.

The shape of the head 1, therefore, provides a device which is not only easy to manipulate but one which lends itself to the most effective application of pressure.

We claim:

1. A tool of the class described comprising a gear casing having a flat top surface adapted to receive pressure from the palm of the operator's hand, a shaft journalled in said casing extending at right angles to said surface and in line with the central portion thereof, a polishing element carried by said shaft, a motor housing secured to and extending laterally from said gear casing, a handle extending from the motor housing, an electric motor in said housing and gearing connecting said motor to said shaft, said gear casing having as an integral part thereof a protuberance constituting a hand hold extending upwardly and outwardly from said top surface at a point diametrically opposite the motor housing, said protuberance having its upper surface joining the top surface of said casing with a smooth curve.

2. A tool of the class described comprising a gear casing having a flat top surface adapted to receive pressure from the palm of the operator's hand, a shaft journalled in said casing extending at right angles to said surface and in line with the central portion thereof, a polishing element

carried by said shaft, a motor housing secured to and extending laterally from said gear casing, a handle extending from said motor housing, an electric motor in said housing, gearing connecting said motor to said shaft, the top and side wall of the gear casing at a point diametrically opposite to the motor housing extending upwardly and outwardly to form a relatively thick protuberance which is an integral part of the gear casing and which extends above the flat surface and outwardly beyond the side wall, the upper face of the protuberance merging with the flat surface in a gradual curve and the outside wall of said protuberance merging with the side wall of the casing with a gradual curve, said top and side faces of the protuberance being connected with the curved surface, the thickness of the protuberance being less than its dimension in a direction at right angles to the axis of the motor, whereby said protuberance forms a smooth-surfaced hand hold which the operator's hand naturally grasps when the palm of his hand is applying pressure to said flat top surface.

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