

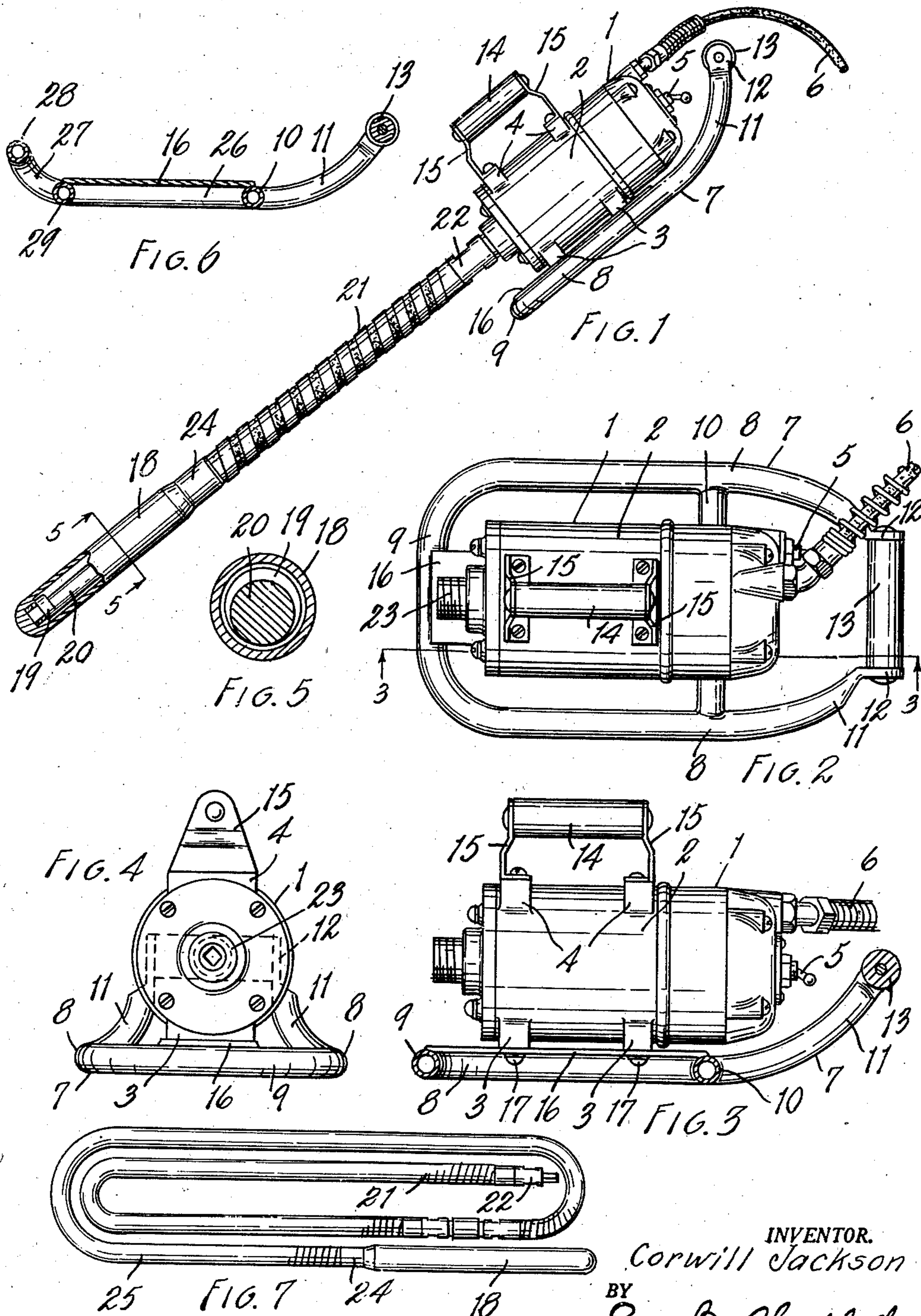
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ELECTRIC MOTOR DRIVEN TOOL

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ELECTRIC MOTOR-DRIVEN TOOL

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9 Claims. (Cl. 172—36)

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This invention relates to improvements in electric motor driven tool.

The main objects of this invention are:

First, to provide an implement of the submersible type for treating concrete and like materials which is very convenient to handle or manipulate with a minimum of effort on the part of the operator.

Second, to provide an implement of this character which may be pulled along on the ground or on a surface without injury thereto.

Third, to provide an implement of this character in which the motor assembly is well balanced relative to the handles or grips.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure which embodies the features of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a side elevation of an implement embodying my invention, the electrical circuit cord being partially broken away and the tool being partially broken away in section.

Fig. 2 is an enlarged plan view with the tool and its shaft removed.

Fig. 3 is a fragmentary view partially in longitudinal section on line 3—3 of Fig. 2.

Fig. 4 is a rear end elevation of the structures shown in Figs. 2 and 3.

Fig. 5 is an enlarged transverse section on line 5—5 of Fig. 1.

Fig. 6 is a longitudinal section of a modified form of supporting base.

Fig. 7 illustrates the tool provided with a flexible shaft of considerable length, which may be substituted for the relatively short shaft shown in Fig. 1.

In the embodiment of my invention illustrated, the electric motor designated generally by the numeral 1 is provided with a cylindrical casing 2 having integral longitudinally spaced lugs 3—3 on the under side thereof and similar longitudinally spaced lugs 4—4 on the upper side thereof.

The motor is provided with a control switch 5 at its front end and the electrical circuit connections 6.

I provide a base for the motor designated generally by the numeral 7 and comprising side members 8—8 connected at their rear ends by the rear cross member 9, the side members and cross members being formed integrally of a piece of tubing. The front cross piece 10 is disposed with its ends in abutting relation to the rear side of

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the side members 8 and in spaced relation to their front ends and is welded thereto.

The front ends 11 of the side members are bent upwardly and convergently and terminate in flattened ears 12 to which the handle or grip 13 is secured, the handle extending transversely in approximately the central horizontal plane of the motor and constituting a guard for the switch 5. The handle is desirably located so that the switch or control member 5 may be manipulated by the fingers of a hand grasping the handle 13.

A second handle or grip 14 is disposed longitudinally and centrally of the motor, being supported by brackets 15 secured to the lugs 4.

The motor is secured to the platform 16 which is a flat plate welded at its ends to the upper side of the rear cross member 9 and the cross piece 10, the lugs 3 being secured to the platform by means of screws 17.

With the parts thus arranged an effective base is provided on which the motor may rest in upright position, the base extending well beyond the motor laterally so that there is little likelihood of the motor tipping over even when the structure is dragged or pulled over quite uneven surfaces. The structure is also relatively light in weight which is of particular advantage when the drive shaft for the implement 18 is comparatively short so that the tool may be manipulated from the implement grasped and supported by the operator.

The tool 18 comprises an elongated submersible casing having a rotor 19 mounted therein, the rotor being provided with an unbalancing weight 20 so that the tool is vibrated at high frequency when driven through the shaft designated generally by the numeral 21, this shaft being a flexible shaft provided with a casing of such rigidity as to permit the manipulation of the tool by an operator grasping the grips or handles.

I have not illustrated the details of the flexible shaft and its casing, as suitable shafting of this character is known in the industry.

However, the shafting 21 is connected by the coupling 22 to the rear end of the casing which is provided with a threaded stud 23 to receive the same, the outer end of the shaft casing being connected to the socket 24 of the tool.

In Fig. 7 the shaft 25 is of considerable length and when a long shaft is used, the motor rests upon its base.

In the modification shown in Fig. 6, the side members 26 of the base have upturned rear ends 27 of the rear cross member 28 corresponding to the cross member 9 being elevated. This pro-

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vides a runner or shoe-like structure at both ends of the base.

A second cross piece 29 is provided to support the platform 16.

The implement of my invention is very efficient and may be manipulated with relatively little effort on the part of the operator as the base or supporting parts for the motor also provide for the location of one of the handles at a convenient position, the second handle being arranged so that the tool may be conveniently manipulated to meet the many varying conditions presented in use.

I have illustrated and described my invention in a commercial embodiment thereof. I have not attempted to illustrate or describe certain other modifications and adaptations which I contemplate, as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A support for an implement of the class described having an electric motor provided with a casing having longitudinally spaced lugs on the upper and lower sides thereof and provided with a control switch at its front end, comprising a rectangular base having side members, a rear cross member integral with the side members and a front cross piece extending between and welded to the inner sides of the side members in rearwardly spaced relation to their front ends, a platform welded to the upper sides of said rear cross member and cross piece, the bottom lugs of said motor casing being secured to said platform, the front ends of the side members beyond said front cross piece being turned upwardly and convergingly, a grip connecting the upturned forward ends of said side members disposed transversely across the longitudinal axis of said casing and constituting a guard for the switch, the switch being operable with the hand of the operator grasping the grip, and a second grip disposed longitudinally and centrally of the casing and secured to said lugs on the top thereof.

2. A support for an implement of the class described having an electric motor provided with a casing having longitudinally spaced lugs on the upper and lower sides thereof, a base having side members, a rear cross member integral with the side members and a front cross piece extending between and welded to the inner sides of the side members in rearwardly spaced relation to their front ends, a platform welded to the upper sides of said rear cross member and cross piece, the bottom lugs of said motor casing being secured to said platform, the front ends of the side members beyond said front cross piece being turned upwardly and convergingly, a grip connecting the upturned forward ends of the said side members disposed transversely of said casing, and a second grip disposed longitudinally and centrally of the casing and secured to said lugs on the top thereof.

3. A support for an implement of the class described having an electric motor provided with a control switch at its front end, a base having side members, a rear cross member integral with the side members and a front cross piece welded to the side members in rearwardly spaced relation to their front ends, a platform welded to the upper sides of said rear cross member and said cross piece, the motor being secured to the platform with the axis of its rotor disposed longi-

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tudinally of the base, the front ends of the side members beyond the said front cross piece being turned upwardly and converging at the front of the motor and connected to provide a handle, the handle constituting a guard for the switch and extending transversely across the axis of the rotor, the switch being operable with the hand of the operator grasping the handle, and a second handle disposed longitudinally and centrally at the top of the motor.

4. A support for an implement of the class described having a motor, a base having side members, a rear cross member integral with the side members and a front cross piece welded to the side members in rearwardly spaced relation to their front ends, a platform welded to the upper sides of said rear cross member and said cross piece, the motor being secured to the platform with the axis of its rotor disposed longitudinally of the base, the base side members having a transversely disposed handle at their front ends, and a second handle disposed longitudinally and centrally at the top of the motor.

5. A support for an implement of the class described having a motor, a base having side members, a rear cross member integral with the side members and a front cross piece welded to the side members in rearwardly spaced relation to their front ends, a platform welded to the upper sides of said rear cross member and said cross piece, the motor being secured to the platform with the axis of its rotor disposed longitudinally of the base, the base side members having a transversely disposed handle at their front ends and intersecting the axis of the motor, and a second handle disposed longitudinally and centrally at the top of the motor.

6. A support for an implement of the class described having a motor provided with a casing and having a control member at its front end, a base having side members and longitudinally spaced cross pieces fixedly connected to the side members, the side members projecting upwardly at the front of the motor and in spaced relation thereto and carrying a handle disposed transversely of the motor casing in guarding relation to said control member, said motor casing being fixedly secured to said base, and a second handle disposed longitudinally and centrally above the motor casing.

7. A support for an implement of the class described having a motor, a base having side members and longitudinally spaced cross pieces fixedly connected to the side members, the side members projecting upwardly at the front of the motor and in spaced relation thereto and carrying a handle disposed transversely of the motor casing, said motor casing being fixedly secured to said base, and a second handle disposed longitudinally and centrally above the motor casing.

8. A support for an implement of the class described having a motor provided with a casing and having a control member at its front end, a base having side members and longitudinally spaced cross pieces fixedly connected to the side members, the side members projecting upwardly at the front of the motor and in spaced relation thereto and carrying a handle disposed transversely of the motor casing in guarding relation to said control member, said motor casing being fixedly secured to said base, and a second handle disposed longitudinally and centrally above the motor casing.

9. A support for an implement of the class described having a motor, a base having side mem-

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bers and longitudinally spaced cross pieces fixedly connected to the side members, the side members carrying a handle disposed transversely of the motor, said motor casing being fixedly secured to said base, and a second handle disposed longitudinally and centrally above the motor casing.
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