Aug. 1, 1939. B. C. BECKER 2,167,740

SUCTION CLEANER

Filed Sept. 24, 1937 2 Sheets-Sheet 1

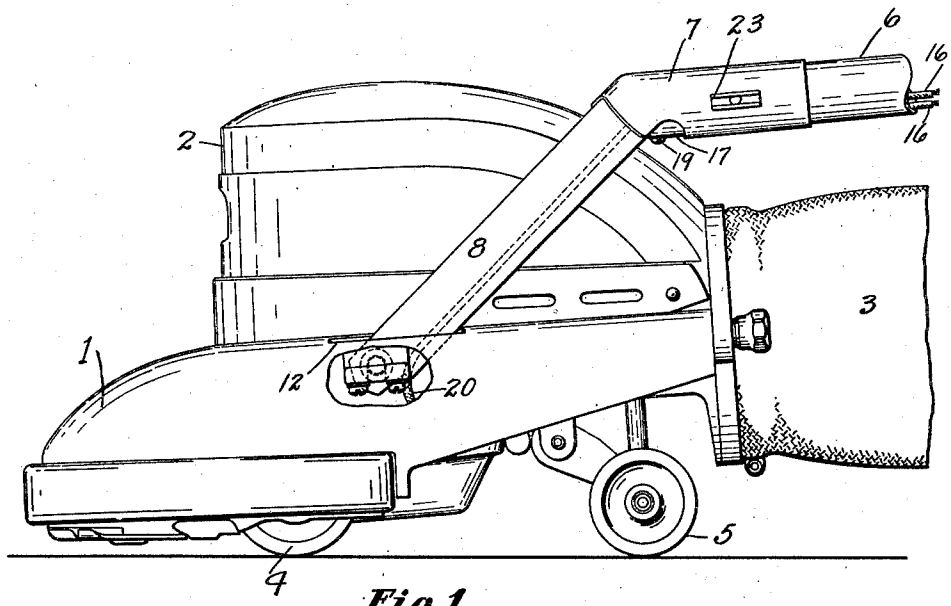


Fig. 1

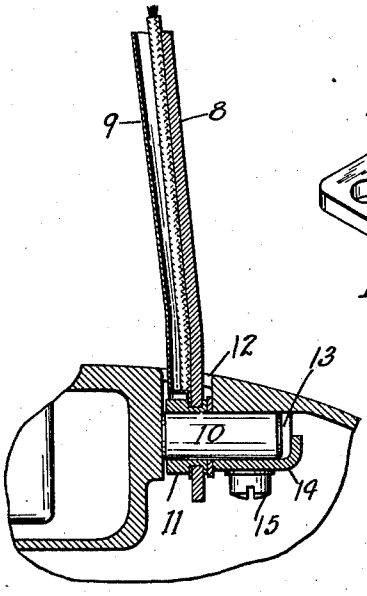


Fig. 2

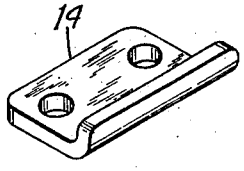


Fig. 4

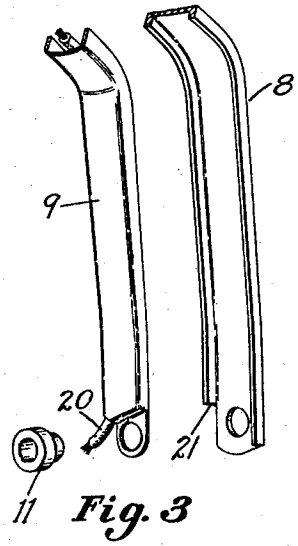


Fig. 3

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SUCTION CLEANER

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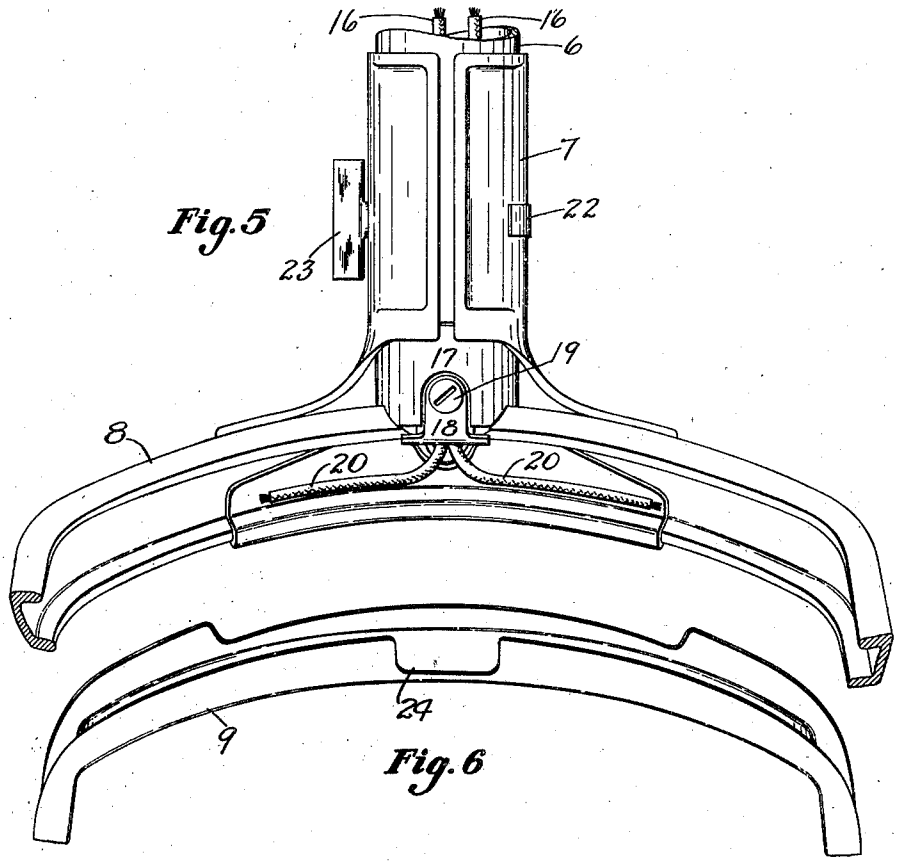


Fig. 5

Fig. 6

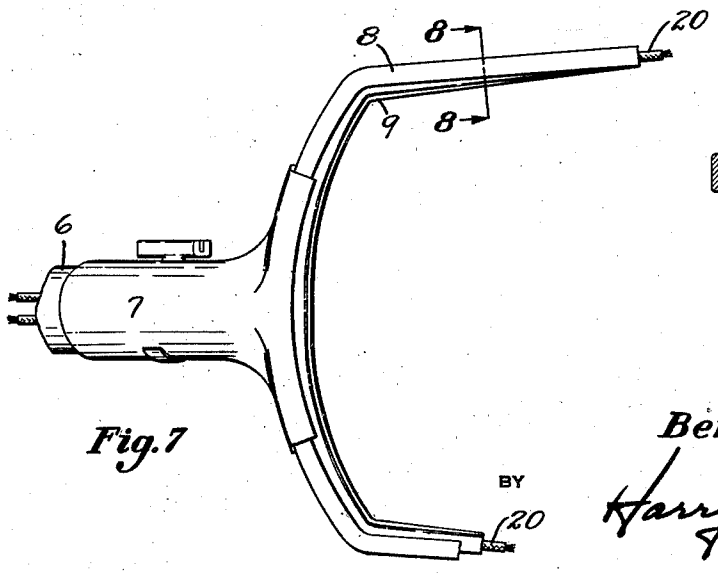


Fig. 7

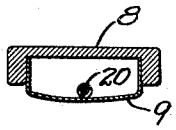


Fig. 8

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Patented Aug. 1, 1939 2,167,740

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2,167,740

SUCTION CLEANER

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Application September 24, 1937, Serial No. 165,476

5 Claims. (Cl. 306—11)

The present invention relates to suction cleaners in general and more particularly to new and novel improvements in handle constructions for suction cleaners. More specifically the invention comprises a pivoted handle for suction cleaners which includes a fabricated hollow bail formed of cooperating U-shaped channels which carry the current-carrying leads to the cleaner motor.

It is an object of the present invention to provide a new and improved suction cleaner handle. Another object of the invention is to provide a new and improved handle for suction cleaners including a hollow fabricated bail. Still another object is the provision of a suction cleaner handle the hollow bail of which is formed by cooperating U-shaped channel members. A further object is to provide a suction cleaner handle which is completely enclosed and which is readily assembled. These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawings to which they relate.

In the drawings, in which the same reference characters refer to the same views throughout:

Figure 1 is a side elevation of a suction cleaner embodying the present invention;

Figure 2 is a partial section through the handle bail at the pivot point;

Figure 3 is an exploded view disclosing the cooperating U-shaped channels at the lower end of one of the bail arms;

Figure 4 is a view in perspective of the securing plate for the pivot pin of the handle;

Figure 5 is a view in perspective of the handle bail taken from the rear and discloses the socket member which opens into the channel formed in the bail;

Figure 6 discloses the U-shaped cover member which seats within the outer U-shaped arms to form a hollow channel;

Figure 7 is a top view of the handle bail with the end portions broken away;

Figure 8 is a section through one of the bail arms upon the line 8—8 of Figure 7.

Referring now to the drawings in which a preferred embodiment of the present invention is disclosed, a suction cleaner is illustrated which comprises in general the well known suction cleaner parts including a main casing 1 and a motor casing 2. Within the main casing are provided a nozzle, a fan chamber and an exhaust outlet, all operatively interconnected in a manner well known in the art. An unshown driving motor is positioned within the motor casing 2 which drives the suction-creating fan within a fan chamber, in a manner old in the art, and the air which passes through the casing 1 in the cleaner operation is exhausted into a filter bag 3 which is attached to the rear or exhaust outlet end of the main casing. The cleaner body, including casings 1 and 2, is movably supported upon front wheels 4 and rear wheels 5, one of each being illustrated in Figure 1.

To make the cleaner readily movable, a pivoted handle is provided which includes an elongated portion 6, which is common to all suction cleaner handles and a portion of which is illustrated in Figure 1, and which also includes a bifurcated U-shaped bail, the side arms of which straddle the motor casing 2. The bail is provided at its top center with a socket 7 which removably seats the lower end of the elongated handle portion 6.

The handle bail is formed of a rigid relatively strong U-shaped channel member 8 to which the socket 7 is integrally attached as by welding. Cooperating with channel member 8 is a similarly U-shaped channel member 9 which seats therein to form a closed conduit which is open only at its top center to the socket 7 and at its lower extremity. At their lower extremities both members are pivotally carried by a pivot pin 10 upon which they seat through a sleeve 11 which also performs the function of securing the members together.

The main casing 1 of the cleaner is slotted at 12 to permit the bail arms to extend therethrough to the pivot pins 10, of which there is one upon each side of the cleaner. Each pin is itself carried on the underside of the casing in a suitable seat 13 in which it is removably secured by a plate 14 and cooperating screws, as illustrated at 15.

As in the usual suction cleaner construction the current-carrying leads to the motor within casing 2 extend downwardly through the elongated handle portion 6, being indicated by the reference characters 16, 16. Within the lower end of handle portion 6 leads 16, 16 connect to an unshown connector plug which cooperates with a plug member 17. The latter is carried by socket 7 and is removably secured in place by an L-shaped clamp 18 which underlies the channel member 8 and extends alongside the plug to be secured by a removable screw 19, as is clearly illustrated in Figure 5. Conductor leads 20, 20 extend from plug 17, through which they make electrical connection with leads 16, 16, and pass from socket 7 into the conduit formed by the cooperating channel members 8 and 9. The leads divide as is clearly illustrated in Figure 5, and one lead passes down each of the bail arms to its lower end immediately adjacent the pivot points. At that point the rear side wall of the outer channel member 8

is cut away, as indicated in Figure 3 at 21, thereby providing an exit for the conductor 20 at a point below the top wall of main casing 1. From that point the leads are suitably connected to the electric motor within the motor casing 2 in a manner which forms no part of the present invention.

The elongated handle section 6 is removably secured to the socket 7 by means of a bolt member 22, the head of the bolt being recessed within the socket 7 and extending transversely across the socket and through the lower end of section 6 to be secured in place by the headed nut member 23 which is screw threaded upon the end thereof in a common and well known manner. Withdrawal of handle portion 6 from the socket is accomplished by removal of nut 23 permitting the withdrawal of bolt 22 whereupon the portion 6 can be removed longitudinally separating the cooperating plugs within the socket 22.

The fabricated handle bail provides a totally enclosed construction which is readily assembled by the insertion of the inner U-shaped member 9 within the outer stronger U-shaped member 8. Insertion of the sleeve 11 through the opening at the lower end of each arm fixedly secures the members together when the outer end of the sleeve is turned over. The natural resiliency of the inner member 9 also assists in this seating relationship. As is clearly illustrated in Figure 6, the upper end of inner channel member 9 is cut out, as at 24 at a point adjacent the clamp 18, so that upon removal of the screw 19 the clamp may be removed if desired through the member 9 and the plug 17 displaced through the socket. The entire construction is one which is economical to construct and which is of distinctly improved appearance.

I claim:

1. A handle for suction cleaners comprising an elongated portion and a bifurcated bail, the bail being formed of a U-channel member which opens downwardly and inwardly and which carries an open bottomed socket for the elongated portion at its top center, and of a cooperating U-channel member which opens upwardly and outwardly and which seats within said first member to form a closed channel open at its ends and open centrally to the socket to receive electrical conductors therefrom.

2. In a suction cleaner, an ambulatory body, a handle pivoted to said body and including an elongated portion, a bifurcated bail connected to said body at the pivot, and a socket on said bail removably seating said elongated portion, said bail being U-shaped and being formed of cooperating oppositely facing U-shaped channel members, the inner member seating within the outer to form a closed channel between the pivots of said bail and which is centrally open interiorly to said socket to receive electrical conductors therefrom.

3. In a suction cleaner, an ambulatory body, a handle pivoted to said body and including a hollow elongated portion, and a bifurcated bail, and a socket formed on said bail which removably seats said elongated portion, said bail being formed of a rigid U-channel member of relatively great strength and which opens downwardly and inwardly and which carries said socket, and of an upwardly and outwardly U-shaped channel membre of relatively slight strength which fits within the first-mentioned U-shaped member to form a hollow channel which opens interiorly to said socket to receive electrical conductors therefrom.

4. In a handle for suction cleaners, a U-shaped bail formed of cooperating oppositely facing channel members which form a hollow conduit between them, means at the ends of the arms of the U securing said members together and forming a pivotal bearing, a socket carried by said bail at its top and center and interiorly open to the conduit, and conductors extended from said socket through the conduit in said bail and therefrom at the pivot points thereof.

5. A handle for suction cleaners including a fabricated bifurcated hollow bail of rectangular cross section formed of interfitting U-shaped channel members, one of said members being the supporting element and the other serving as a cover, means securing said members in cooperating relationship, and a socket member for an elongated handle section carried by said supporting element and open to the interior of said bail.

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