May 14, 1929. I. J. OWEN 1,713,349

DUST BAG CLOSURE FOR VACUUM CLEANERS

Filed Sept. 13, 1924

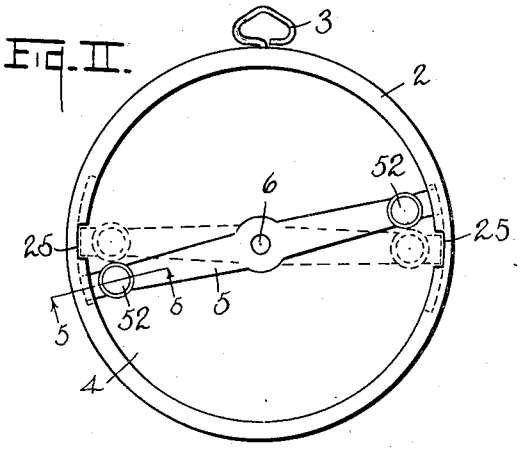


Fig. II.

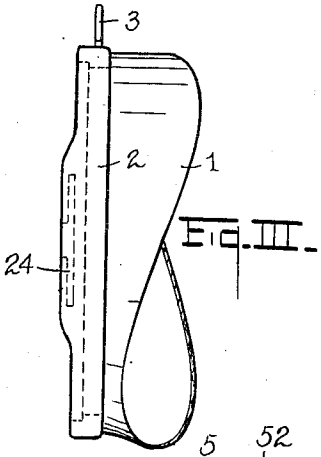


Fig. III.

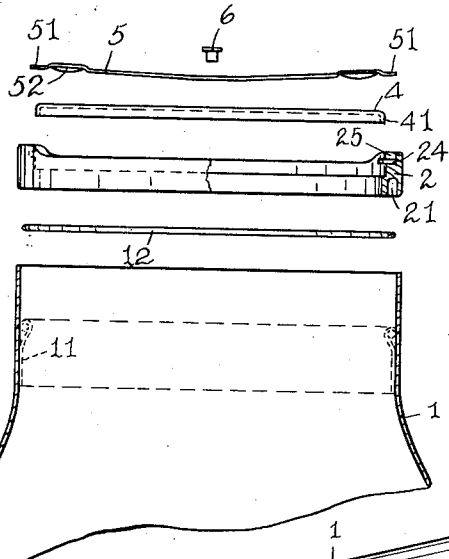


Fig. IV.

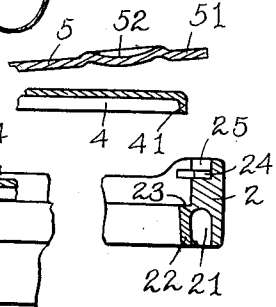


Fig. VI.

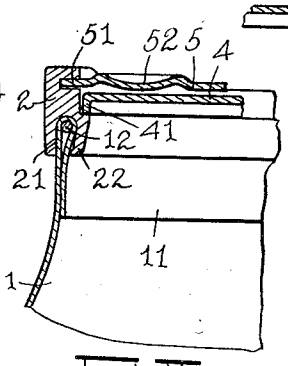


Fig. V.

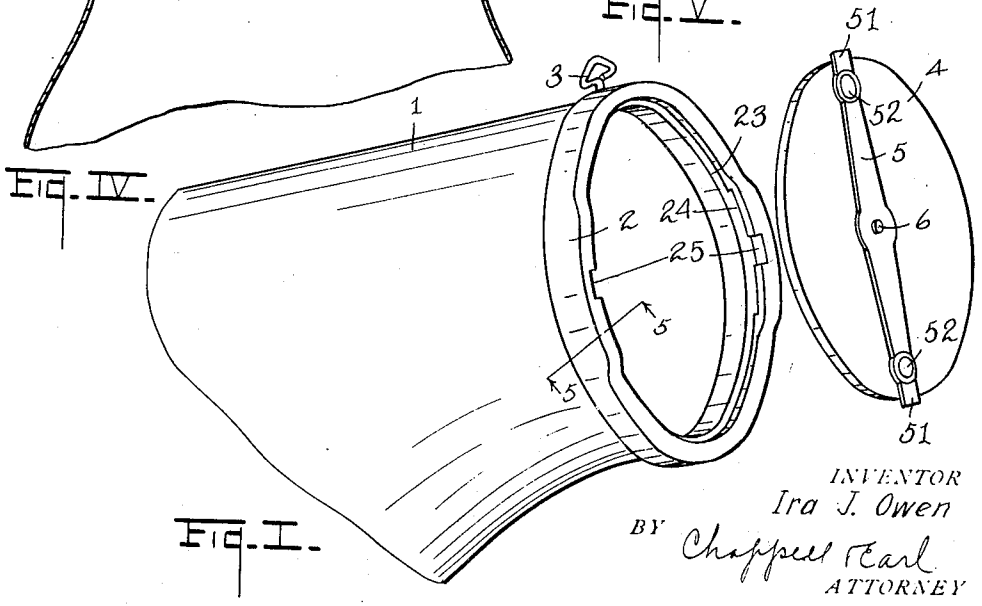


Fig. I.

INVENTOR
Ira J. Owen
BY Chappell Earl
ATTORNEY

Patented May 14, 1929. 1,713,349

UNITED STATES PATENT OFFICE.

IRA J. OWEN, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO BISSELL CARPET SWEEPER COMPANY, OF GRAND RAPIDS, MICHIGAN.

DUST-BAG CLOSURE FOR VACUUM CLEANERS.

Application filed September 13, 1924. Serial No. 737,618.

This invention relates to improvements in dust bag closures for vacuum cleaners especially although the closure is adapted for other uses.

The objects of the invention are:

First, to provide an economical construction for opening and closing a dust bag for the discharge of the dust without detaching the same from the cleaner.

Second, to provide such a structure which can be very readily manipulated and opened and its contents discharged without detaching the bag.

Third, to provide an improved construction of supporting rings for the mouth of such bag.

Fourth, to provide an improved cover means.

Further objects, and objects relating to details and economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this application, in which:

Fig. I is an enlarged detail perspective view of the upper end of a vacuum cleaner dust bag with my improved closure in position, the cover being open.

Fig. II is a detail end elevation view of the supporting ring and cover part, the latch being shown in locked position and dotted at the opening point.

Fig. III is a side elevation view of the structure shown in Figs. I and II, taken from the right hand side of Figure II, the cover supporting flange and attaching notches being indicated by dotted lines.

Fig. IV is a detail elevation view of these various parts in unassembled relation, the bag and certain parts being in central vertical section, the dotted lines showing the relation of parts.

Fig. V is an enlarged detail sectional view taken on line 5—5 of Figs. I, and II, showing the parts assembled and in locked relation.

Fig. VI is a detail view of the opposite side of the parts and structures in unassembled relation.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines. The parts of the drawing will be considered by their numbers. 1 is a bag, the upper end being particularly shown. 2 is the supporting collar for the discharge mouth of the bag. 3 is the carrying ring by which it is attached to the handle of the vacuum cleaner. 4 is the cover with inturned peripheral flange 41. 5 is the spring latch for retaining the cover in place. 6 is the central pivot therefor.

The bag 1 has an inturned flap 11 and is retained in place on the collar 2 by the split spring ring 12. The collar 2 is recessed at 21 on its lower face to receive the bag attaching means. The inner side of the recess is flanged at 22 to co-operate with the spring ring and assist in retaining the mouth of the bag in place. The supporting collar 2 is internally flanged or shouldered at 23 on its outer face to receive the periphery of cover 4. Slots 24 are provided for engaging the ends 51 of the retaining spring or latch 5. Notches 25 permit the spring 5 to be forced axially inward to engaging position to permit the swinging of the ends 51 into the slots 24. The retaining spring is provided with finger holds 52 to facilitate its manipulation.

The manner of assembly very clearly appears from Fig. IV. The mouth of the bag is folded inwardly over the split ring 12, which is forced into place in the groove 21 on the supporting collar where it engages back of flange 22. The ring 12 is of spring wire, the meeting ends being free. The lever catch 5 is secured in place by the riveted pivot 6 at the center, and the ends 51 are adapted to pass into the notches 25 and to be laterally moved into engagement with the slots 24, something after the manner of the retaining means for a photographer's printing frame. The ring 3 is provided for connection to the handle support, which is a mere incident of the structure.

In use the ring 3 at the upper end of the bag is readily detached and the discharge end of the bag is dropped down into discharging position. The latch lever 5 is then manipulated and releases the cover 4 which can be very readily manipulated by means of the latch as a handle and be readily withdrawn from the mouth of the bag, leaving a wide open smooth discharge outlet fully distended

for the discharge of the contents of the bag into any suitable dust receptacle or on a sheet spread on the floor.

Because of the action of the suction cleaner the mass of the contents of the bag is delivered or accumulates well toward the upper or discharge end, thus in position readily to be discharged making it wholly unnecessary to detach the bag from the delivery nozzle from the cleaner.

The improved cover attaching means might be readily used in connection with other means for attachment to the upper end of the bag. However, the entire structure is very compact and simple to manufacture and is readily assembled in the relation indicated.

I desire to claim the invention in the specific form indicated and also broadly as pointed out in the appended claims.

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

1. The combination with the mouth of a dust bag, of a supporting collar or ring therefor provided with a recessed groove on its underface provided with an engaging bead, a dust bag with its mouth end folded inwardly over a split ring for retaining the same in engagement within the recess in said supporting collar, an outwardly faced shoulder flange within the collar, the collar being provided with oppositely disposed inwardly faced slots notched to receive the cover latch, a cover with inturned-flange fitting against the shoulder flange of the said collar, and a spring latch axially pivoted at the center of said cover with oppositely extending ends adapted to enter the notches and engage in the notches in said collar, all coacting as described for the purpose specified.

2. The combination with the mouth of a dust bag, of a supporting collar or ring therefor, an outwardly faced shoulder flange within the collar, the collar being provided with oppositely disposed slots notched to receive the cover latch, a cover with inturned-flange fitting against the flange of the said collar, and a spring latch pivoted at the center of said cover with oppositely extending ends adapted to engage in the said slots in said collar, coacting as described.

3. The combination with the mouth of a dust bag, of a supporting collar or ring therefor provided with a recessed groove on its under face provided with an engaging beaded flange, and a dust bag with its mouth end folded inwardly over a split ring for retaining the same in engagement with said beaded flange within the recess in said supporting collar, as described.

4. The combination with the mouth of a receptacle, of a collar or ring therefor, an outwardly faced shoulder flange within the collar, the collar being provided with oppositely disposed notched slots, a cover with an inturned flange fitting against the flange of the said collar, and a spring latch axially pivoted at the center of said cover with oppositely extending ends adapted to enter the notches and engage in the slots in said collar, coacting as described.

5. The combination with the mouth of a flexible bag, of a supporting collar or ring therefor provided with a recessed groove on its under face provided with an engaging beaded flange, and a flexible bag with its mouth end folded inwardly over a split ring for retaining the same in engagement within the recessed groove in said supporting collar, as described.

In witness whereof I have hereunto set my hand.

IRA J. OWEN.