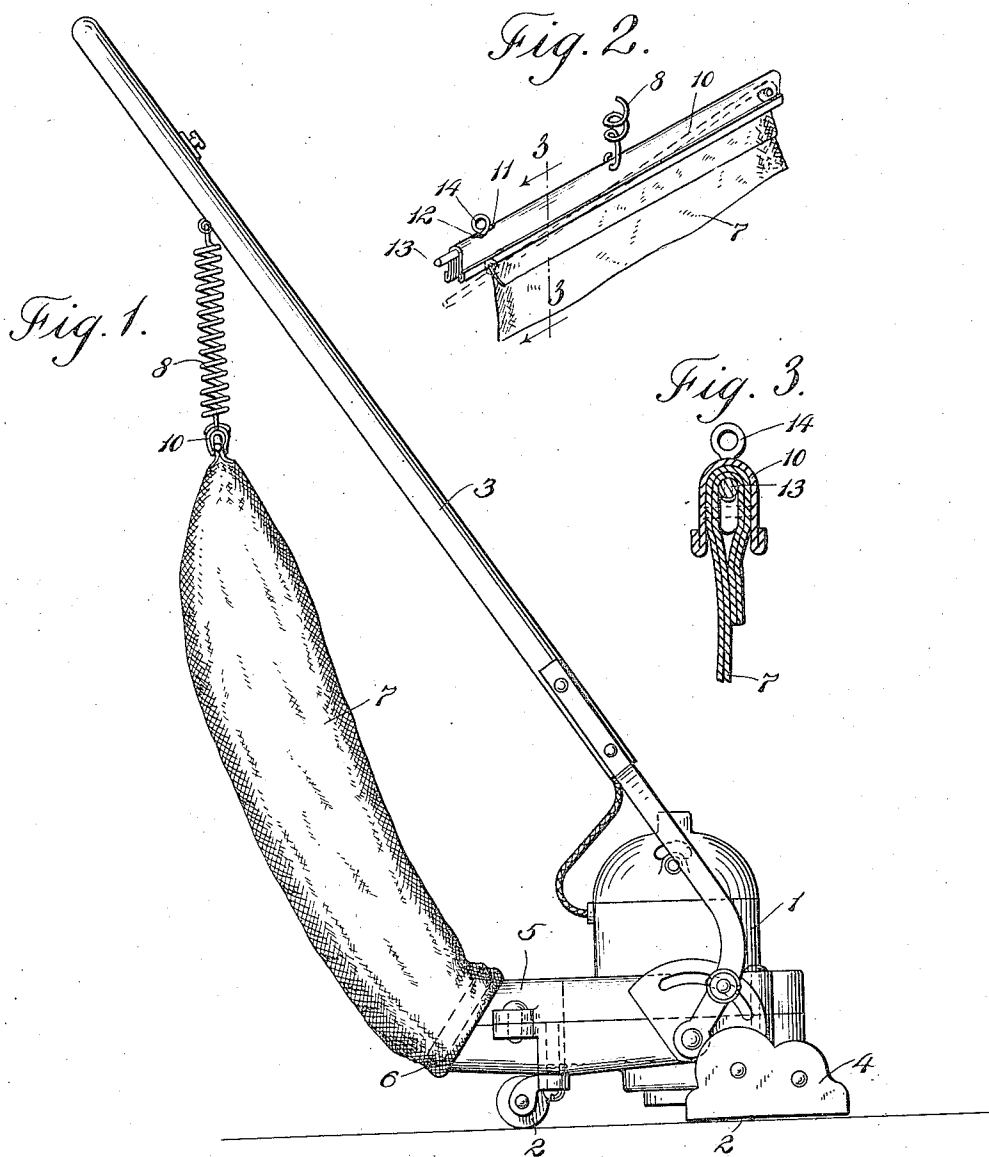


J. B. KIRBY.
 SUCTION CLEANER.
 APPLICATION FILED OCT. 19, 1915.

Patented Feb. 6, 1917.

1,214,796.



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UNITED STATES PATENT OFFICE.

JAMES B. KIRBY, OF CLEVELAND, OHIO.

SUCTION-CLEANER.

1,214,796.

Specification of Letters Patent.

Patented Feb. 6, 1917.

Original application filed August 19, 1911, Serial No. 644,956. Divided and this application filed October 19, 1915. Serial No. 56,688.

To all whom it may concern:

Be it known that I, JAMES B. KIRBY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Suction-Cleaners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to suction cleaners and has for its particular object the provision of a bag closure whereby the dirt discharging opening of the dust bag or receptacle can be closed so securely as to avoid danger of accidental loosening during operation or of the slow leakage of dust there-through, and whereby the bag may be supported during use.

Subsidiary objects of the invention are the provision of a closure of extreme simplicity, cheapness, and ease of operation, and one which will hold the dust bag in expanded position, preventing rumpling and creasing of the same and exposing the largest possible surface to the percolation of air.

Further objects and advantages will appear as the description proceeds.

This application is a division of my copending case filed August 19, 1911, Serial No. 644,956.

My invention is characterized by this, that the two sides of the bag are brought together in close relation after which one is shifted past the face of the other so as to cause the meshes of the fabric to interlock with each other, this interlocking preferably being accompanied by a bending or folding of the portions so brought together. If the two sides of the bag be merely clamped together between parallel jaws it is difficult or impossible to prevent leakage of air and dust at some point of the same, owing to inequalities in the bag fabric or a slight variation in the jaws; but if after being brought together the adjacent plies of the bag fabric are shifted past each other, the meshes of the fabric will interlock with each other in such a manner as absolutely to prevent the leakage of dust therethrough. A supporting device is preferably attached to one of these jaw members and to the cleaner handle.

I have illustrated one form of my inven-

tion in the drawings accompanying and forming a part of this application, wherein:

Figure 1 is a view in elevation of a complete machine embodying my invention; Fig. 2 is an enlarged detail view showing the fastening device at the upper end of the dust bag; and Fig. 3 is a section on the line 3-3 of Fig. 2.

Describing the parts by reference characters the cleaner comprises a casing 1 of any suitable or desired form or construction, movable upon the supporting wheels 2-2 by means of the operating handle 3, and having an intake or suction nozzle 4 and a discharge neck 5. About this discharge neck there is secured the neck 6 of a cloth or other porous bag 7, the opposite end of which is connected to the handle in any suitable or desired manner, the preferred method being by means of a spring 8 as described and claimed in my copending application filed December 7, 1914, Serial No. 876,642 (continuation of application No. 590,276, filed November 2, 1910). Within the casing 1 there is provided suitable air displacing mechanism (not shown) whereby air is inspirated through the nozzle 4 and ejected through the discharge neck 5, carrying with it such dust and refuse as may be encountered by the machine, the air being discharged through the meshes of the bag 7 leaving the dust behind, which is afterward removed through a suitable opening formed at some part of the bag. In the present embodiment this opening is formed at the end of the bag farthest from its connection with the discharge neck, and the closing device also serves as a point of attachment for the suspension 8, which is attached substantially midway between its ends.

The closing or clamping device here shown comprises a channel bar 10, at one end of which is formed a longitudinally extending slot 11 and a transversely extending slot 12. At the other end of the channel bar is pivotally secured a rod 13 which is the same length as the channel bar and its free end carries a pivoted eye or button 14, the head of which is adapted to pass through the longitudinally arranged slot 11 in the end of the channel bar and then by turning the screw eye so that its head is seated in the transversely extending slot 12, the rod 13 is clamped securely in the channel bar.

When using the clamp the end of the bag is first folded over the rod and the rod is then swung up to the channel bar and locked therein as described.

- 5 During the pulling of the rod into the channel, the folds of fabric therearound are drawn past each other as well as being folded one into the other, the relative movement of the fabric being caused partly by
10 the fact that the outer layer at the fold possesses a greater circumference than the inner layer, and also by the coöperation of the rod and channel, the channel sides tending by friction to hold back the outer layers,
15 the rod meanwhile tending by its pull to advance the inner layer.

While I have illustrated and described herein only one specific form of my device, I do not propose to be limited to the exact
20 details here shown, but only by the terms of the claims hereto annexed and by the prior state of the art.

Having thus described my invention, what I claim is:—

- 25 1. A closure for the dust bags of suction cleaners, comprising an elongated, rigid, channel-member, a rod having one end pivoted inside said channel upon a transverse axis near one end of the member, and an
30 elongated button pivoted to said rod near

its free end, said channel member being formed with a narrow slot adapted to receive said button.

2. A combined closure and support for the dust bag of a suction cleaner, comprising an elongated rigid channel member adapted to receive and retain the collapsed lips of the discharge mouth of said bag, and a suspending device secured at about the middle of said channel member, the opposite
40 end of said suspending device having means for attachment to the cleaner handle.

3. A combined closure and support for dust bags comprising a channel member and a second member pivoted between the
45 walls thereof and adapted to be swung into the channel from end to end, each of said members being at least as long as the width of the collapsed bag and adapted to receive between them the lips of the opening, where-
50 by said lips may be drawn together with a rubbing motion, means for securing together the ends of said members removed from such pivot, and a supporting device secured to said channel member between said means
55 and pivot.

In testimony whereof, I hereunto affix my signature.

JAMES B. KIRBY.