April 19, 1932. E. F. MARTINET 1,855,028

LOCKING ATTACHMENT FOR DUST BAGS

Filed Nov. 26, 1926

Fig. 1

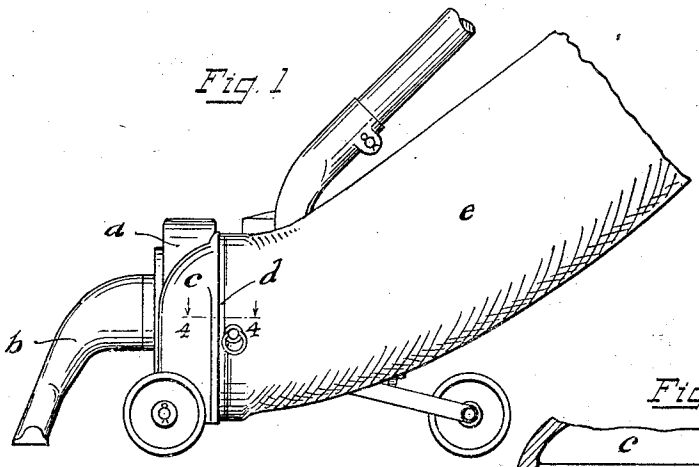


Fig. 4

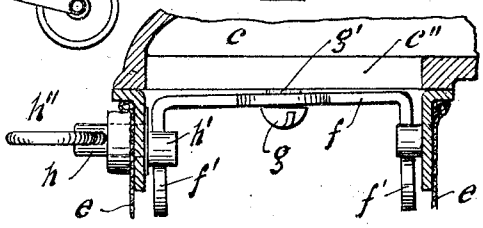


Fig. 2

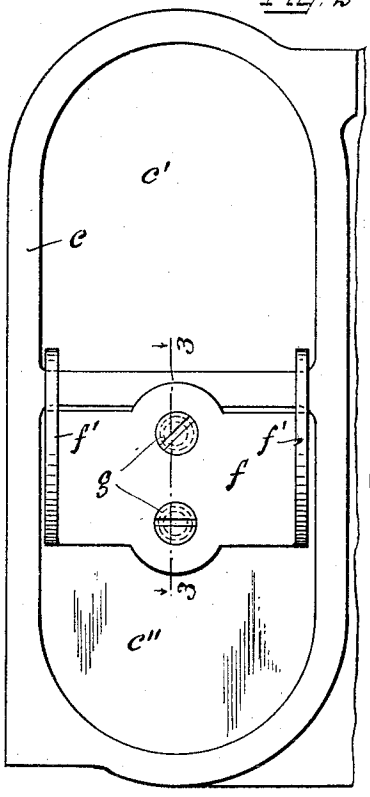


Fig. 3

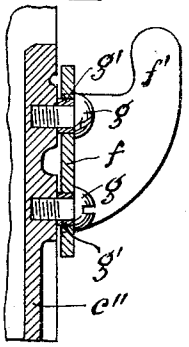


Fig. 5

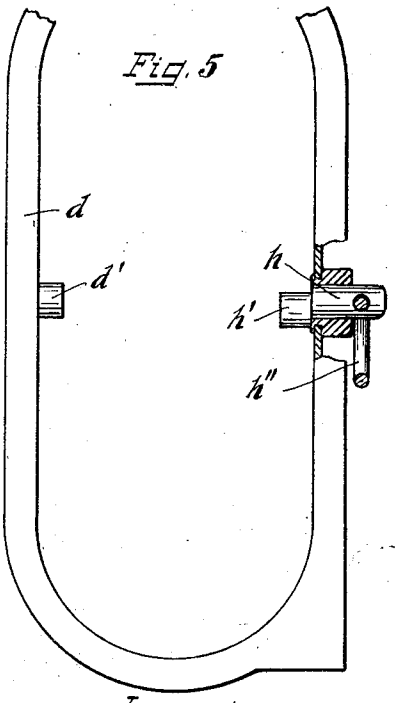
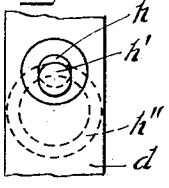


Fig. 6



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Patented Apr. 19, 1932 1,855,028

UNITED STATES PATENT OFFICE

EUGENE F. MARTINET, OF CLEVELAND, OHIO, ASSIGNOR TO THE P. A. GEIER COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO

LOCKING ATTACHMENT FOR DUST BAGS

Application filed November 26, 1926. Serial No. 150,748.

My invention relates to improvements in locking attachment for dust bags and the like and has for its object the provision of simple, readily operated and efficient means for removably but securely attaching the dust bags of suction cleaners in dust-tight relation upon the casing, as well as facilitating the removal thereof.

Various attaching means have previously been devised for dust bags and the like, but it has been found difficult to combine the features of secure attachment and of easy detachment of the associated dust bag and suction cleaner casing. It is obviously very undesirable that connecting means of this type should be liable to accidental disconnection, since the collected dirt will be spilled and blown about the room and upon the person of the user. Moreover, even a slight leakage of the dust laden air is sufficient to nullify, in part, the purpose of suction cleaning, since the dust that escapes is merely redistributed by the atmosphere.

Accordingly, it has been my purpose in perfecting the instant improvement to provide a thoroughly practical connection for appliances of this general character. The essentials of my connecting means are notably simple, comprising a rotatable eccentric, and a fixed projection coacting with a connecting member mounted for rocking movement interiorly of one of the connected elements for maintaining the same tension upon both sides of the connected inlet or collar. The features of my improvement and details of construction, however, may best be explained by making reference to the accompanying drawings, wherein:

Figure 1 is a small fragmentary view of a suction cleaner in side elevation, to which my improvements are applied;

Fig. 2 is an enlarged rear view of the suction cleaner casing showing the discharge outlet and one member of the attaching means for the dust bag;

Fig. 3 is a fragmentary cross section on the line 3—3, Fig. 2, illustrating the assembled attaching means;

Fig. 4 is another fragmentary cross section on line 4—4, indicated on Fig. 1, showing the mounting of the connecting member;

Fig. 5 is a front view of the attaching collar for the dust bag, partially broken away and in section to show the rotatable eccentric adapted for locking the same in position, and

Fig. 6 is a fragmentary end view of said rotatable eccentric.

Throughout the several figures of the drawings I have employed for similar parts, the same designating character or reference letter.

A portable type suction cleaner is shown in Fig. 1 of the drawings which includes a fan casing *a*, a nozzle *b*, and a tubular discharge element *c*. An elongated collar *d*, which forms the tubular mouth of the dust bag *e*, is removably positioned over the opening *c'* and the dust barrier *c''* of the discharge element *c*.

Referring to Figs. 3 to 6, inclusive, the separable coupling for tubular elements which forms the subject matter of the present improvement is shown in detail on a larger scale and includes a substantially U-shaped connecting member *f* provided with engaging means at its ends such as terminal lugs *f'*. The connecting member *f* is mounted interiorly of the tubular elements for rocking movement transversely of the axes of the tubular elements *c* and *d* by means of screws *g* and washers *g'* which are carried by the dust carrier *c''*.

The collar *d* is provided with connecting means which project interiorly thereof in opposing relation for coacting with the connecting member *f* for locking the tubular elements together. The connecting means includes the fixed detent or projection *d'* and the stud or eccentric member *h'* movably mounted on the rotatable locking member *h* provided with the actuating ring *h''*. The actuating ring *h''* also secures the locking member *h* in its journaled relation at one side of the tubular collar *d*, to which the mouth of the dust bag *e* is attached. The members *d'* and *h'* are adapted to be slid or slipped behind and engage the lugs *f'* when the eccentric member *h'* is in its releasing position, thus forming a loose removable con-

necting element for the suction cleaner dust bag.

Upon slipping the members d' and h' behind the lugs f' of the connecting member f, the locking member h is rotated so as to engage its eccentric projection h' against one of the lugs f' to rock the connecting member f to a tilted position as shown in Fig. 4. The connecting member rocks transversely of the axes of the tubular elements or in a plane parallel with the longitudinal axes of the tubular elements, and in so rocking, the pressure between the lugs f' and the projections d' and h' is equalized and brings the rim of the collar d firmly into dust tight relation with the suction cleaner element c, thereby locking the elements c and d firmly together against accidental detachment.

The dust bag may be readily unlocked and removed from its connection with the discharge element c by merely rotating the locking member h and eccentric h', so as to release the projections d' and h' from tight engagement with the lugs f' and permit detachment of the collar d from the suction cleaner casing so that the contents of the dust bag may be readily emptied therefrom. The small size of the inward projections d' and h' form only negligible obstructions in the large mouth of the bag and permit the bag to be easily emptied when the same is detached from the suction cleaner discharge outlet c.

Having now described a preferred embodiment of my invention, I claim as new and desire to secure by Letters Patent, together with equivalents thereof, the following:

1. In a separable coupling for tubular elements, a connecting member provided with engaging means at its ends mounted on one of said elements interiorly of said elements for rocking movement within said elements transversely of the axes of said elements, and connecting means disposed interiorly of the second tubular element coacting with the connecting member, including a fixed projection and an eccentric member movably mounted on said second element and having a portion projecting into the path of movement of said connecting member for engagement with the engaging means thereof for locking the tubular elements together.

2. In a separable coupling for tubular elements, a connecting member provided with engaging means at its ends mounted on one of said elements interiorly of said elements for rocking movement within said elements transversely of the axes of said elements, and connecting means disposed interiorly of the second tubular element coacting with the engaging means of the connecting member, said connecting means including a fixed projection, and a movably mounted member having a portion projecting into the path of movement of said connecting member for engagement with the engaging means to rock said connecting member to engage the engaging means with a fixed projection for tightly locking the separable tubular elements together.

3. In a separable coupling for tubular elements, a barrier extending crosswise of one of the elements, a connecting member provided with engaging means at its ends mounted on said barrier for rocking movement transversely of the axes of said elements, and connecting means disposed interiorly of the second tubular element coacting with the connecting member, including a fixed projection and an eccentric member movably mounted on said second element and having a portion projecting into the path of movement of said connecting member for engagement with the engaging means thereof for locking the tubular elements together.

In testimony whereof I do now affix my signature.

EUGENE F. MARTINET.