Jan. 27, 1931. W. J. CLEMENTS 1,790,229

CLEANING MEMBER FOR VACUUM CLEANERS

Filed Jan. 23, 1928

Fig. 1

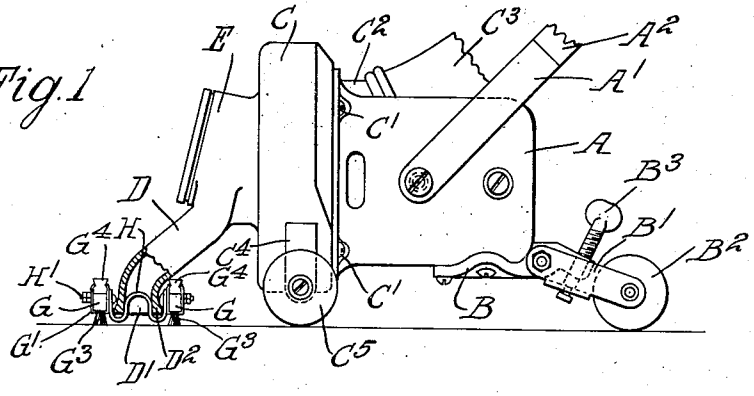


Fig. 2

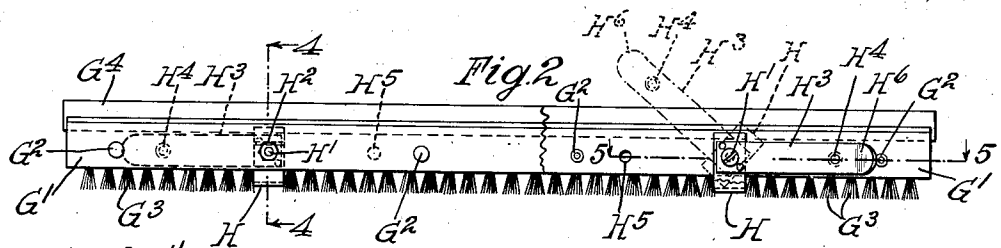


Fig. 3

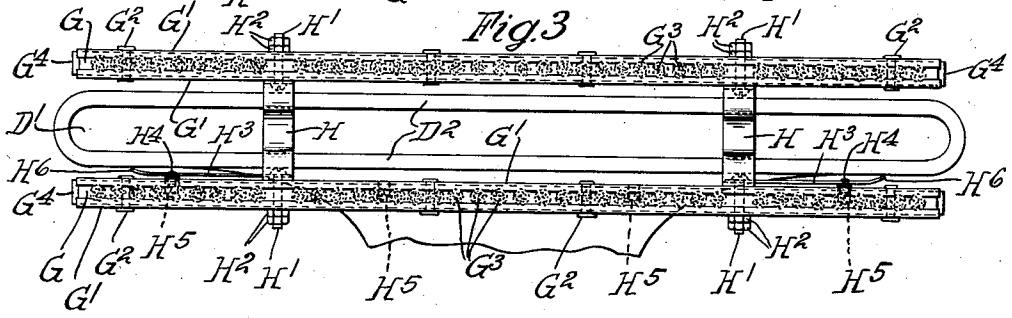


Fig. 4

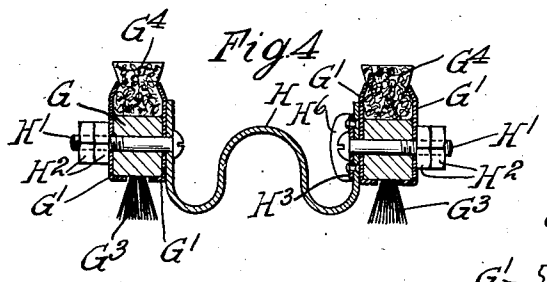


Fig. 5

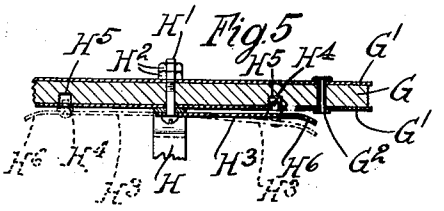


Fig. 6

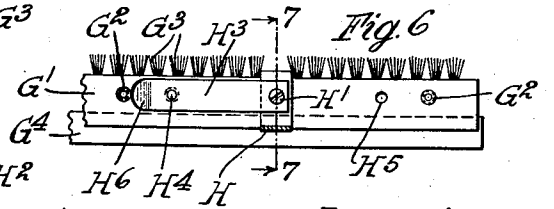
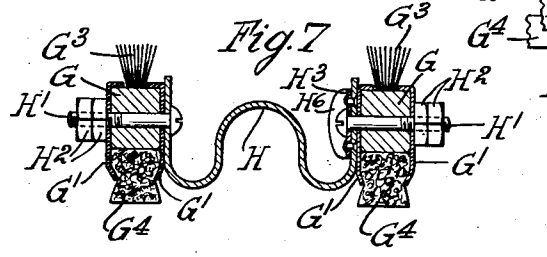


Fig. 7



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1,790,229

UNITED STATES PATENT OFFICE

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CLEANING MEMBER FOR VACUUM CLEANERS

Application filed January 23, 1928. Serial No. 248,656.

My invention relates to a cleaning attachment for use with vacuum cleaners and is particularly applicable to vacuum cleaners in which a downwardly and forwardly projecting nozzle is associated with a fan and motor casing for conveyance along the surface to be cleaned. One object of my invention is the provision of a cleaning attachment removable from the nozzle. Another object is the provision of such an attachment in which both a brush and a buffer or polishing member are associated. Another object is the provision of a reversible cleaning attachment for association with a vacuum cleaner nozzle. Other objects will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is a side elevation of the casing with parts in section, illustrating the cleaning attachment in position;

Figure 2 is a front elevation of the cleaning attachment with parts broken away;

Figure 3 is a view from below of the suction nozzle with the attachment in position.

Figure 4 is an enlarged section taken on the line 4—4 of Figure 2.

Figure 5 is a section along the line 5—5 of Figure 2;

Figure 6 is a fragmentary sectional side elevation showing the cleaning attachment in reversed position; and

Figure 7 is an enlarged section along the line 7—7 of Figure 6.

Like parts are indicated by like symbols throughout the specification and drawings.

A is a motor casing adapted to contain a motor rotatable on a horizontal axis, the axis being substantially perpendicular to the suction nozzle. A^1 is a handle bail and A^2 the handle whereby the vacuum cleaner may be moved across the floor.

B is a bracket supported at the bottom of the rear of the motor casing A. Pivoted to it is the roller supporting lever B^1 to the opposite end of which is rotatably secured the supporting roller B^2. B^3 is an adjusting screw adapted to adjust the height of the roller B^2 in relation to the motor casing.

C is a fan casing to which the motor casing is secured, for example by the screws C^1. C^2 is a peripheral exhaust outlet to which is secured the dust bag C^3. C^4 is any suitable bracket toward the bottom of the fan casing upon which is rotatably mounted the fixed supporting roller C^5, it being understood that there is a bracket and a roller at either side of the bottom of the fan casing.

D is a suction inlet terminating in an extended suction nozzle D^1 with the slightly expanded lips D^2. It will be noted that the lower or floor engaging nozzle portion D^1 is widely extended as compared to the relatively narrow inlet portion D, the widely extended portion being closely adjacent the floor.

The suction inlet D extends from the nozzle to a substantially cylindrical projection E from the center of the fan casing, the axis of the said projection E being upwardly inclined in relation to the horizontal axis of the motor and fan casings.

G G are a pair of brush elements which may be of wood, fiber or any other suitable material, which are provided with opposed metal channels G^1 engaging the opposite sides thereof, being secured thereabout, for example by the rivets G^2. Along one edge of each brush body, projecting outwardly through the channels G^1 are a plurality of bristles G^3. Along the opposite edge of each such body, similarly clamped between the channels G^1 is a strip of felt, or any equivalent buffing or polishing member G^4.

The two brush elements are joined together by the arcuate spring yokes H, the arcuate portions of which are adapted to be compressed between the lips D^2 of the nozzle D. The arcuate spring yokes are rotatably secured to the brush elements G, for example by the bolts H^1, provided with the nuts H^2. In order to hold the yokes in a given adjustment, and in order to permit them to be reversed, in order to reverse the position of the elements G, I provide laterally extending spring latch elements H^3, fixedly associated with the yokes, they in turn being provided with projections H^4 adapted to

penetrate apertures H^5 in the elements G or the metal channels G^1. The ends of the springs are inclined away from the brush bodies as at H^6 in order to permit access to the finger. When it is desired to reverse the direction of the brush element the spring yokes are adjusted, this being accomplished by moving the spring members H^3 to disengage the projections or studs H^4 from the apertures at one side of the center about which each yoke is rotated and the studs engaged in the aperture on the opposite side of the center, said operation requiring rotation of the yokes on their centers through an angle of substantially 180°.

It will be realized that whereas I have shown and described a practical and operative device, nevertheless many changes might be made in the size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my description and drawings to be taken as in a broad sense illustrative and diagrammatic rather than as limiting me to my specific showing.

The use and operation of my invention are as follows:

I provide, for use with a vacuum cleaner of the type herein described and shown a reversible brush and polishing element consisting of a brush body positioned at each side or edge of the lateral elongated nozzle. The vacuum cleaner may obviously be used without such attachment if desired. Where a surface covered with lint or threads is being cleaned, or where there is a great deal of dust and dirt in the surface, as where a carpet has become encrusted with mud, the brush attachment is used, the brushes serving to agitate the dirt or roll up the threads and lint, whereupon the material so released from the carpet or other surface is drawn through the fan and exhausted into the bag C^3.

On the other hand when a smooth surface is being cleaned or dusted as for example a wax or polished floor the brush bodies are reversed and the felt or buffer is directed against the surface to be cleaned. Thus not only is the surface cleaned and dusted, but it may be polished as well.

The adjustable rear roller B^2 serves to adjust the height of the nozzle and the cleaning element from the floor to suit the particular conditions met.

I claim:

1. For use with a vacuum cleaner, a detachable cleaning member including a plurality of brush bodies and means for supporting them along the cleaner nozzle, said bodies being provided with cleaning elements on opposite faces thereof, said supporting means including adjustable nozzle engaging members and means for selectively adjusting the nozzle engaging members in relation to the brush bodies, whereby the cleaning elements on either face of the brush body may be operatively associated with the nozzle.

2. For use with a vacuum cleaner, a detachable cleaning member including a plurality of brush bodies and means for supporting them along the cleaner nozzle, said bodies being provided with cleaning elements on opposite faces thereof, said supporting means including adjustable nozzle engaging members, means for selectively adjusting them in relation to the brush bodies, whereby either cleaning element may be operatively associated with the nozzle, and means for normally holding them against movement in relation to the brush bodies, comprising latch elements, associated therewith, having detent elements adapted to penetrate the brush bodies to maintain the nozzle engaging members in adjusted position, the bodies being apertured to receive the penetrating elements.

3. For use with a vacuum cleaner, a double faced cleaning member and a means for detachably securing it to the cleaner, including U-shaped spring members adapted to penetrate and exert gripping pressure against the vacuum cleaner nozzle, said springs including arms upwardly extending exteriorly of the front and rear edges of said nozzle, said cleaning member including a plurality of brush bodies adapted to be positioned upon said arms exteriorly of said nozzle to the front and rear thereof, said spring members being rotatably adjustable in relation to said brush bodies, for operatively associating either cleaning face of the cleaning member with the nozzle, and means for normally holding said spring members against rotation in relation to said brush bodies.

4. For use with a vacuum cleaner, a cleaning member support provided with opposite cleaning element carrying faces and adapted to engage and grip a laterally extended vacuum cleaner nozzle, said support including arms upwardly extending exteriorly of the front and rear edges of said nozzle, said spring members being rotatably adjustable in relation to said cleaning member support for operatively associating either of two faces thereof with the nozzle, and means for normally holding said spring members against rotation in relation to said brush bodies.

Signed at Chicago, county of Cook, and State of Illinois, this 14th day of January, 1928.

WILLIAM J. CLEMENTS.