

Feb. 10, 1931.

A. O. ENGBERG ET AL

1,792,007

SUPPORTING DEVICE FOR CLEANERS

Original Filed June 15, 1926

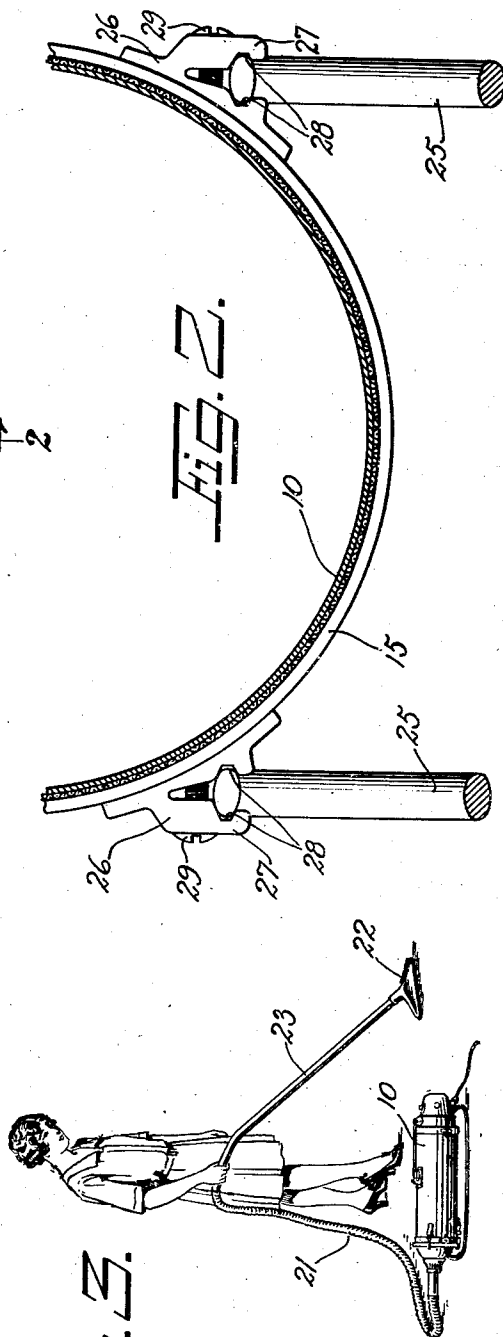
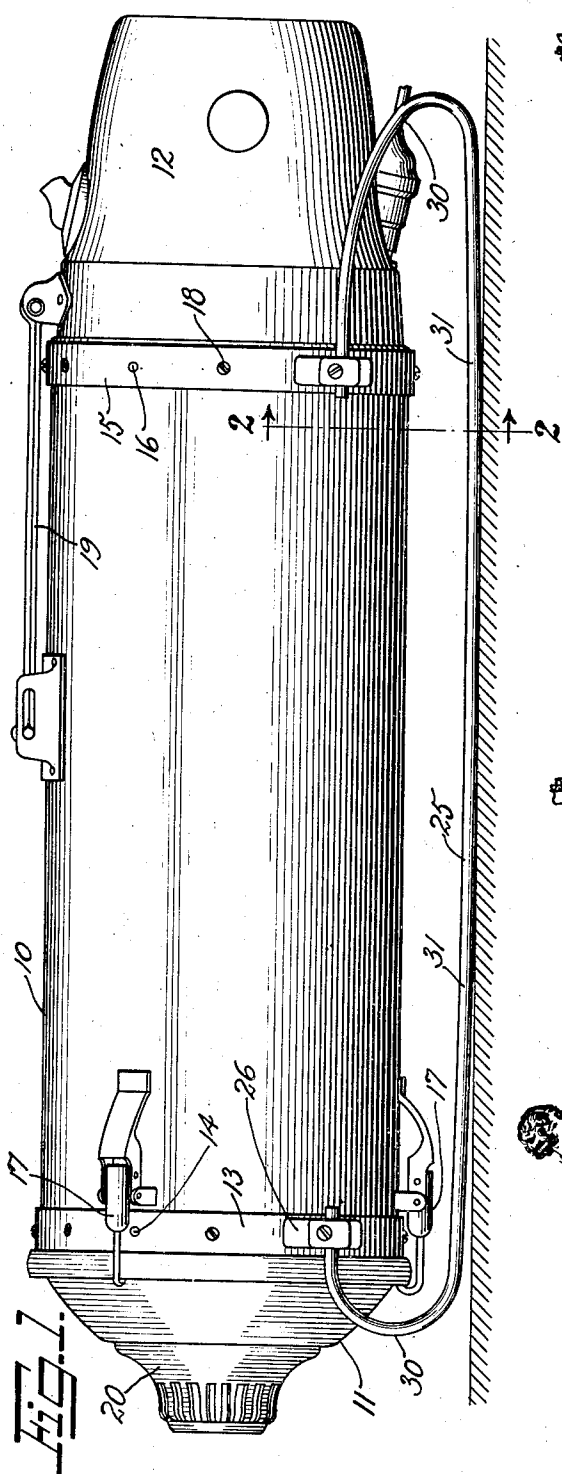


FIG. 2.

INVENTOR
A. O. ENGBERG
BY
J. T. HALL
ATTORNEY

Patented Feb. 10, 1931

1,792,007

UNITED STATES PATENT OFFICE

AXEL OLOF ENGBERG AND FREDRIK CARLSTEDT, OF STOCKHOLM, SWEDEN, ASSIGN-
ORS TO INVENTIA PATENT-VERWERTUNGS-GESELLSCHAFT, OF SCHAFFHAUSEN,
SWITZERLAND, A CORPORATION OF SWITZERLAND

SUPPORTING DEVICE FOR CLEANERS

Original application filed June 15, 1926, Serial No. 116,123, and in Sweden December 16, 1925. Divided
and this application filed December 22, 1926. Serial No. 156,466.

This application is a division of our co-
pending application Serial No. 116,123 filed
June 15, 1926.

The invention relates to supports for such
5 devices as vacuum cleaners which rest on car-
pets and more particularly to the type of
vacuum cleaner which comprises a flexible air
hose by which the main unit may be pulled
over the carpet.

10 The object of the invention is to provide
supporting means which is simple in con-
struction, sturdy and which causes no injuri-
ous effects on a carpet on which the cleaner
is moved.

15 The nature of the invention will become
apparent from consideration of the following
description taken in conjunction with the ac-
companying drawing forming part of this
specification and showing a preferred form
20 of the invention.

On the drawing:

Fig. 1 is a side view of a main unit of a vac-
uum cleaner embodying the invention;

25 Fig. 2 is a cross-sectional view taken on line
2-2 of Fig. 1; and

Fig. 3 shows how the vacuum cleaner is
used in practice.

The main unit of the cleaner comprises a
casing, in turn comprising a main cylindrical
30 barrel 10 consisting of stiff material such as
thin sheet metal surrounded by fibrous mate-
rial or leather composition. Attached to one
end of the cylindrical barrel is a metal bell
11. Attached to the other end of the cylin-
35 drical barrel is a metal housing 12. Within
housing 12 is an electric motor and fan for
causing flow of air through the casing.

At the end of the cylindrical barrel to
40 which bell 11 is attached is a ring 13. Ring
13 is attached to the barrel by means of rivets
14. At the other end of the barrel is a ring
15 attached thereto by rivets 16. Bell 11 is
secured to the barrel portion of the casing by
45 means of clamps 17. By releasing clamps 17,
bell 11 may be removed and access is thus had
to the interior of the casing for removing the
dust bag. The motor housing 12 slides into
the barrel 10 and is secured thereto by means
50 of screws 18 passing through ring 15. A

handle 19 is provided for carrying the cleaner
unit.

A coupling 20 is screw-threaded in a cen-
tral opening in bell 11. This coupling has a
central tapered passageway into which, in the
55 operation of the device as a vacuum cleaner,
the tapered end of a flexible metal air hose 21
is jammed, which air hose leads to a mouth-
piece 22 into which the dust passes, an exten-
sion 23 being used between the mouthpiece
60 and the air hose, if desired.

The main barrel and associated parts are
mounted upon runners 25, of which there are
two, one positioned on either side of the main
barrel and which form a sled carriage for the
65 main unit. The runners are fastened at each
end of the main barrel to clamps 26 secured to
rings 13 and 15. Clamps 26 may be secured
to rings 13 and 15 by being cast in one piece
therewith. Each clamp comprises a curved
70 portion which is fitted to and secured to the
ring and a somewhat flexible lip 27. These
two parts are provided with recesses 28 into
which the runner is adapted to set. The run-
ners are slipped into the recesses 28 and se-
75 cured by means of screws 29 which serve to
move lips 27 toward the circular portion of
the clamp which is secured to the outer ring
of the main barrel. Clamps 26 are secured to
rings 13 and 15 below the horizontal center-
80 line plane of the barrel so that the runners
are under the body portion of the unit.

Runners 25 are made oval in cross-section,
the major axis of the oval being parallel to
the surface on which the unit rests. The oval
85 cross-section gives greater strength for a
given cross-section of runner, provides better
sliding qualities, gives a neat appearance and,
furthermore, prevents rotation of the run-
ners in the clamps. Recess 28 can be so
90 shaped that there is no possibility of the run-
ner turning in the same and thus dislocation
of the runners is prevented.

The runners extend from the clamps out-
wardly beyond the main barrel 10 and then
return underneath the barrel slightly curved,
which makes the sliding and the turning of
the unit on a carpet easier. Each runner may
be said to comprise outer curved portions 30
and intermediate surface contact portions 31
100

extending substantially the length of the casing. As shown in Fig. 1, the convex side of curvature of the surface contact portion 31 is the supporting surface. The runners provide two supporting surfaces which are of large curvature in the main direction of extent. The runners are made of single pieces of heavy wire.

By means of the above described arrangement, the main unit can be readily moved around on a carpet by pulling on the air hose without tugging at or injuring the carpet. The simple construction facilitates manufacture and provides a neat appearing unit and one readily handled. The extended surface contact portions of the runners give a large bearing surface in use which prevents marks in or injury to a carpet as might occur where the weight is concentrated on a small aggregate contact surface. The runners may serve to protect an electric connection plug in a recess in the housing positioned between the runners as shown on the drawing and described more in detail in the parent application which has become Pat. No. 1,757,239, granted May 6, 1930.

What we claim is:

1. A vacuum cleaner for carpets and the like comprising a cylindrical casing, a pair of runners, one on each side of the casing and extending longitudinally of the casing, for slidably supporting said casing in horizontal position above a horizontal surface and runner supporting members extending around said casing including clamping means for holding said runners in fixed position.

2. A vacuum cleaner for carpets and the like comprising a cylindrical casing, a pair of runners, one on each side of the casing, for slidably supporting said casing in horizontal position above a horizontal surface, means for attaching said runners to said casing, one on each side of the casing, each of said runners consisting of a length of heavy wire including rounded end portions and an intermediate surface contact portion, said runners extending substantially the length of the casing and the surface contact portion of each runner being bent to a slight curve downwardly in the middle.

3. A vacuum cleaner for carpets and the like comprising a cylindrical casing including a cylindrical barrel portion, rings surrounding the said barrel portion adjacent the ends thereof, clamp members secured to and extending outwardly from said rings and a pair of runners, one on each side of the casing for slidably supporting said casing in horizontal position above a horizontal surface, each of said runners consisting of a length of heavy wire including rounded end portions and an intermediate surface contact portion, said wire being of oval cross-section with the major oval axis parallel to the supporting surface and each runner extending substantial-

ly the length of the casing, the ends of the runners being clamped in said clamps.

4. A vacuum cleaner for carpets and the like comprising a cylindrical casing including a cylindrical barrel portion, rings surrounding said barrel portion adjacent the ends thereof, clamp members secured to said rings, a runner on each side of said casing secured in said clamp members, said runners serving to slidably support said casing in horizontal position above a horizontal surface, each of said runners consisting of a length of heavy wire including rounded end portions and an intermediate surface contact portion and each runner extending substantially the length of the casing, the surface contact portions having a slight curvature, the convex sides of curvature constituting the surfaces of contact for support.

5. A vacuum cleaner for carpets and the like comprising a cylindrical casing including a cylindrical barrel portion, rings surrounding said barrel portion adjacent the ends thereof, clamp members secured to and extending outwardly from said rings and a pair of runners, one on each side of the casing for slidably supporting said casing in horizontal position above a horizontal surface, each of said runners consisting of a length of heavy wire including rounded end portions and an intermediate surface contact portion and each runner extending substantially the length of the casing, the ends of the runners being clamped in said clamps.

6. A vacuum cleaner for carpets and the like comprising a cylindrical casing including a cylindrical barrel portion, rings surrounding said barrel portion adjacent the ends thereof, clamp members secured to and extending outwardly from said rings and a pair of runners, one on each side of the casing for slidably supporting said casing in horizontal position above a horizontal surface, each of said runners consisting of a length of heavy wire including rounded end portions and an intermediate surface contact portion and each runner extending substantially the length of the casing, the ends of the runners being clamped in said clamps, said clamps being secured to said rings at points below the horizontal center-line plane of the barrel.

7. A vacuum cleaner for carpets and the like comprising a cylindrical casing, a pair of runners, one on each side of the casing for slidably supporting said casing in horizontal position above a horizontal surface, means for attaching said runners to each side of the casing, each of said runners consisting of a length of heavy wire including rounded end portions and a surface contact portion extending substantially the length of the casing, said wire being of uniform oval cross-section with the major oval axis parallel to the supporting surface and the surface con-

tact portions having a slight curvature, the convex sides of curvature constituting the surfaces of contact for support.

5 8. A vacuum cleaner for carpets and the like comprising a cylindrical casing including a cylindrical barrel portion, rings surrounding said barrel portion adjacent the ends thereof, clamp members secured to said rings, a runner on each side of said casing
10 secured in said clamp members, said runners serving to slidably support said casing in horizontal position above a horizontal surface, each of said runners consisting of a length of heavy wire including rounded end
15 portions and an intermediate surface contact portion extending substantially the length of the casing, said wire being of oval cross-section with the major oval axis parallel to the supporting surface and the surface contact
20 portions having a slight curvature, the convex sides of curvature constituting the surfaces of contact for support.

9. A device of the character described comprising a housing, said housing comprising a
25 main cylindrical barrel, a ring around said barrel at each end thereof, clamps secured to said rings and runners secured in said clamps and extending longitudinally of the barrel for slidably supporting the device,
30 said housing having a recess, a socket in said recess for receiving an electric connection plug and said runners being bent and positioned to either side of the recess to protect the plug.

35 Signed at Stockholm, Sweden, this 17th day of November, A. D. 1926.

AXEL OLOF ENGBERG.
FREDRIK CARLSTEDT.

40

45

50

55

60

65