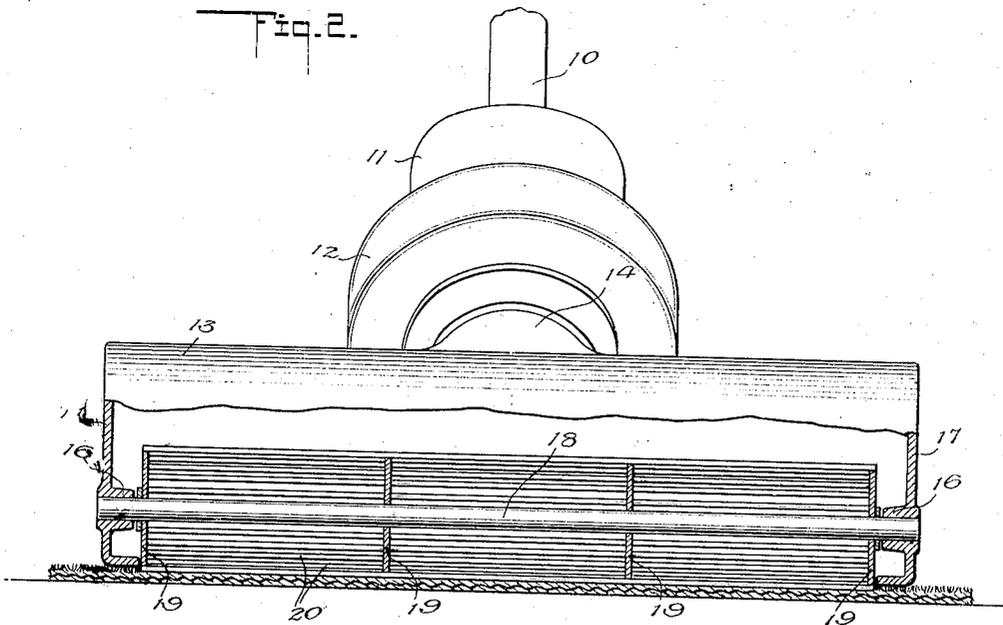
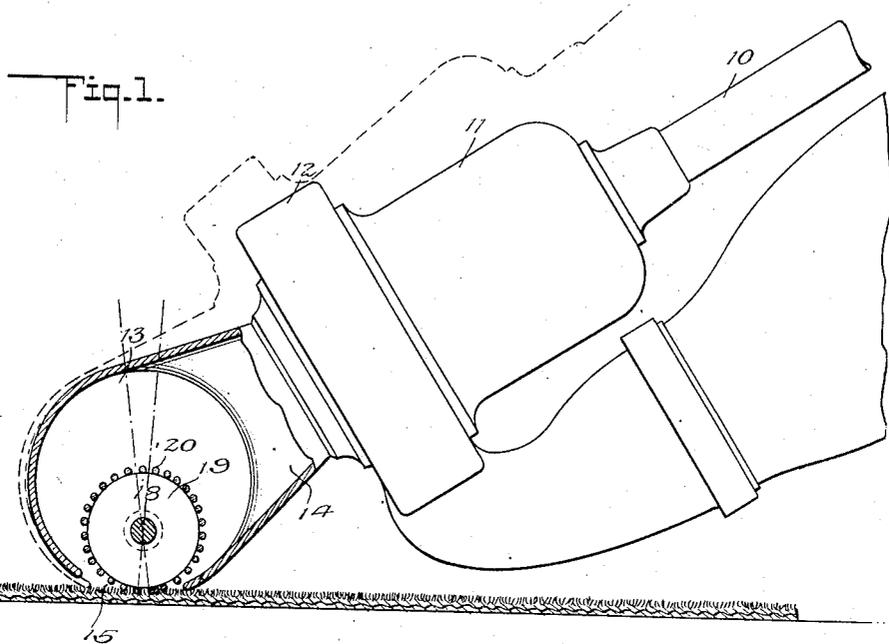


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C. H. BARR
VACUUM CLEANER
Filed Oct. 23, 1922



WITNESSES

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VACUUM CLEANER.

Application filed October 23, 1922. Serial No. 596,314.

To all whom it may concern:

Be it known that I, CHARLES H. BARR, a citizen of the United States, and a resident of Litchfield, in the county of Litchfield and State of Connecticut, have invented a new and Improved Vacuum Cleaner, of which the following is a full, clear, and exact description.

This invention has relation to vacuum cleaners and has to do particularly with an improvement in the construction of the intake nozzle and the manner of supporting the same from the surface to be cleaned.

In the common and accepted forms of vacuum cleaners, the intake opening of the suction nozzle is supported and maintained in uniformly spaced relation to the surface to be cleaned whereby a constant suction draft is always acting on the surface. It is therefore essential to adjust the spacing of the intake opening with respect to rugs or carpets of various thicknesses to obtain the maximum efficiency of the machine, and due to the fact that such adjustments of necessity are very delicate, it follows that only experienced operators obtain the best results.

It is, therefore, one of the main objects of the present invention to provide a vacuum cleaner which includes means for constantly maintaining the intake opening of the suction nozzle at the proper height for efficient cleaning, thereby eliminating the necessity of regulating the same to correspond to the surface to be cleaned.

As a further object the invention contemplates a vacuum cleaner which is supported from the surface to be cleaned in such a manner as to cause, during its operation, a variation in the size of the intake opening in order to subject the surface being cleaned to variable impulses or accelerations in the suction.

The invention furthermore contemplates a supporting means which prevents the lifting or displacement of rugs or carpets during the cleaning operation and which acts further to crimp paper to permit the suction draft to act upon the same for removing it from the surface.

As a still further object the invention provides a vacuum cleaner which greatly simplifies the construction by reducing the number of working parts to a minimum, due to the elimination of brushes, drive wheels,

beaters, or other elements which constitute parts of cleaners now on the market.

Furthermore the invention contemplates a simplified, efficient, fool-proof, vacuum cleaner which is more easily handled than those now in general use, which accomplishes the work in a minimum of time and which facilitates the cleaning in corners and under objects.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawing, it being understood that the right is reserved to embodiments other than those actually illustrated herein to the full extent indicated by the general meaning of the terms in which the claims are expressed.

In the drawing—

Figure 1 is a fragmentary side elevation of a vacuum cleaner constructed in accordance with the invention, parts being broken away and shown in section, and the same illustrating in full and dotted lines the operating positions.

Fig. 2 is a front view thereof, parts being broken away and shown in section.

Referring to the drawing by characters of reference, 10 designates the handle, 11 the motor housing, and 12 the fan case, which case and housing are rigidly supported from the handle and house a section creating means of any approved type. The nozzle 13 is rigidly attached to the fan case in any desired manner and is preferably of elongated cylindrical construction having a central hollow boss 14 which connects with the fan case and establishes communication between the interior of the nozzle and the fan, the greater length of said nozzle being disposed transversely to the path of travel of the cleaner. The nozzle is provided with a transversely arranged intake opening 15 on the under side and is formed with aligned bearing bosses 16 in the end walls 17 in which the opposite ends of a transverse shaft 18 are journaled. A plurality of disks 19 are secured on the shaft 18 in transversely spaced relation to constitute supports for the rods or wires 20 arranged concentric to the axle and parallel thereto to constitute in its entirety a bearing roller which extends slightly beyond the outer pe-

riphery of the nozzle and projects through the opening 15. In view of the fact that the rods or wires 20 are spaced from each other circumferentially the periphery or bearing surface affords openings there-
 5 through which allow at the same time for the free passage of air and dust there-
 through while acting to prevent the picking
 10 up of large objects which might in any way tend to clog up or hinder the proper opera-
 tion of the fan. In practice the lower end of the device is directly supported from the
 15 surface over which it operates by the roller thereby disposing the lips or edges which
 define the opening 15 a given distance from the rug, carpet or other object to be cleaned
 and eliminating the necessity of regulating the same for various kinds of carpets, rugs,
 20 or the like. Due to the rigid connection of the handle with the fan case motor housing
 and nozzle, the roller when the device is in operation will function as a support or
 mounting to permit of a longitudinal rock-
 25 ing of the nozzle whereby variation of the size of the intake opening will be effected
 to subject the surface to be cleaned to vari-
 able impulses. This action has been found
 by actual experiment to more effectively
 30 dislodge and remove the dust, dirt, or other foreign matter from the surface to be
 cleaned. The roller when moving will fur-
 ther function to throw out by a centrifugal
 force anything that may be picked up and
 35 cling to the inside thereof. It will be fur-
 ther noted that the roller prevents the lift-
 ing of the carpet or rug from the floor to
 any appreciable extent as the weight of the
 machine supported by the roller overcomes
 40 this objection. The crimped periphery or
 bearing surface of the roller acts in the case
 of papers to crimp the same in order that
 the suction draft may properly act thereon
 to remove it from the surface of the rug,
 45 floor or carpet.

I claim:

1. A vacuum cleaner including a handle,
 a nozzle having an intake opening rigidly
 supported from said handle, and a support-
 50 ing roller mounted within said nozzle with
 the periphery thereof projecting through
 said opening in spaced relation to the side

walls of the opening whereby upon opera-
 tion of the device over the surface to be
 cleaned a longitudinal rocking movement
 will be effected for varying the size of the
 55 effective portion of the intake opening and
 imparting variable impulses to the suction
 draft, the periphery of said roller having
 openings therethrough.

2. A suction nozzle for vacuum cleaners
 60 comprising a casing having an intake open-
 ing, a roller mounted for turning movement
 within said nozzle with the periphery there-
 of extending through the intake opening to
 constitute a support for the cleaner, said
 65 roller consisting of a central shaft, circum-
 ferentially spaced rods arranged concentric
 to the central shaft constituting the periph-
 ery of said roller, and longitudinally spaced
 70 disks on the shaft for supporting the rods
 therefrom; the periphery of the supporting
 roller being spaced from the side edges of
 the intake opening.

3. The combination with a vacuum
 cleaner including a handle and a suction
 75 creating means, of a nozzle communicating
 with said suction creating means, said noz-
 zle comprising a cylindrical casing having
 an intake opening at the lower portion of
 its periphery, a transverse shaft journaled
 80 in said casing, a plurality of longitudinally
 spaced disks on said shaft and a plurality
 of longitudinally extending circumferen-
 tially spaced concentric rods carried by the
 periphery of the disks to constitute a fo-
 85 raminous roller, the periphery of which ex-
 tends through the intake opening and pro-
 jects beyond the periphery of the nozzle
 casing in spaced relation to the side walls
 of the intake opening, whereby said roller
 90 serves to support the nozzle for movement
 on a surface which is to be cleaned in spaced
 relation to the surface.

4. In combination, a vacuum cleaner hav-
 95 ing a nozzle provided with an intake open-
 ing through which a suction draft moves,
 of a foraminous roller mounted in the noz-
 zle and extending through the intake open-
 ing thereof for supporting the cleaner for
 longitudinal rocking movement upon the
 100 surface to be cleaned.

CHARLES H. BARR.