Nov. 9, 1926.

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H. S. HIGLEY

NOZZLE FOR VACUUM CLEANERS

Filed April 30, 1924 3 Sheets-Sheet 1

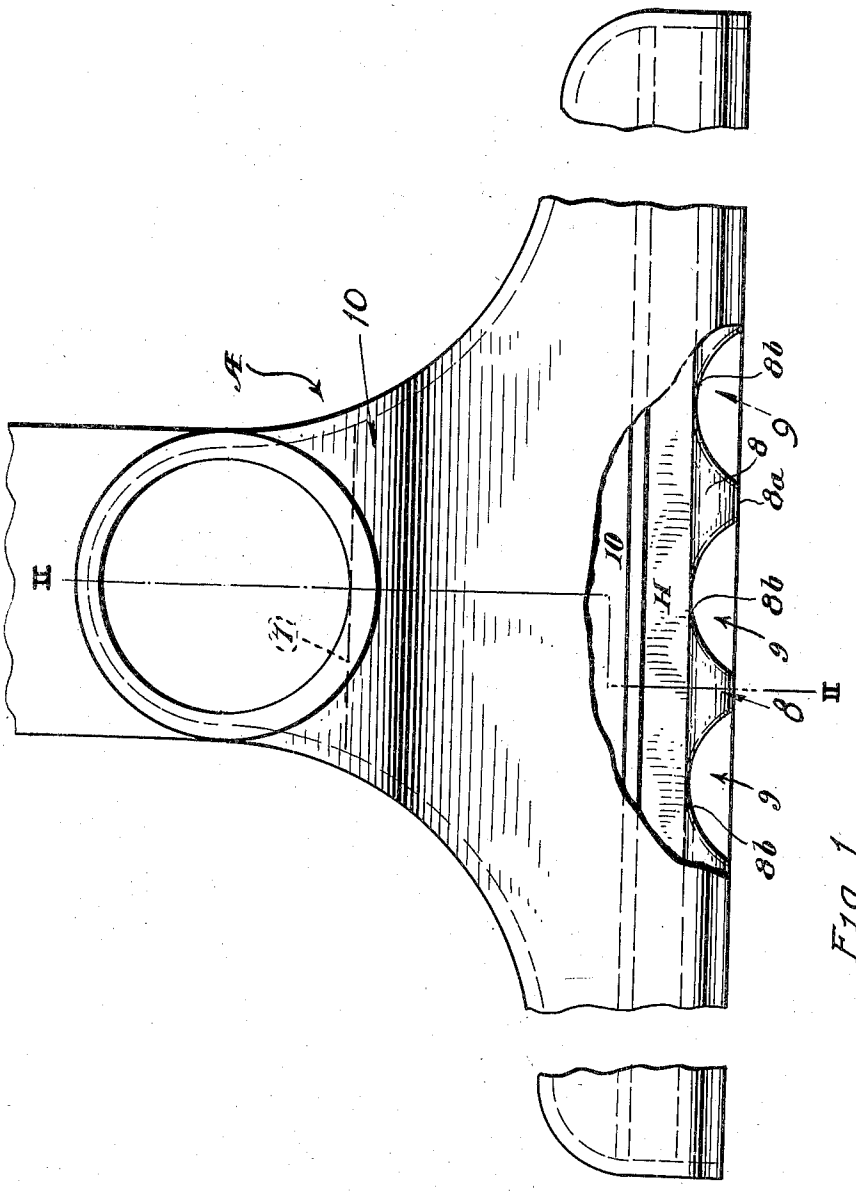


Fig. 1

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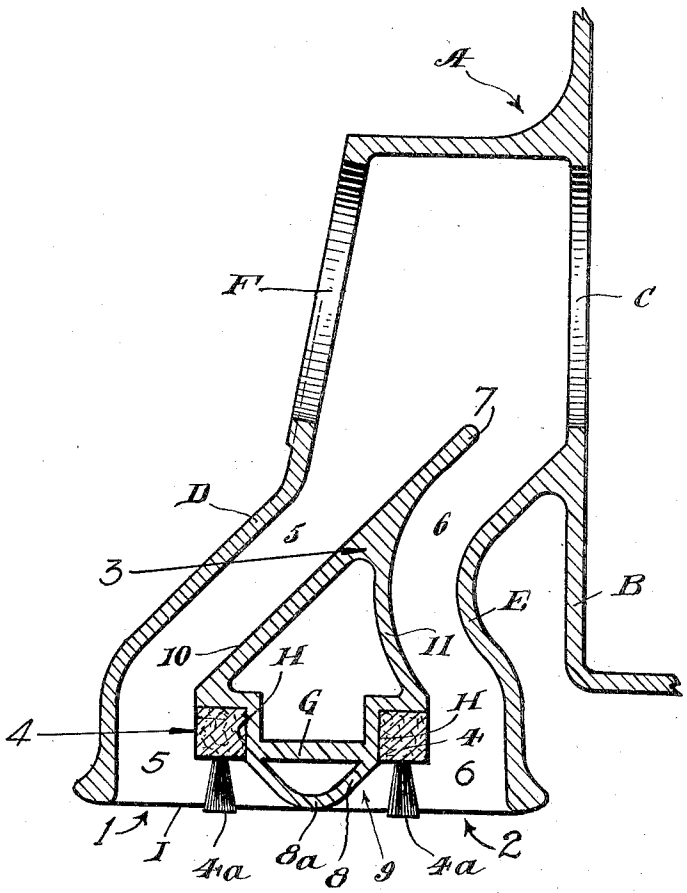


Fig. 2

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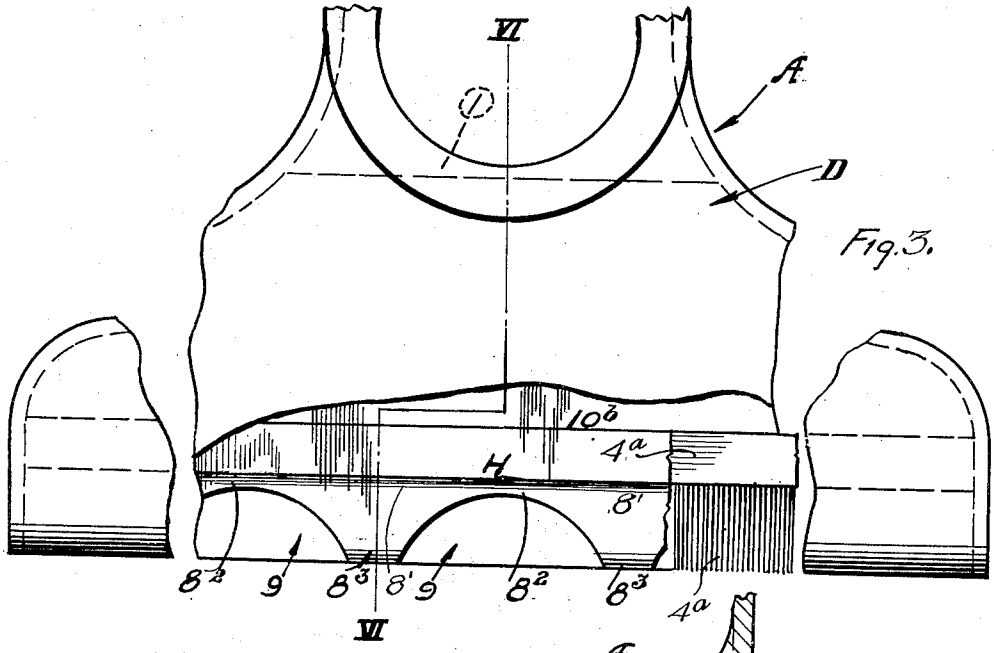


Fig. 3.

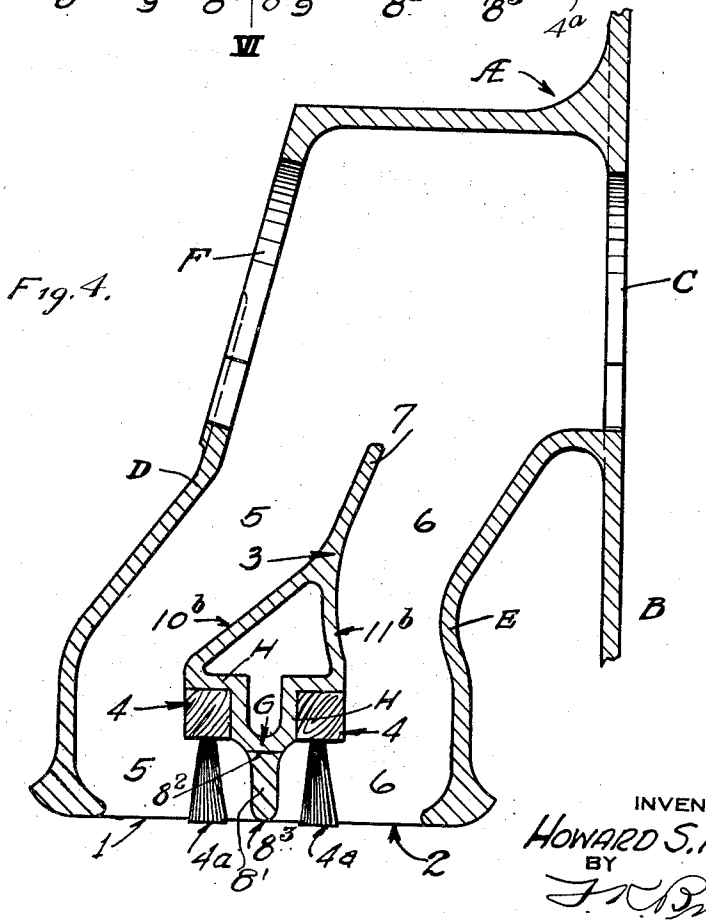


Fig. 4.

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HOWARD S. HIGLEY, OF CLEVELAND, OHIO.

NOZZLE FOR VACUUM CLEANERS.

Application filed April 30, 1924. Serial No. 710,015.

This invention relates to certain new and useful improvements in nozzles for vacuum cleaners and has for its primary object to provide a nozzle or head having a casting or brush support positioned centrally and longitudinally of the air inlet or suction opening of the nozzle to provide relatively narrow or restricted inlet air conduits at each side of the brush support to increase the force of suction or vacuum through the nozzle or head for delivery through the fan housing to the dust collector bag or receptacle.

A further object of the invention is to construct a nozzle for vacuum cleaners of the type above set forth wherein the casting or brush support designed to provide spaced air inlets or conduits is fashioned in a manner to permit the mounting of stationary spaced brush elements.

It is also an object of the present invention to construct a vacuum cleaner nozzle of the above type that employs stationary brush elements with devices disposed between the brush elements to engage a carpet or other surface to be cleaned to control the amount of pulling movement or strain upon the carpet or surface during use of the vacuum cleaner.

With the above general objects in view and others that will become apparent as the nature of the invention is better understood, the same consists of the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings, wherein like reference characters designate corresponding parts throughout the several views.

Figure 1 is a front elevational view, partly broken away of a vacuum cleaner nozzle constructed in accordance with the present invention with the stationary brush elements removed and showing the devices for holding a carpet upon the floor during cleaning thereof,

Figure 2 is a vertical cross-sectional view taken on line II—II of Fig. 1 showing the casting or brush supporting bracket positioned centrally of the vacuum nozzle defining spaced reduced air inlet conduits,

Fig. 3 is a front elevational view partly broken away of another form of the invention with the brush element at one side removed and fragmentarily illustrated at the other side, and

Figure 4 is a vertical cross-sectional view taken on line VI—VI of Fig. 3.

Referring more in detail to the accompanying drawings, and particularly to Figs. 1 and 2 there is illustrated a vacuum nozzle embodying a head A embodying a rear wall B designed for supporting a motor and a dust collecting receptacle or bag that is in communication with the exhaust opening C in the rear wall B.

The rear wall B of the nozzle head supports the nozzle at the forward side thereof that includes a front wall D and a rear wall E, the front wall D being provided with a relatively large opening F to facilitate the attachment of special cleaning devices as is customary with vacuum cleaner nozzles of this general type. A casting or brush support extends longitudinally of the nozzle head and is disposed between the walls D and E and embodies a skeleton body having a front wall 10 lying parallel with and spaced from the front wall D of the nozzle head, and a curved rear wall 11 that is curved coincident to the curvature of the rear wall E of the nozzle head, the walls 10 and 11 merging into a single centrally positioned wall extension 7 that terminates adjacent the lower edges of the nozzle head openings C and F. The walls 10 and 11 of the casting merge together at the point 3 and then continue upwardly and rearwardly in the single wall extension 7 as clearly shown in Fig. 2. The lower wall G of the brush supporting casting has longitudinally extending channeled portions or grooved seats H that support stationary brush backings 4 that carry depending bristle portions 4^a that slightly project below the bottom entrance opening I at the lower end of the nozzle head. The mounting of the brush supporting casting with respect to the walls D and E of the nozzle head provide restricted air entrance openings 1 and 2 at each side of the casting that communicate with restricted or narrow conduits 5 and 6 that extend upwardly between the walls of the nozzle head and the casting through the single outlet or exhaust opening C.

To reduce pulling strains on a carpet or like article being cleaned due to the suction in the nozzle head, devices are associated with the bottom wall G of the brush supporting casting and include arched formations as shown in Figs. 1 and 2 having

side walls 8 curved transversely of the brush supporting casting with the lower reduced portions 8^a lying flush with the nozzle openings 1 and 2, the side walls 8^b of the arched portions 8 defining spaced pockets 9 while the lower edges 8^a of the arched portions contact the carpet to hold the same in a substantially flat condition against the power of suction in the nozzle head. The arched portions 8 are enlarged at their upper ends and merge into the lower edge walls of the brush receiving pockets H and afford effective means for the purposes intended.

Another form of the invention is shown in Figs. 3 and 4, in which the front wall 10^b of the brush supporting casting is disposed at an angle to the front wall D of the nozzle head while the rear wall 11^b is curved away from the rear wall E of the head. The single extension wall 7 is disposed at an angle to the rear wall E resulting in increasing areas in an upward direction in the conduits 5 and 6. In lieu of formations 8 as shown in Figs. 1 and 2 for reducing pulling strains upon the carpet or other surface being cleaned, the bottom G of the brush supporting casting carries depending ribs 8′ arched downwardly from the points 8^2 and terminating in spaced bottom feet 8^3 lying in the same plane as the lower ends of the head walls D and E while the brush elements 4^a project beneath the same.

While there are herein shown and described the preferred embodiments of the present invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What is claimed as new is:—

In a vacuum cleaner nozzle, a nozzle head, a brush supporting casting disposed centrally within the nozzle head dividing the same into spaced air inlet conduits, spaced arched members depending from the longitudinal center of the casting to the plane occupied by the outer edges of the inlet conduits to reduce pulling strains on the article being cleaned and a stationary brush at each side of the casting positioned laterally of the conduit and at opposite sides of the depending arched members.

In testimony whereof I affix my signature.

HOWARD S. HIGLEY.