July 16, 1957 N. HAGEAL 2,799,040

FURNITURE TOOL FOR VACUUM CLEANERS

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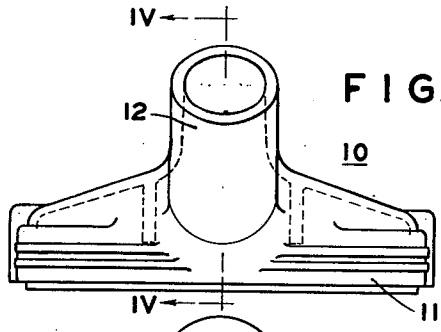


FIG. 1

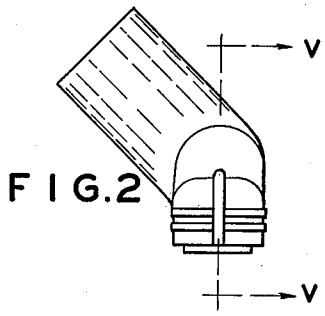


FIG. 2

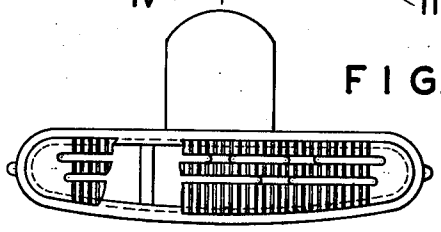


FIG. 3

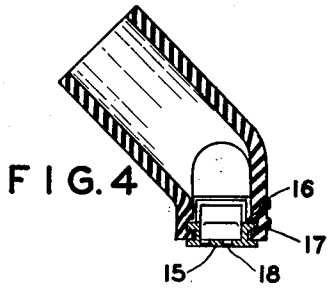


FIG. 4

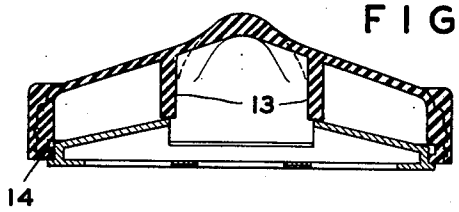


FIG. 5

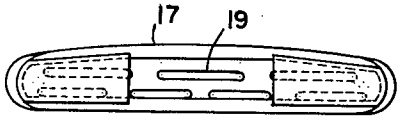


FIG. 6

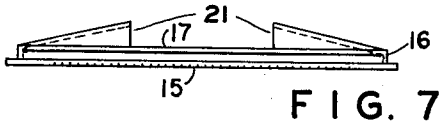


FIG. 7

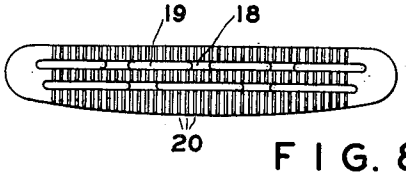


FIG. 8

INVENTOR:
NEAL HAGEAL
BY
J. Wallace Hopkins
ATTORNEY

United States Patent Office

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FURNITURE TOOL FOR VACUUM CLEANERS

Neal Hageal, Pittsburgh, Pa.

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1 Claim. (Cl. 15—418)

This invention relates to a household cleaning appliance and, in particular to a tool adapted to be attached to the end of the suction hose of a vacuum cleaner for cleaning upholstered furniture.

Furniture tools heretofore available have usually comprised a head with a wide inlet or mouth and a throat communicating therewith for attachment to the suction hose. Such tools have also been provided with brush bristles to improve their cleaning action. The effect thereof, however, is small unless the bristles are so stiff as to be likely to damage upholstery fabrics.

I have invented an improved furniture tool capable of exerting a greatly enhanced cleaning action without the presence of bristles. In a preferred embodiment, my tool comprises a substantially oval hollow head with a wide mouth and a throat like conventional tools, but is further provided with a perforated distributor plate or screen overlying the mouth and adapted to make sliding contact with the fabric of upholstered furniture. The plate has inclined chutes at the ends for guiding air from the end portions of the mouth toward the central throat, thereby spreading the effective suction over the entire width of the mouth. The distributor plate may be made integral with the tool or may be separated therefrom and removably inserted therein. The latter form is the one selected for the complete explanation to follow.

A full understanding of the invention may be obtained from the detailed description given herebelow which refers to the accompanying drawings for illustration of the preferred embodiment.

In the drawings,

Fig. 1 is a rear elevation of my improved tool;

Fig. 2 is a side elevation thereof;

Fig. 3 is a bottom plan view;

Fig. 4 is a section taken along the plane of line IV—IV of Fig. 1;

Fig. 5 is a transverse section taken along the plane of line V—V of Fig. 2; and

Figs. 6, 7 and 8 are plan, elevation and bottom plan views, respectively, of the distributor plate.

Referring now in detail to the drawings, my improved tool comprises a head **10**, of flexible, readily yieldable material, made up of a wide mouth **11** merging into and communicating with a tubular throat **12**. The end of the throat is adapted to make connection with the end of a vacuum-cleaner suction hose by any convenient form of detachable joint, the details of which are known and therefore need not be included here. The head may be of any suitable material but molded rubber has obvious advantages. The mouth is hollow as shown and includes a pair of spaced webs **13**, one on each side of the throat, joining the front and rear walls of the mouth intermediate its ends. A narrow groove **14** formed on the interior of the mouth adjacent its extreme edge extends continuously therearound.

A distributor plate or screen **15** overlies the mouth opening. The plate has a peripheral shoulder **16** upstanding thereon provided with outwardly extending flanges **17** along the sides only of the plate adapted to seat in groove **14** when the plate is fitted in the mouth opening as shown in Figs. 1 through 5. The plate is grooved longitudinally on its outer or lower surface as shown at **18**, and spaced portions of the grooves are cut

through the plate, forming slots **19**. The bottom surface of the plate is roughened as by transverse corrugations **20** spaced along the length thereof.

An inclined chute **21** extends inwardly and upwardly from each end of the shoulder **16**, terminating adjacent the webs **13**. The chutes provide a smooth flow of air from the end portions of the mouth **11** to the throat **12** and, together with the slots **19**, effect a uniform distribution of the suction force over the mouth area in contrast to the concentration thereof in the immediate neighborhood of the throat which occurs in the conventional tool. The corrugations **20** agitate the upholstery fabric sufficiently to dislodge dust therefrom without the possibility of any damage or excessive wear. The plate may be easily inserted in the mouth of the tool by stretching the edge of the latter slightly. While the plate may be permanently incorporated in the tool, there are advantages in making it separable, such as the ease of replacement when worn or broken.

The overall effect of the distributor plate is to increase materially the cleaning efficiency of the tool. This improvement probably results from the greater velocity of the air drawn into the mouth, by reason of the restricted inlet area afforded by slots **19** as compared to the total area of the mouth without the plate. In any event, my improved tool is several times as effective in cleaning furniture as the conventional tool even when provided with bristles.

While I have described herein but a single preferred embodiment of the invention, I intend to cover as well such changes in the details thereof as are encompassed by the terms of the appended claim.

I claim:

A tool for a suction-cleaning hose comprising a substantially oval hollow head of flexible, readily yieldable material having an elongated narrow mouth at one side and a throat extending outwardly from the other side, a pair of spaced parallel flat webs, one on each side of said throat, extending across said head from said other side toward said mouth, normal to the plane thereof but terminating short of the mouth in substantially straight edges inwardly thereof, and an elongated perforated distributor plate removably fitted in said mouth overlying the entire area thereof, said plate having an upstanding shoulder extending therearound inwardly from the edge thereof and a guide chute sloping upwardly from said shoulder at each end, making a small angle with the plane of the plate, the inner ends of said chutes, respectively, substantially abutting said substantially straight edges of said webs and serving to guide into said throat the air drawn in at the ends of said mouth, and flanges extending outwardly from said shoulder, said head having a groove extending around the inside of said mouth, said flanges removably fitting in said groove.

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