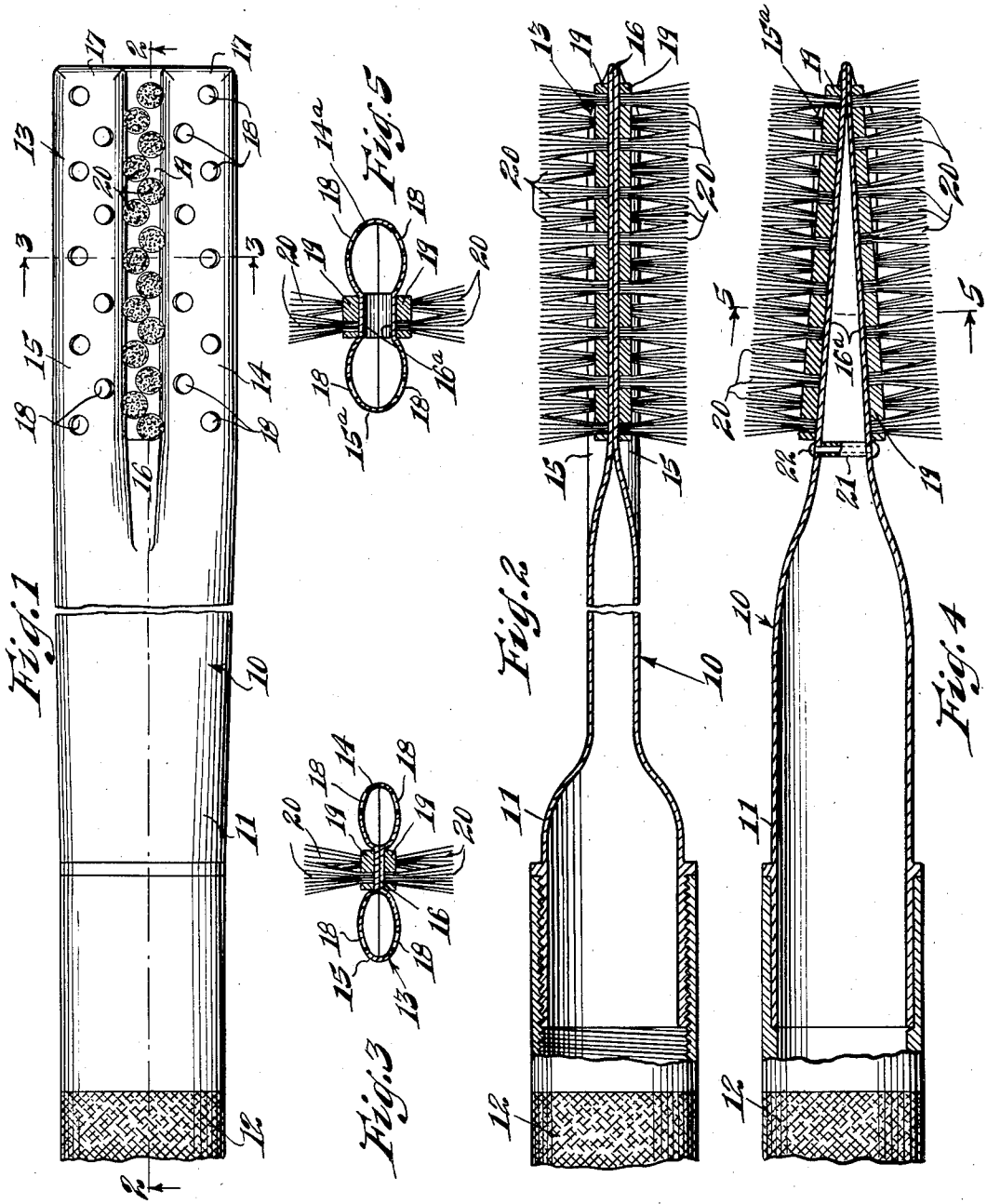
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VACUUM CLEANING DEVICE

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Witnesses:
C. E. Wessels
Aasta E. Matsen

Inventor;
Fred Wielatz.
By Joshua R. H. Potts
his Attorney.

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FRED WIELATZ, OF CHICAGO, ILLINOIS

VACUUM CLEANING DEVICE

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This invention relates to vacuum cleaning devices, and more particularly to a brush attachment whereby dust and grit may be removed from places inaccessible to the ordinary attachment devices usually provided with the equipment of vacuum cleaners, the object being to provide a simple and inexpensive, yet practically designed and highly efficient device, and to attain certain advantages as will hereinafter more fully appear in the following description.

The invention consists in the novel general structure and in the parts and combinations and arrangements of parts hereinafter described and pointed out with particularity in the appended claims.

In the accompanying drawing, forming part of this specification, and illustrating practical adaptations of the invention,—

Fig. 1 is an elevational view;

Fig. 2 is a longitudinal section, taken on or about the line 2—2 of Fig. 1;

Fig. 3 is a transverse section on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary longitudinal section of a modified construction; and

Fig. 5 is a transverse section on the line 5—5 of Fig. 4.

Referring now to the drawing, the numeral 10 designates generally a nozzle member having a tubular shank portion 11 to which is attached a flexible tube of rubber or other suitable material 12, which latter, in use, is in turn connected to the suction portion of a vacuum cleaner of any kind (not shown).

The outer end portion 13 of the nozzle 10 is flattened somewhat, thereby producing a pair of restricted longitudinal passageways 14, 15, at opposite sides, said passageways being preferably elliptical in cross-section, as shown more clearly in Fig. 3 of the drawings, and being separated by the truly flattened medial portions 16 which are pressed inwardly from opposite sides into intimate contact with each other. The extreme end portions 17 of the nozzle member are compressed together in the same plane as the intermediate depressed longitudinal portions 16, said portions 17 being welded or otherwise secured together, if desired, but in some cases, where the metal is of a certain gauge, the inherent rigidity thereof may be depended upon to maintain the end of the nozzle in this closed condition without the employment of any special means of fastening.

The pair of restricted tubular end portions 14, 15, are provided with apertures 18 at opposite sides, said apertures being preferably arranged in staggered relation, as shown more clearly in Fig. 1 of the drawing, but, obviously, they may be arranged otherwise and formed as elongated slots instead of circular apertures as shown. Brush elements comprising elongated relatively narrow body plates 19, carrying the tufts of bristles 20, are secured in the depressed portions or valleys 16 between the pair of restricted tubular portions 14, 15, said brush body plates 19 being secured in place in any approved manner, as by means of bolts, screws, pins, rivets, or the well known present day welding methods, and the bristles being preferably arranged in staggered relation in two or more longitudinal rows, as shown.

In the modification shown in Figs. 1 to 3, inclusive, of the drawing, the pair of tubular portions 14, 15, are of substantially the same cross-sectional area throughout their length, but in the modification illustrated in Figs. 4 and 5, the end portion of the nozzle wherein the corresponding pair of tubular portions 14^a and 15^a are located, is tapered or wedge-shaped. In this modification the end portions 17 of the nozzle are closed, as in the structure shown in Figs. 1 to 3 of the drawing, but the intermediate flattened portions 16^a between the side portions 14^a and 15^a are spread apart at an inclination with respect to each other, the space widening toward the shank portion 11, and the restricted side tubular portions 14^a and 15^a being correspondingly flared in the same direction, and being also open to communication with each other throughout their length, by virtue of the spacing of the portions 16^a. In order to avoid producing an undue obstruction within the device, and at the same time support the intermediate flattened por-

tions 16ª in their spaced relation, a strut 21 in the form of a sleeve is provided, through which a securing bolt or rivet 22 is passed, as shown more clearly in Fig. 4 of the drawing. As far as the brush elements 19, 20, and the means of attachment to the vacuum cleaner or suction device are concerned, these and other incidental features may be the same in the two modifications.

The device of the present invention is readily inserted and manipulated in spaces difficult of access, particularly in between the legs or sections of radiators of steam and hot water heating systems and the like, the particles of dirt and matter to be removed being loosened by the brushing action of the bristles 20 and the loosened material being drawn into the tubular portions 14, 15, or 14ª, 15ª, as the case may be, through the openings 18, and delivered to the vacuum cleaner through the hose pipe 12, as in the use of ordinary nozzles and attachments. In addition to the advantages of efficiency of the device, there is a further advantage in the economical production of the device, in that it may be readily formed from a single blank of sheet material or pressed into shape from a single piece of ordinary commercial tubing, the shank portion of the device being provided by the preformed tube and the working portion of the nozzle being provided by compressing and reforming the tube, which may be conveniently accomplished in a suitable die or rolling machine process.

While the devices illustrated in the drawing embody practical adaptations of the invention, obviously many further modifications may be made in the structure without in the least departing from the spirit and scope of the invention as defined by the appended claims. The invention, therefore, is not limited to the specific construction and arrangement shown.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A suction nozzle for cleaning devices, formed with a pair of laterally spaced longitudinal internal passageways and provided with apertures on opposite sides in communication with said passageways, and opposed longitudinally extended brushing elements on the opposite sides of the nozzle and interposed medially between said passageways.

2. A suction nozzle for cleaning devices, comprising a tubular shank portion merging communicably with a branched pair of parallel laterally spaced longitudinally extending restricted tubular portions, said nozzle being apertured on opposite sides throughout the length of each of said restricted tubular portions, and opposed external brush elements on opposite sides of the nozzle medially between said restricted tubular portions.

3. The herein described suction cleaner attachment, comprising a tubular nozzle element, the base shank portion of which is substantially cylindrical, the forward portion of the nozzle being partially flattened to constitute parallel laterally spaced restricted tubular side portions, said restricted tubular portions being apertured on opposite sides of the nozzle element, the longitudinal medial portion of the original tube being completely flattened equally from opposite sides of the nozzle element, providing depressions between said restricted tubular side portions, and opposed external brush elements in said medial flattened depressions.

4. A suction cleaner attachment of the character described, comprising a tubular nozzle member, the base shank portion of which is of substantially cylindrical cross section, the forward portion of the device being partially flattened and provided with laterally spaced longitudinal internal passageways, the forward portion of the nozzle member being apertured communicably with said internal passageways, the medial longitudinal portion of the device being further flattened, and a brush element disposed longitudinally on said further flattened portion in interposed working relation medially between said apertured portions.

In testimony whereof I have signed my name to this specification.

FRED WIELATZ.