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2,626,419

VACUUM CLEANER NOZZLE AND COMBING TOOTH CONSTRUCTION THEREFOR

Filed June 6, 1950

Fig. 1

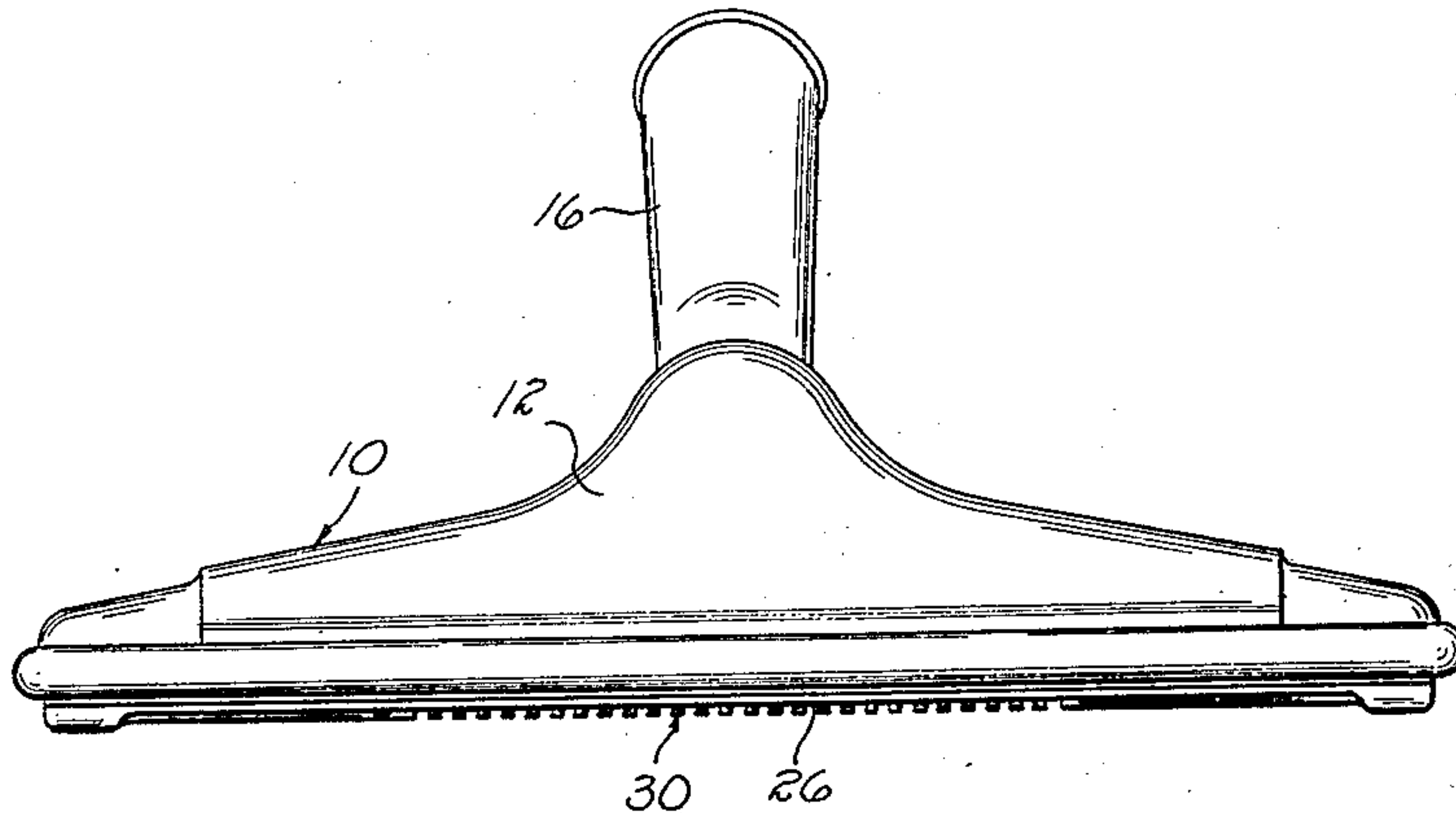


Fig. 2

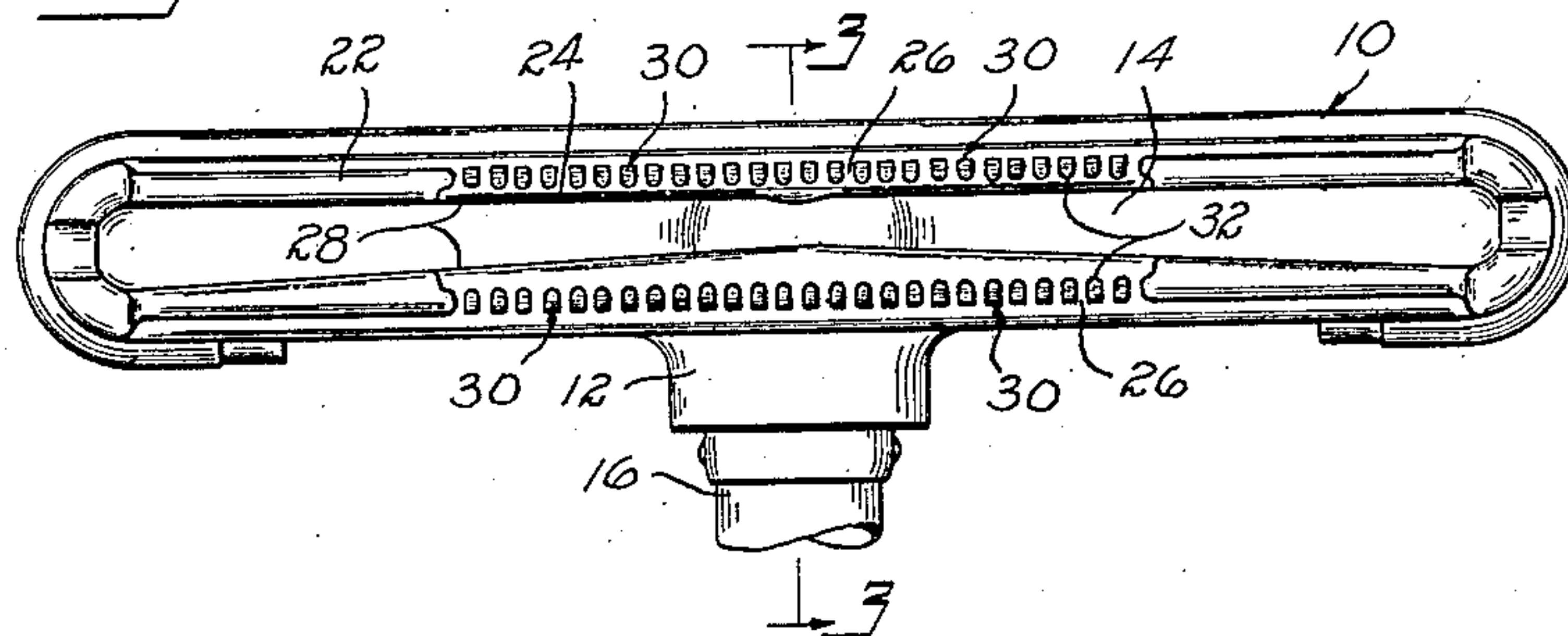


Fig. 3

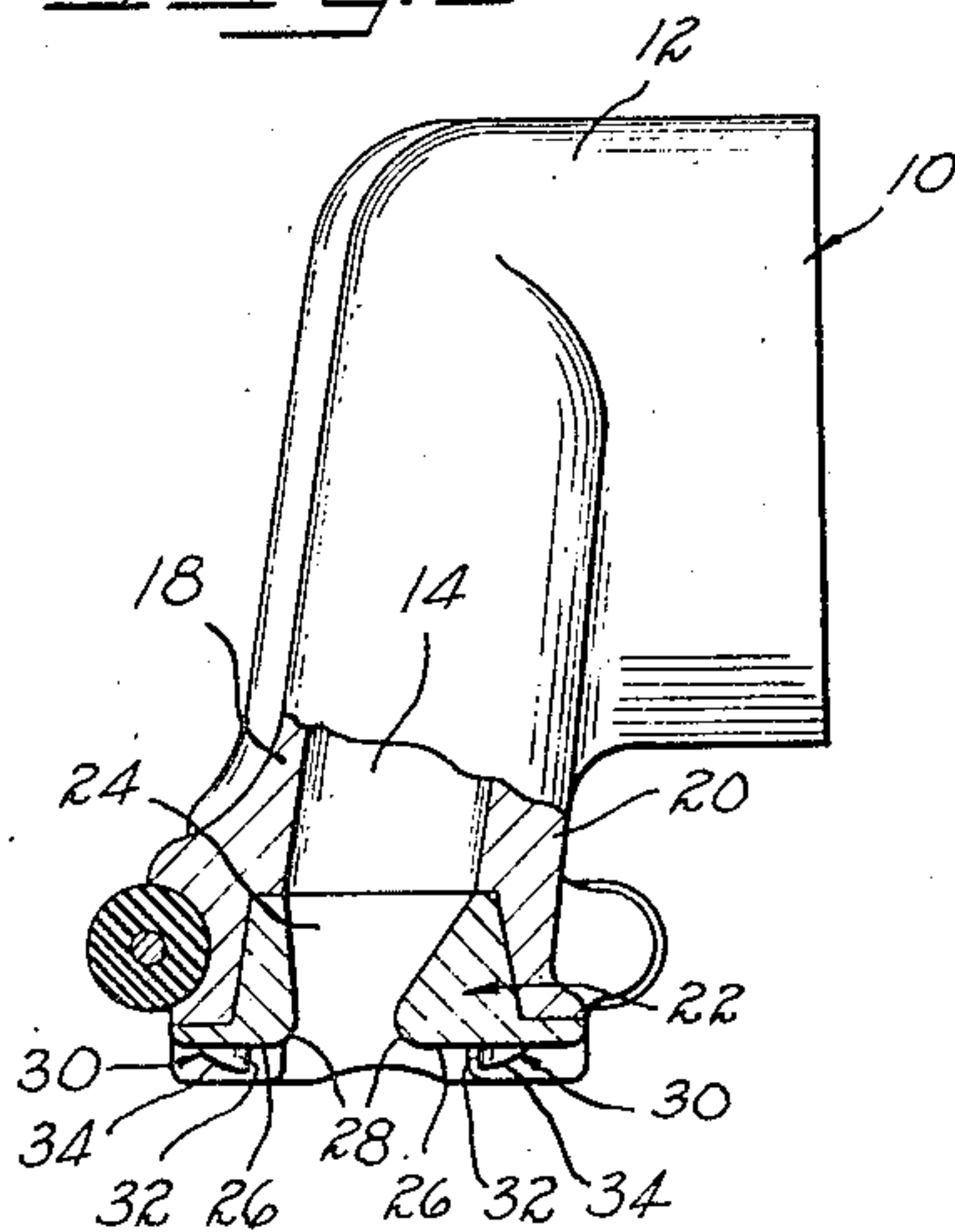
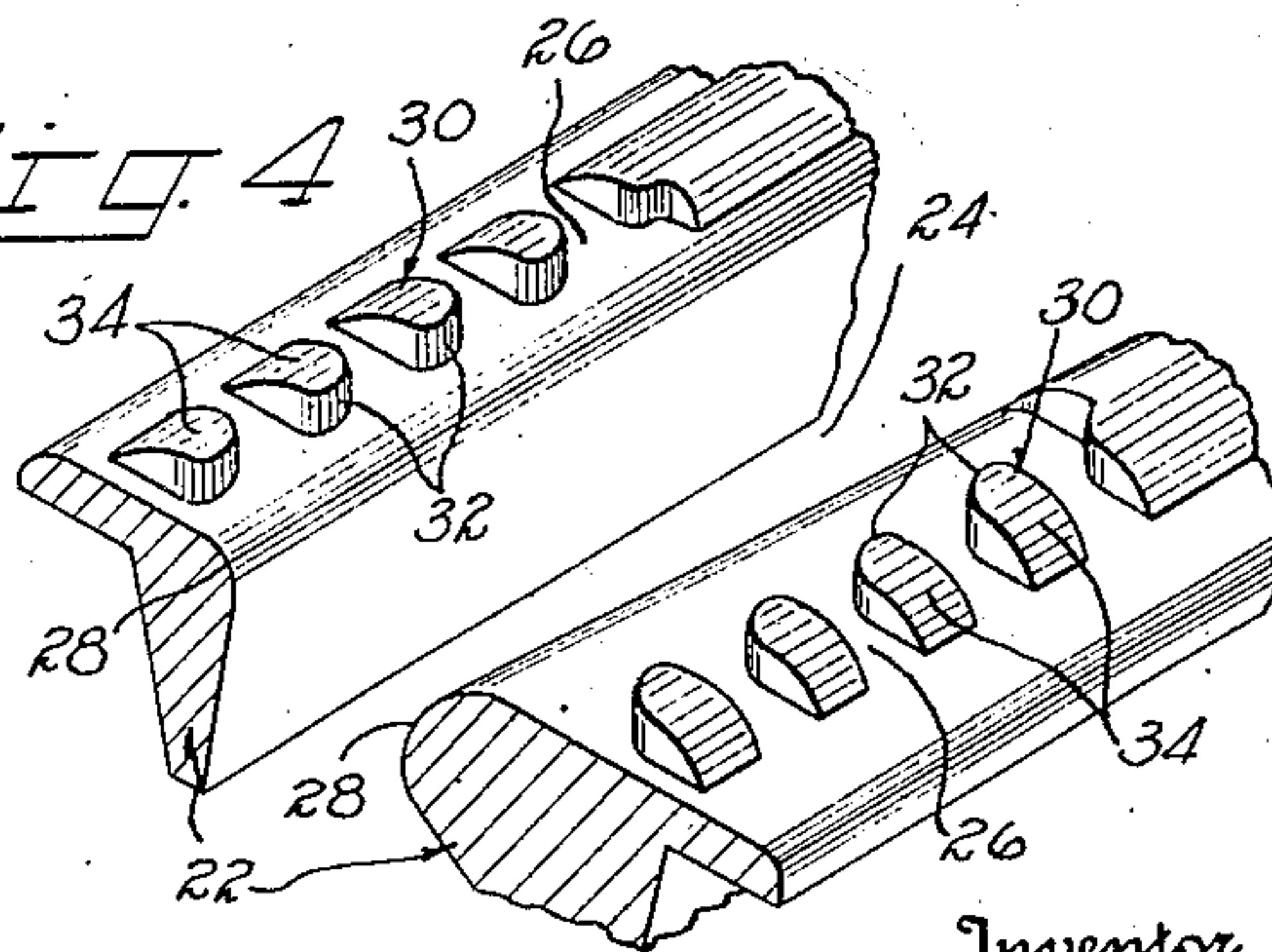


Fig. 4



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334

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VACUUM CLEANER NOZZLE AND COMBING
TOOTH CONSTRUCTION THEREFOROscar M. Anderson, New Britain, Conn., assignor
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2 Claims. (Cl. 15—402)

1

This invention relates to a vacuum cleaner nozzle and more particularly to the type of nozzle which is usually attached to the end of a suction tube serving as a handle, the nozzle being slidably moved in contact with floors, rugs, carpets and the like for purposes of removing dirt, lint and other extraneous material therefrom.

Nozzles of this general nature which are presently used especially for cleaning carpets and rugs are provided with rows of teeth projecting from the lower surface of the nozzle, the teeth functioning somewhat as a comb to straighten out the nap and fibers of a rug or carpet while the suction force draws dirt and other extraneous material from the rug and into the suction slot provided in the nozzle. Such combing action also loosens accumulated or embedded dirt and lint on the rug so as to facilitate its withdrawal by the suction action of the nozzle. However, combing teeth of this nature provided on presently used nozzles of this nature have not been satisfactory for use on certain types of rug due to the tendency of the teeth to pull the nap and particularly the loops of hooked rugs while the nozzle is being used to clean the rug and thereby injuring such rugs.

It is an object of the present invention to provide a vacuum cleaner nozzle with combing teeth arranged in such manner that the combing of the nap or fibers of a rug is performed in a better manner than is possible with presently used nozzles of this general nature and the teeth formed in accordance with the present invention serve to loosen dirt and adhering particles of lint and the like more effectively than presently used nozzles and also without injuring the rug or carpet while being cleaned thereby.

It is another object of the invention to provide a vacuum cleaner nozzle with combing teeth which render the nozzle useful for general purposes of cleaning any common type rug and particularly looped or hooked rugs without danger of injuring the rug and also affording less drag upon the rug and otherwise generally easier operation of the nozzle.

Details of these objects and of the invention, as well as other objects thereof, are set forth in the following specification and illustrated in the accompanying drawing forming part thereof.

In the drawing:

Fig. 1 is a front elevation of a vacuum cleaner nozzle embodying the present invention.

Fig. 2 is a bottom plan view of the nozzle shown in Fig. 1.

Fig. 3 is a side elevation of the nozzle shown

2

in Fig. 1 but illustrated on a larger scale and a portion of the lower end of the nozzle being illustrated in sectional view taken generally on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary perspective view of a component of the nozzle illustrated in Figs. 1 through 3 and shown on a still larger scale than in said figures.

Referring to the drawings in which like reference characters refer to like parts, the vacuum cleaner nozzle 10 comprises a hollow body member 12 having a suction cavity terminating at the bottom of the body 12 in a suction slot 14. The suction cavity in body 12 also communicates with an exit extension 16 which may be fixed or pivotally secured to the body 12 and is otherwise attachable to an elongated tube serving as a handle for the nozzle 12. The body 12 is provided with a pair of lengthwise extending spaced walls 18 and 20 disposed on either side of and defining a slot 14.

In the preferred embodiment of the invention, the lower ends of the walls 18 and 20 defining the entrance of slot 14 are fitted with a nozzle plate 22 which has an elongated slot 24 therein communicating with the suction slot 14 in the body 12, as is clearly shown in Fig. 3. Thus, the nozzle plate 22 actually engages an object to be cleaned such as a rug or carpet and, for purposes of the invention, the nozzle plate 22 may be considered an integral part of the body 12.

The side walls 18 and 20 including the connected side portions of the plate 22 defining the entrance slot 24 terminate in generally horizontally disposed surfaces 26 which are disposed on the opposite sides of the slot 24 and the longitudinal edges 28 of said surfaces which define the entrance slot 24 are rounded, as is clearly shown in Figs. 2 through 4, and merge with the horizontal surfaces 26.

Each of the horizontal surfaces 26 is provided with an extensive row of relatively stubby combing teeth 30 which are spaced apart longitudinally of the surfaces 26, said teeth being somewhat elongated in a direction transverse to the slot 24, as is clearly evident from Figs. 2 and 4. Said teeth have convexly curved inner end walls 32 which are substantially vertical to the surfaces 26 and said curved inner ends of the teeth are spaced from the slot 24, as is clearly shown in Figs. 3 and 4 particularly. The bottom surfaces 34 of the teeth are also inclined upwardly and outwardly toward the horizontal surfaces 26, as is clearly shown in Fig. 3.

It has been found that this shape of the teeth

3

30 and the spacing thereof from the inner edges of the bottom surfaces 26 which define the suction slot renders much easier the action of the nozzle relative to a surface such as a rug being cleaned and affords less drag than conventional nozzles presently used and the combing action of the teeth 30 relative to the nap or fibers of a rug and particularly the loops of a hooked or looped rug is far superior to the action of the combing teeth presently used on conventional vacuum cleaner nozzles of this general nature. Further, and more importantly, the action of the teeth 30 on rugs and particularly hooked or looped rugs is such that substantially no injury is imparted to the nap or loops, whereas the teeth used on conventional suction nozzles has in many instances been highly injurious, particularly to loops of hooked or looped rugs.

Providing a vacuum cleaner nozzle with such improved shape and arrangement of the teeth in no way increases the cost thereof over that of conventional nozzles, and nozzles formed in accordance with the present invention are rugged and durable and capable of long life as well as rendering more effective the cleaning action performed by the nozzle. Also, the life of carpets and rugs and particularly hooked and looped rugs is greatly lengthened when cleaned by a nozzle embodying the present invention.

While the invention has been illustrated and described in its preferred embodiments and has included certain details, it should be understood that the invention is not to be limited to the precise details herein illustrated and described since the same may be carried out in other ways, falling within the scope of the invention as claimed.

I claim as my invention:

1. A vacuum cleaner suction nozzle comprising an elongated hollow body member including a pair of lengthwise extending spaced walls defin-

4

ing a suction slot therebetween, said walls having on the lower ends thereof generally horizontally disposed surfaces on opposite sides of the mouth of said slot, each of said surfaces having a row of relatively stubby combing teeth spaced apart longitudinally thereof and said teeth having vertically disposed and convexly curved inner ends spaced from said slot, the bottom surfaces of said teeth being inclined upwardly and outwardly into said horizontally disposed surfaces.

2. A vacuum cleaner suction nozzle comprising an elongated hollow body member including a pair of lengthwise extending spaced walls defining a suction slot therebetween, said walls having on the lower end thereof generally horizontally disposed surfaces on opposite sides of the mouth of said slot, the longitudinal edges of said surfaces defining said mouth of said slot being rounded and merging with said horizontal surfaces and each of said horizontal surfaces having a row of relatively stubby combing teeth spaced apart longitudinally thereof and said teeth having vertically disposed and convexly curved inner ends spaced from said slot, the bottom surfaces of said teeth being inclined upwardly and outwardly merging into said horizontally disposed surfaces.

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