COMMISSIONER'S DECISION

Obviousness: [(Section 45(4)]: No patentable advance over the prior art

A vacuum cleaner nozzle having a mouthpiece flange on which slanted bristles are mounted is refused as the reference discloses a nozzle having a slanted brush on either side of the suction opening. Five conflict claims are rejected.

FINAL ACTION: Affirmed.

This decision deals with a request for review by the Commissioner of Patents of a refusal of claims C1, C2, C3, C13 and C15 of patent application 113,121. The refusal was made under Section 42 of the Patent Act, and was done by a letter dated December 11, 1974 issued as the result of re-examination of the claims under Section 45(4) during conflict proceedings.

The application was filed on May 17, 1971 in the name of Nippon Seal Co., Ltd. and refers to "Apparatus for Cleaning Textile Articles". Mr. P. Herbert represented the applicant at the Hearing conducted by the Patent Appeal Board on June 11, 1975..

This invention relates to a vacuum cleaner nozzle for cleaning textile articles such as floor coverings. The flat oval shaped nozzle has a suction opening in the central area which is surrounded by slanted bristle material. Forward and backward movement of the nozzle along the surface of the floor enables the slanted bristle material to provide the required cleaning action.

In the Office letter claims C1, C2, C3, C13 and C15 are rejected for failing to patentably distinguish over the following prior art:

U.S. 3,217,352 - November 16, 1965 - Evans et al

3,421,171 - January 14, 1969 - Tsuruzawa

Japanese Patent 21324/1963 October 14, 1963 - Ota.

The Office letter stated (in part);

> Conflicting claims C1, C2 and C3 are rejected in view of the above cited United States Patent 3,217,352, Evans et al. These claims are so broad that they read directly on the drawings and disclosure of the above patent specification.
>
> Claim C1 reads on Evans et al drawings as follows:

Claims C1	Evans et al drawings
Apparatus for cleaning textile articles ...	Figs. 3 and 4
... a take-up device	Figs. 4, ref. 10
... characterized in that it has a lower surface with a take-up opening therein,	Figs. 3 and 4 ref. 21, 30, 36 and 37
and that at least a portion of the said lower surface is formed of slanted bristle material, the free ends of each of the slanted bristles being directed towards the take-up opening.	Figs. 3 and 4 ref. 40

> The additional limitations, that the slanted bristle material is detachably fixed to the flange of the nozzle and that it is arranged in one strip, defined in the dependent claims C2 and C3 respectively, are described in Evans et al disclosure column 3, lines 6-8 and shown in Figure 6 references 22 and 25.
>
> Claims C13, and C15 are rejected as not patentable over United States Patent 3,217,352, Evans et al in view of the teachings of either United States Patent 3,421,171, Tsuruzawa or Japanese Patent 21324/1963, Ota.

> These claims read on Evans et al drawings Figures 3 and 4 in all respects except that the slanted bristle material of Evans et al consisting of conventional brush bristles, has been replaced by "a pile fabric comprising a fabric matrix with bristles projecting therefrom wherein bristles forming the pile, slant approximately the same angle to the fabric".
>
> It is held, however, that such a substitution does not constitute patentable difference, since it would be obvious to those skilled in the art in view of the common knowledge as shown by the teachings of the disclosures of either Tsuruzawa or Ota, each of which describe such pile fabrics and their applications as brushing pads in cleaning devices.

The applicant in his response dated March 11, 1975 to the Office letter stated (in part):

> It is respectfully submitted that there are fundamental differences between the bristles of the reference, Evans et al, and those disclosed and claimed in the present invention. Figures 3, 4, 6 and 7 of Evans et al clearly indicate that both the front and back brushes are arranged in the form of slanted bristle tufts of relatively straight and long lengths. As a result, the cleaning of a rug or similar surface utilizing the device of Evans et al is conducted "linearly". The cleaning of a rug or similar surface utilizing the device of the present invention is conducted "aerially" since the slanted bristle strips 5 and 6 are covered with the bristles on their entire surfaces. Thus, there exists a fundamental difference in the principle of operation between the two devices as well as different principles of construction.
>
> In order to more clearly understand the patentable distinctions of the present invention over the cited references, the applicant will explain further the theories behind each of the particular designs.
>
> In Evans et al, the angle of inclination of the bristles to the surface-to-be-cleaned is quite large which can be clearly seen in Figures 3 and 4 of the reference. The bristles therefore cannot contact the dust particles themselves and pick up the dust between the bristles themselves. The bristles of the reference sweep and gather the dust and dirt for entry into the respective chambers. The apparatus of Evans et al is designed to

> blow the dust and dirt up into the chambers to be taken up through the take-up opening to be sucked into the vacuum cleaner itself.
>
> The principle of operation of the device of the present application is patentably distinct thereover. The present device utilizes thickly implanted bristles which have a relatively small angle of inclination. The bristles effectively contact the dust and dirt on the rug and securely hold this dirt on the bristles. In other words, instead of sweeping up the dirt into the appropriate chambers, the present device "picks up" the dirt and dust by securing it to the bristles themselves.
>
> The device as claimed in the present invention, by its novel construction, provides a means to remove the dirt or dust from the bristles. The automatic dust removal system is a further novel feature of the device of the present construction.

The Evans patent relates to a vacuum cleaner nozzle having an elongated opening which communicates with a source of suction. A set of elongated brushes with their ends angled downwardly toward the opening are mounted on either side of the opening. Claim 1 of this patent reads:

> A cleaning tool adapted for use with a suction-type cleaner, including a rug cleaning tool comprising a generally rectangular housing having formed therein at least one chamber in the top of said housing and a plurality of chambers in the bottom of said housing, the bottom chambers including a middle chamber and front and back chambers formed on opposite sides of said middle chamber, a vacuum outlet communicating with said middle chamber, the vacuum outlet being adapted to be connected to a vacuum source, said middle chamber having side walls terminating in a pair of lips, a pair of brushes, one mounted in each of said front and back chambers, brush mounting means to bias said brushes into engagement with the surface to be cleaned, said brushes being inclined so as to converge toward said middle chamber, a sole plate partially covering said front and back chambers, means for attaching said sole plate to said housing, said housing including passageways between said front and back chambers and said top chamber for providing air flow between said top and said front and back chambers, over said brushes in the direction of said brush bristles so as to clean said brushes and over said lips into said middle chamber, said cleaning tool including

> an attachment useful for cleaning hard surfaces, said attachment being secured in said middle chamber by means engaging the side walls of said middle chamber, said attachment having an upper surface which engages the tips of said brushes and said lips to cut off the air flow over said brushes in said front and back chambers, said attachment having a central chamber, a strip brush at least partially surrounding said central chamber, said attachment having a passageway therein between said central chamber and said middle chamber.

The Tsuruzawa and Ota patents relate to brushes for cleaning which have a surface of short plies leaning in one direction at an angle to the base of the brush. When using a brush of this type the cleaning action is accomplished by movement in one direction only whereby the inclination of the brush ends tends to remove dirt or lint from clothing by a "ploughing" action.

As stated this application relates to an apparatus for cleaning textile articles. This apparatus is characterized by a central suction opening which is surrounded by a flat mouthpiece flange. Slanted bristle material is disposed on the flange and the free ends of the bristles are directed toward the opening. The apparatus is moved back and forth along the surface of the article to be cleaned.

When the apparatus is moved in the forward cleaning stroke the slanting bristles on one side of the opening will "comb" and retain the fluff or other impurities from the textile surfaces. On the return stroke these impurities are released from the bristles and will be sucked up by the vacuum in the central opening.

At the Hearing the applicant emphasized that Evans' use of a multiple chamber construction to prevent the nozzle from adhering to the surface is obtained by his simpler one chamber and slanted bristle

construction. In addition he stated that the angle of the bristles enables his device to pick up and retain the dust and dirt more effectively than Evans. We agree with the applicant that there are structural differences between his device and that of the patent, but we must consider the structure as described in the refused claims.

The comments of the court, in Lowe Martin Co. Ltd. v. Office Specialty Manufacturing Co. Ltd. (1930) Ex. C.R. 181, are of interest: "The mere carrying forward of the original thought, a change only in form, proportion or degree, doing the same thing in the same way, by substantially the same means, with better results is not such an invention as will sustain a patent" (page 187 line 9), and "It is always necessary to consider the rights of the general public to avoid monopolies on such simple devices as would occur to anyone familiar with the art." (emphasis added)

The question is whether claims C1, C2, C3, C13 and C15 disclose a patentable advance in the art. Claim C1 reads:

> Apparatus for cleaning textile articles, particularly carpets, floor coverings and other kinds of floor surfaces as well as padded furniture, which apparatus includes a take-up device for removing dust, fluff and the like, which device is movable to and fro along the surface to be cleaned; said take-up device characterized in that it has a lower surface with a take-up opening therein, and that at least a portion of the said lower surface is formed of slanted bristle material, the free ends of each of the slanted bristles being directed towards the take-up opening.

On considering the difference between the cited art and claim 1, it is observed that the Evans reference discloses all the elements of claim 1 as well as their relationship with each other. In particular the part which states "that at least a portion of the said lower surface is formed of slanted bristle material the free ends of each of the slanted bristles being directed toward the take-up opening," is fully disclosed by Evans. Claim C1, in our view, therefore lacks patentable subject matter.

Claims C2 and C3, which depend on C1, introduce a flange capable of being attached to the nozzle, and claims the use of detachable bristle material. These features are shown in the Evans citation. Attaching the bristle material directly to the flange, or to an adjacent member, is not patentably significant. Accordingly our comments with respect to claim C1 apply equally to these claims.

Claim C13 differs from Claim C1 in that the slanted bristle material is replaced by "a pile fabric comprising a fabric matrix with bristles projecting therefrom wherein bristles forming the pile, slant at approximately the same angle to the fabric." Both the Ota and Tsuruzawa patents relate to clothes cleaning brushes which use a pile fabric of the same texture as defined in this claim. The applicant's use of this known material to replace the bristles found in the Evans is not directed to a patentable advance in the art. The Board is mindful, however, that when assessing an alleged invention the combination of a claim as a whole must be considered. In any event claim C13, in our view, lacks patentable subject matter, as no new result has been achieved, nor a result which can be considered to have flowed from an inventive step.

Claim C15, which depends on C13, refers to the aperture extending longitudinally in a predetermined direction and in which the bristles slope in the same direction. These features are shown in the Evans patent.

We are satisfied that claims C1 to C3, C13 and C15 fail to disclose any patentable advance in the art. The applicant has achieved a result with a change only in form, doing the same thing in the same way, by substantially the same means, as is taught in the prior art. (Vide, Lowe Martin v. O.S.M., supra)

The Board recommends that the decision to refuse these claims be affirmed.

J.F. Hughes
Assistant Chairman
Patent Appeal Board

I concur with the findings of the Patent Appeal Board and refuse to allow claims C1, C2, C3, C13 and C15. The applicant has six months within which to appeal this decision under the provision of Section 44 of the Patent Act.

A.M. Laidlaw
Commissioner of Patents

Dated at Hull
this 7th.day of July 1975

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