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SHIGEHARU KOMAI ET AL
MOP ELEMENT NIPPER AND STICK

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2 Sheets-Sheet 1

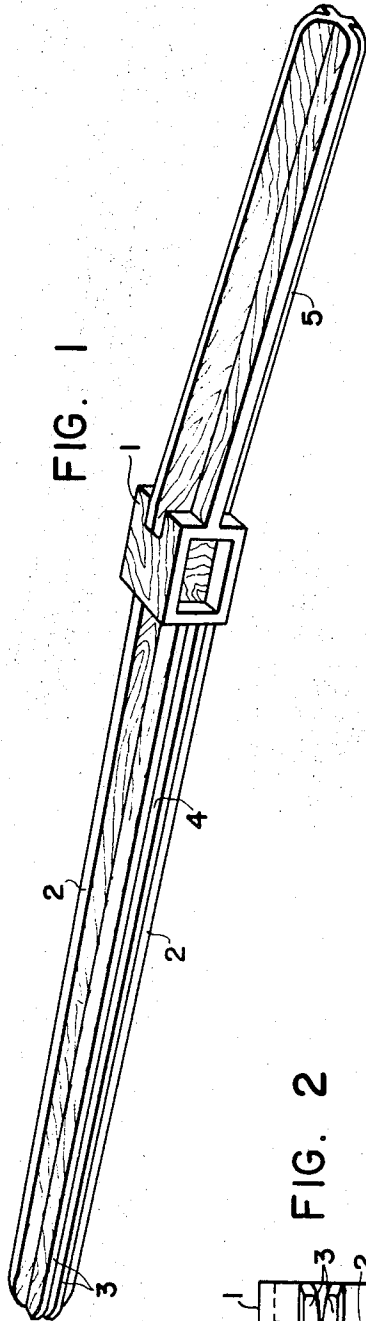


FIG. 1

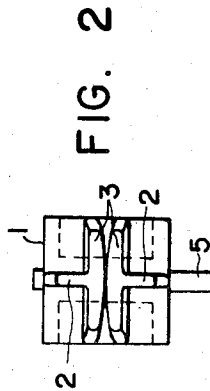


FIG. 2

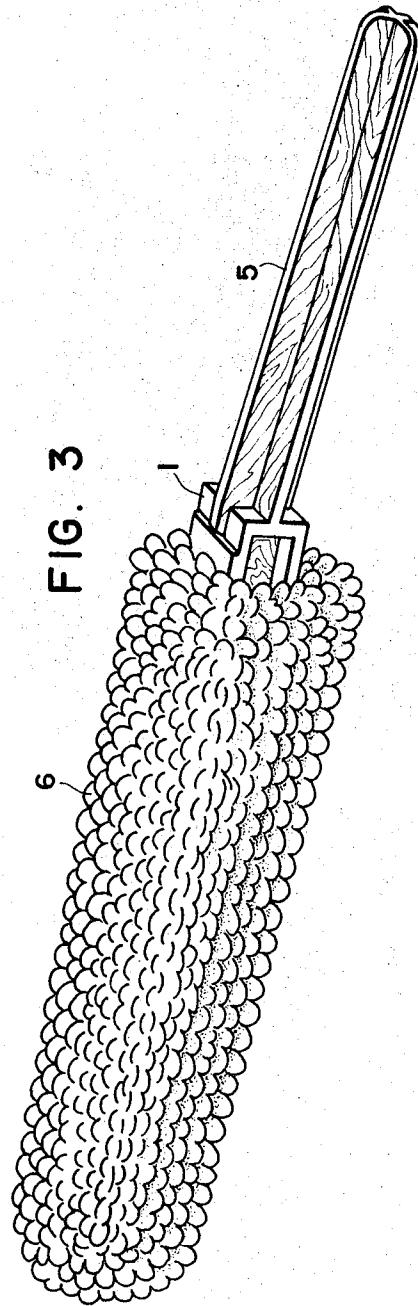


FIG. 3

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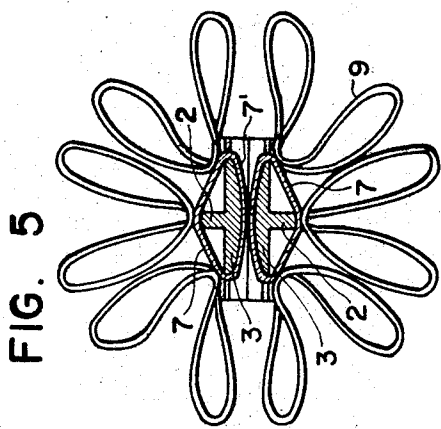


FIG. 5

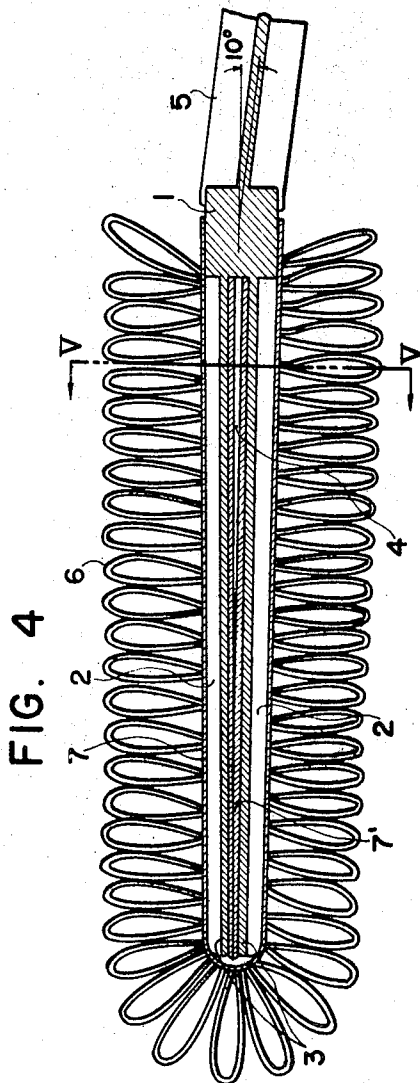


FIG. 4

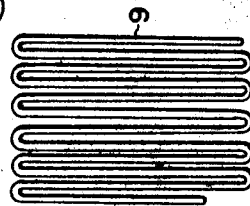


FIG. 7

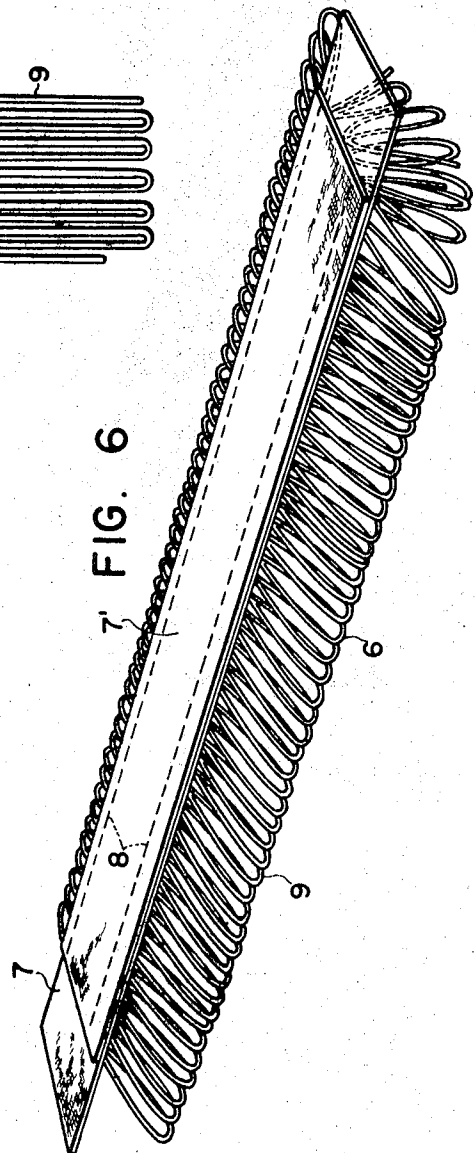


FIG. 6

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MOP ELEMENT NIPPER AND STICK

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U.S. Cl. 15-147

1 Claim

ABSTRACT OF THE DISCLOSURE

A mop element nipper and stick for the manufacture of a mop intended for use in cleaning and dusting the body surfaces of automobiles or like constructions and being made of a material selected from the group consisting of metals, hard synthetic resins and woods and having the structure comprising a base member formed in the central portion thereof, two upper and lower nipping rods each having a T-shaped cross section and extending forwardly from the front side of said base member, said T-shaped rods being arranged in such a way that the top horizontal faces of the flange-like members of these T-shapes oppose each other, said opposing faces of the substantially horizontal transverse flange-like members of said T-shaped nipping rods being in contact with each other at the foremost ends of said nipping rods and parting from each other with a gradually increasing clearance therebetween as the nipping rods go closer to said base member to form a diverging gap therebetween, said mop element nipper and stick structure further comprising a handling stick extending rearwardly from the rear side of said base member in a slightly downwardly angled direction relative to the central longitudinal axis of said diverging gap defined between the opposing top faces of the T-shapes of said upper and the lower nipping rods. The mop having this structure provides a resiliency and handling convenience which has never before been possible in cleaning or dusting the external curved body surfaces of automobiles or like constructions.

BACKGROUND OF THE INVENTION

(a) Field of the invention

The present invention is concerned with a mop element nipper and stick, and more particularly, it relates to a nipper and stick for nipping and holding mop elements comprising a plurality of rods of loops of strands arranged in the form of clusters and stitched to a piece of tough cloth such as canvas so as to be used in cleaning or dusting the body surfaces of automobiles or like constructions.

(b) Description of the prior art

Mops of the prior art which are intended for dusting the body surfaces of automobiles or like constructions have been of the structure comprising a plurality of feathers fixed at their ends to a straight anchoring member and a stick which extends rearwardly from the rear end of said mop anchoring member in straight alignment with the longitudinal axis of said mop anchoring member. Thus, the anchoring member and stick as an integral body provided no working resiliency when the whole mop head and stick structure was pressed against the surface of the body to be dusted and moreover, this integral straight mop head and stick was inconvenient when dusting curved body surfaces of automobiles.

SUMMARY OF THE INVENTION

It is, therefore, the object of the present invention to eliminate the drawbacks and inconvenience of the mops of the prior art and to provide an improved mop element

nipper and stick which is suitable and convenient when used in cleaning or dusting the curved body surfaces of automobiles or like constructions. More particularly, the present invention contemplates the provision of a mop element nipper and stick which is adapted to anchor mop elements which consist of a plurality of rows of loops of strands arranged in cluster form and stitched to a piece of tough cloth such as canvas, said mop element nipper and stick featuring in that the handling stick is slightly angled relative to the central longitudinal axis of the mop element nipping member so that the cleaning or dusting of the curved body surfaces of automobiles or like constructions is performed with great convenience and easiness.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the mop element nipper and stick of the present invention;

FIG. 2 is a representation viewed from the left side of the mop element nipper and stick shown in FIG. 1;

FIG. 3 is a perspective view of a complete mop in its state that mop head which comprises a plurality of mop elements stitched to a piece of tough cloth is nipped by the nipper and stick of the present invention;

FIG. 4 is a longitudinal sectional view of the mop in FIG. 3 with parts broken away and represented in an enlarged scale;

FIG. 5 is a cross sectional view taken along the line V—V in FIG. 4;

FIG. 6 is a perspective view showing the rear side of the mop elements stitched to strips of tough cloth; and

FIG. 7 is a front view of a part of the loops of strands, showing the detailed structure of such loops.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention will hereunder be described in further detail on one embodiment by referring to the accompanying drawing which is given only by way of example.

In the drawing, the mop element nipper and stick of the present invention comprises a box-like base member 1 which is formed centrally of the nipper and stick structure with a material selected from the group consisting of metals and hard synthetic resins, two upper and lower nipping rods 2, 2 each having a T-shaped cross section and extending forwardly in a tapering fashion from the front side of said base member, the opposing faces of the substantially horizontal transverse flange-like members of said T-shaped nipping rods parting from each other with a gradually increasing clearance 4 therebetween as the nipping rods go closer to said base member to form a diverging gap between the opposing faces 3, 3 of these T-shaped nipping rods, so that the foremost ends of these two nipping rods are brought into resilient contact with each other, said mop element nipper and stick further comprising a handling stick 5 having a cross-shaped cross section and extending rearwardly from the rear side of said base member in a slightly downwardly angled direction, for example, an angle of 10 degrees, relative to the central longitudinal axis of said diverging gap defined between the top faces of the T-shapes of said upper and the lower nipping rods.

Reference numeral 6 represents generally a mop element which is to be nipped by the nipping rods. In forming this mop element, two tape-like strips 7 and 7' different in length and made of a tough cloth are laid one upon another and they are stitched firmly to each other along the bilateral edges as indicated at 8 and 8' in such a way that opposite end portions of the strip 7 having a length greater than the other extend beyond the opposite end

edges of the strip having a smaller length. A plurality of rows of loops of strand 9 made of appropriate twisted tough yarns are stitched at their bases of the loops to said strip 7 having a greater length. The mop element thus prepared is folded in two along the upper and the lower nipping rods 2 and 2 and are inserted edgewise (meaning that the forward ends of the nipping rods lead when they are inserted) into the upper and the lower tubular spaces each being closed at the foremost end by the fold and being defined by each pair of the superimposed cloth strips 7 and 7' which are stitched together along their longitudinal side edges to form an opening at the free end portions thereof. Each of the upper and the lower nipping rods is inserted into said tubular space while resisting the resiliency of the material with which these nipping rods are made, and thus the nipping rods are placed in the spaces in tight engagement with the inner faces of the upper and the lower strips of cloth which define each of said spaces. These nipping rods 2 and 2 are forced into said tubular spaces up to the foremost closed ends. Along with this, the elastic recovery of the compressed rods causes the substantially flat top faces 3 and 3 of the T-shaped nipping rods 2 and 2 to be rendered to assume positions which are close to each other, with the result that the mop element 6 is positively nipped by the upper and the lower nipping rods 2 and 2 in such a way that the loops of the mop element 6 surround the entire outer surfaces of the superimposed nipping rods 2 and 2.

The mop head thus produced by the mop element nipper and sticker of the present invention surrounds the entire outer surfaces of the superimposed nipping rods 2 and 2, so that the complete mop can be used in various directions in dusting or cleaning the body surfaces of automobiles and like constructions in much the same way as is effected by a mop made of feathers. However, the slightly angled arrangement of the handling stick portion 5 of the device of the present invention relative to the longitudinal center line of the folded mop element affords the convenience that the curved surfaces of the top as well as the vertical side surfaces of automobiles and like constructions can be cleaned or dusted with great easiness as compared with the mops of the prior art.

The mop having this structure provides a resiliency and a handling convenience which has never before been pos-

sible in cleaning or dusting the external curved body surfaces of automobiles or like constructions.

What is claimed is:

1. A mop element nipper and stick for the manufacture of a mop intended for use in cleaning and dusting the body surfaces of automobiles or like constructions and being made of a material selected from the group consisting of metals, hard synthetic resins and wood and having the structure comprising a base member formed in the central portion thereof, two upper and lower nipping rods each having a T-shaped cross section and extending forwardly from the front side of said base member, said T-shaped rods being arranged in such a way that the top horizontal faces of the flange-like members of these T-shapes oppose each other, said opposing faces of the substantially horizontal transverse flange-like members of said T-shaped nipping rods being in contact with each other at the foremost ends of said nipping rods and parting from each other with a gradually increasing clearance therebetween as the nipping rods go closer to said base member to form a diverging gap therebetween, said mop nipper and stick structure further comprising a handling stick extending rearwardly from the rear side of said base member in a slightly angled direction relative to the central longitudinal axis of said diverging gap defined between the opposing top faces of the T-shapes of said upper and the lower nipping rods.

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U.S. Cl. X.R.

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