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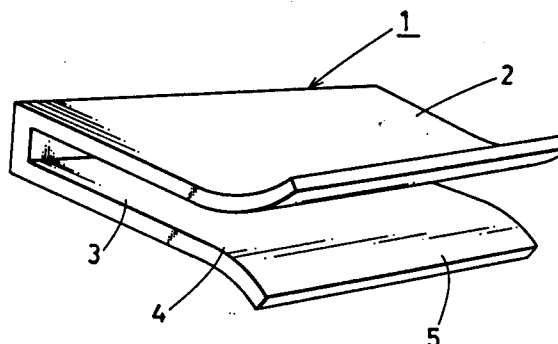
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**London WC1R 5EU(GB)**(54) **MASKING MATERIAL.**

(57) An object of this invention is to easily fix a masking material to a plate-like part of a certain member for temporally protecting said part from surface treatment. For attaining the above object, in a clip-like masking material of this invention having a groove into which the plate-like part of said member is inserted, outwardly opened tapered guide parts are extended from the open part of said insertion groove so that said guide parts abut on said plate-like part and adjust a position of the masking material even when the open part of the masking material insertion groove slightly deviates from a position opposite to said plate-like part.

**Fig.1****EP 0 509 100 A1**

## FIELD OF THE INVENTION

The present invention relates to a masking member which temporarily protects a panel part of an article from a surface treatment.

For instance, an anti-corrosion treatment is performed on the steel material of the floor of a car and occasionally, the anti-corrosion film on said steel material has received damage through the collision of small flying stones or sand during and when the car is moving. This is called the chipping phenomenon and to prevent this phenomenon, a visco-elastic paint such as polyvinyl-chloride sol, tar-urethane, and the like is spray-coated on said steel material.

Nevertheless, said steel material of the floor of a car has panel parts such as brackets to support other parts and the like and it is necessary to prevent said visco-elastic paint from sticking to said panel parts.

## DESCRIPTION OF THE PRIOR ART

Hitherto, a method wherein a clip-type masking member is put over said panel part has been provided to prevent said visco-elastic paint from sticking to said panel part (Tokkai Sho 62-289276).

In a continuous mass production process such as the car-manufacturing process, it is preferable to use a robot when said masking member is put over one of said panel parts. Recently, a method wherein said masking member is sucked by a sucker equipped on a robot to automatically put over said masking member onto said panel has been provided (Japanese Patent Application SN. 1-170880).

Nevertheless, when said clip-type masking member is automatically put over said panel part by said robot, said masking member should be located correctly in front of said panel part, and for this purpose, the precise operation of said robot is required. Further, when said masking member is put over said panel part by a worker's hand, it may require much labor to fit said masking member into the correct position and the working efficiency may be inferior.

## DISCLOSURE OF THE INVENTION

As a means to resolve said prior problem, the present invention provides a clip-type masking member (1) consisting of a body (2) having an inserting groove (3) wherein a tapering guide part (5) is extended from an opening (4) of said inserting groove (3).

When said masking member (1) of the present invention is put over a panel part (7) by such as a robot and the like, in a case where said masking

member (1) comes in from a deflecting position from the correct position in front of said panel part (7), said tapering guide part (5) extended from an opening (4) of said inserting groove (3) of said body (2) of said masking member (1) may come into contact with the upper-edge or lower-edge of said panel part (7) when said masking member (1) is put over said panel part (7) to adjust the position of said masking member (1) to the correct position, and then the inserting part (2) of said masking member (1) may be put over said panel part (7) by said inserting groove (3) of said body (2).

Accordingly, in the present invention, even if said masking member comes in from a deflecting position from the position in front of said panel part before inserting, said masking member can be certainly put over said panel part and the precise operation of a robot may not be necessary and the structure of said robot can be simplified. Further, in a case where said masking member is put over said panel part by a worker's hand, the position of said masking member may be easily adjusted and the working efficiency becomes higher.

## BRIEF DESCRIPTION OF THE DRAWINGS

Figs. 1 to 4 each show an embodiment of the present invention and,

Fig. 1 is a perspective view.

Fig. 2 is a side view before the putting over of the masking member.

Fig. 3 is a side view when said masking member is being put over.

Fig. 4 is a side view after the putting over of said masking member.

Fig. 5 is a side view of another embodiment.

In the DRAWINGS,

(1), (1)A masking member

(2), (2)A body

(3), (3)A inserting groove

(4), (4)A opening

(5), (5)A guide part

## DESCRIPTION OF THE INVENTION

Describing the present invention by the embodiments shown in Figs. 1 to 4, a body (2) of a masking member (1) has an inserting groove (3) and a tapering guide part (5) which opens towards the outside and is extended from the opening (4) of said inserting groove (3). The tapering shape of said guide part (5) is curved convexly.

Said masking member (1) is sucked by a sucker (9) of a robot to which a vacuum-ventilation pipe (8) connects as shown in Fig. 2, and said opening (4) of said inserting groove (3) of said body (2) of said masking member (1) is located in front of a panel part (7) of an article (6), and in a case where

said position is a little deflected, said position of said masking member (1) may be corrected to the direction shown by arrow B in Fig. 3, by contacting said guide part (5) of said masking member (1) with the upper-edge of said panel part (7) when said masking member (1) is put over said panel part (7) by said inserting groove (3) as shown by the arrow A in Fig. 3.

In the end of the insertion process of said masking member (1), said masking member (1) may be released from said sucker (9) by allowing air pressure into said sucker (9) through said vacuum-ventilation pipe (8). Thus, said masking member (1) is put over said panel part (7) as shown in Fig. 4.

Fig. 5 shows a masking member (1)A of another embodiment of the present invention. A tapering shape of a tapering guide part (5)A extended from an opening (4)A of an inserting groove (3)A of a body (2)A of said masking member (1)A is rectilineal.

A masking member of the present invention is made of a plastic such as polystyrene, polyethylene, polypropylene, polyvinyl-chloride, polyurethane, melamine resin, urea resin, phenol resin and the like, a reinforced plastic wherein an inorganic filler such as calcium carbonate, talc, bentonite and the like is mixed in said plastic, a foamed plastic of said plastic, a synthetic rubber such as styrene-butadiene rubber, a crylonitrile-butadiene rubber and the like, a natural rubber, a molded fiber material wherein wood fiber, synthetic fiber, natural fiber, inorganic fiber etc. is bound by a binder to mold wood, paper, reclaimed paper, corrugated card-board, metal, and a complex or a laminate of two or more of said materials.

Further, to attach said masking member (1) of the present invention, besides said sucker (9), a pinch-type holder, a needle-type holder, and the like may be used.

## Claims

1. A clip-type masking member wherein an inserting groove is formed in a body characterized by a tapering guide part opening towards the outside and extended from said opening of said inserting groove.

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Fig. 1

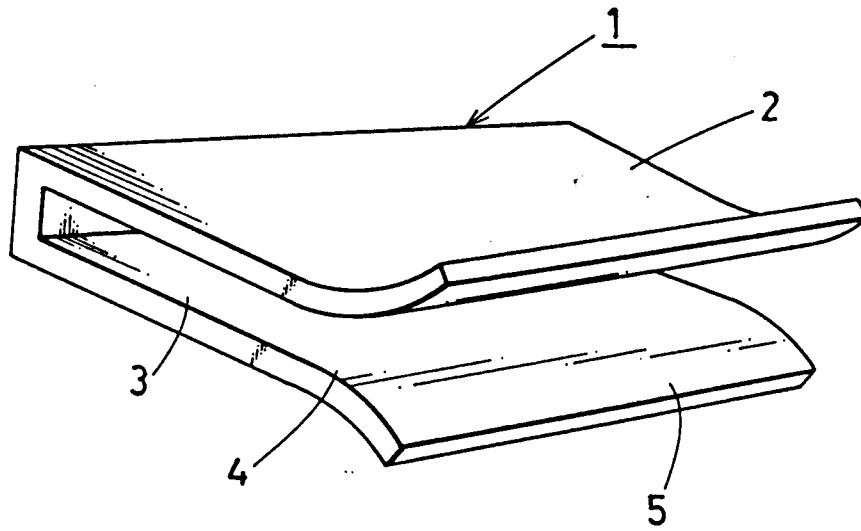


Fig. 2

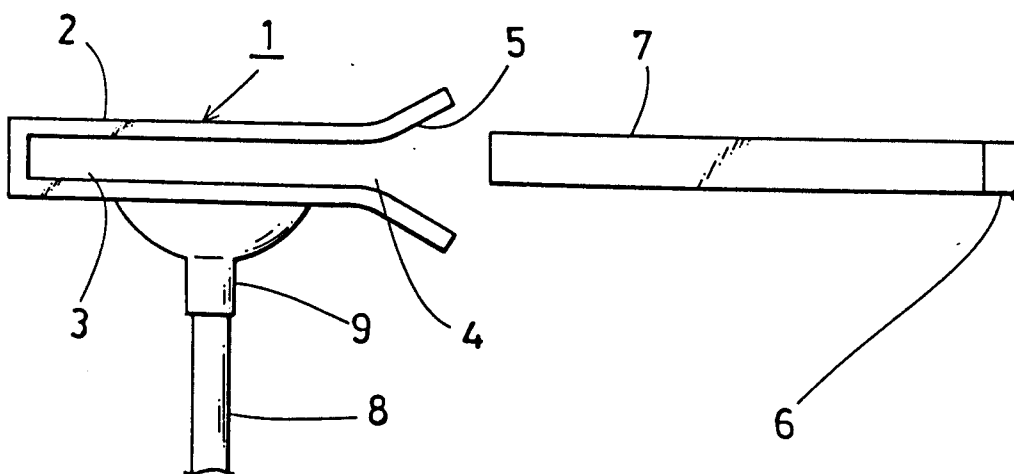


Fig. 3

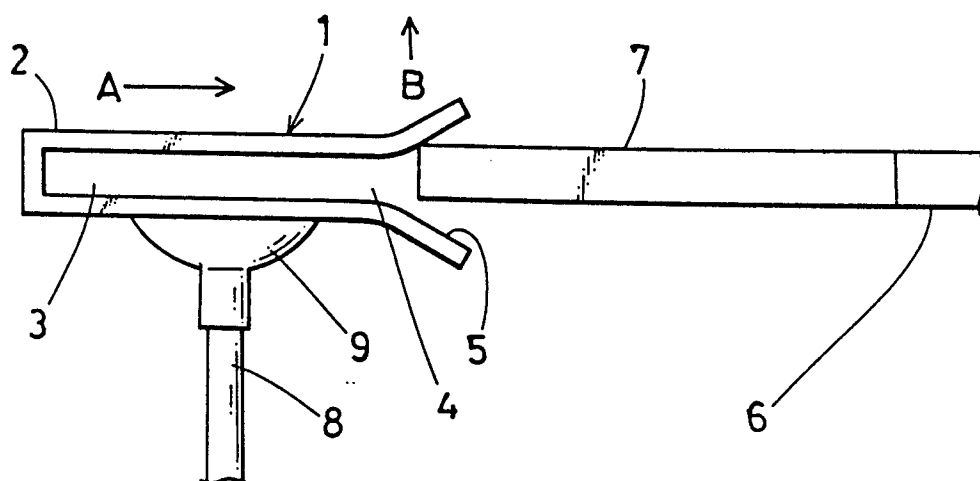


Fig. 4

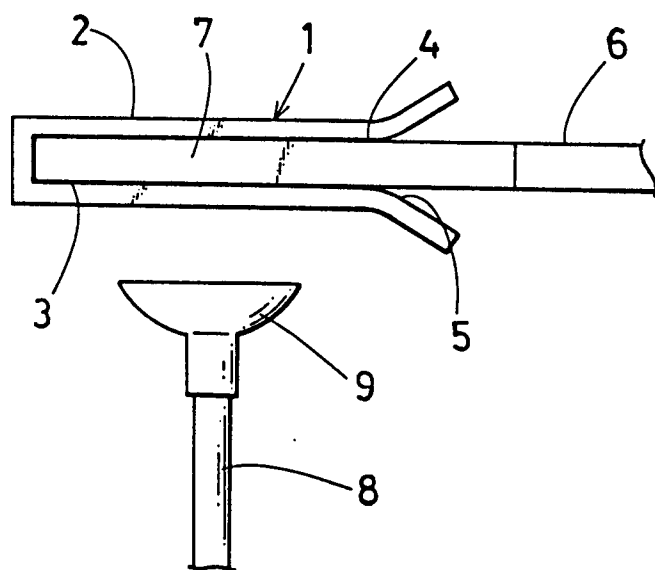
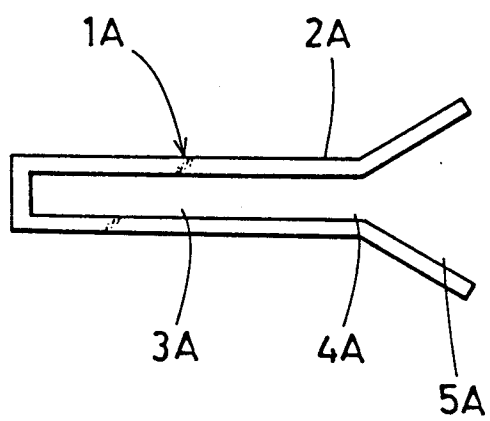


Fig. 5



# INTERNATIONAL SEARCH REPORT

International Application No PCT/JP91/00591

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (if several classification symbols apply, indicate all) <sup>6</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int. Cl <sup>5</sup> B05B15/04		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>7</sup>		
Classification System	Classification Symbols	
IPC	B05B15/04	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched <sup>8</sup>		
Jitsuyo Shinan Koho	1926 - 1990	
Kokai Jitsuyo Shinan Koho	1971 - 1990	
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>9</sup>		
Category *	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
X	JP, U, 60-91283 (NEC Corp.), June 22, 1985 (22. 06. 85), (Family: none)	1
<p>* Special categories of cited documents: <sup>10</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
July 18, 1991 (18. 07. 91)	August 5, 1991 (05. 08. 91)	
International Searching Authority	Signature of Authorized Officer	
Japanese Patent Office		