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(71) Applicant: **NIPPON WIPERBLADE Co., Ltd.**
Kazo-Shi, Saitama-Ken (JP)

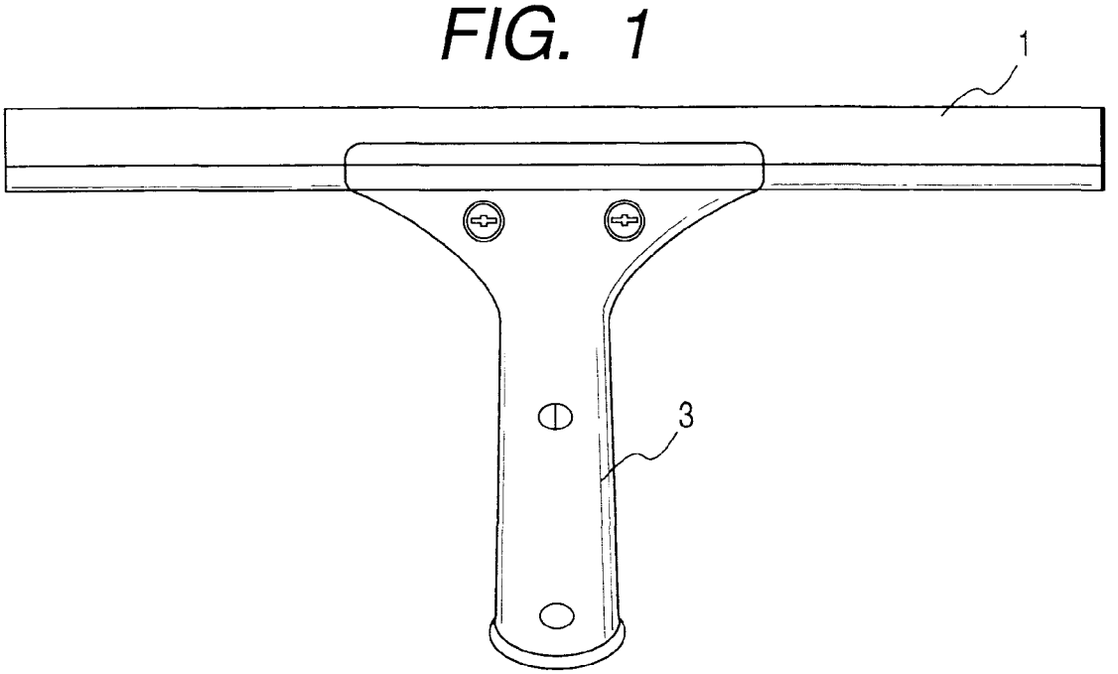
(72) Inventor: **Taguchi, Kazuhiro,**
c/o Nippon Wiperbl. Co., Ltd.,
Kazo-shi, Saitama-ken (JP)

(74) Representative: **Spall, Christopher John**
BARKER, BRETTELL & DUNCAN
138 Hagley Road
Edgbaston Birmingham B16 9PW (GB)

(54) Window cleaning wiper

(57) A window cleaning wiper including a wiping member (1) and a handle member (3) releasably supporting the wiping member and adapted to be gripped by a hand, in which, the wiping member is formed of elastomer material and having a sufficient rigidity and an elongated configuration, a core member (2) having a sufficient rigidity and having an elongated configuration is provided within the wiping member.

FIG. 1



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Description

Technical Field

The present invention relates to a cleaning device and, particularly to a window cleaning wiper for cleaning window pane of an architecture such as a building or the like.

Prior Art

There are provided a large number of panes in a high storied building and it is required to clean periodically the panes. The window panes are usually cleaned by workers utilizing hand tools such as window cleaning wipers and the like.

A typical prior art window cleaning wiper consists of an elongated wiping element formed of an elastomer material such as rubber and the like with one of widthwise end constituting a lip or a wiping end, and a retaining member usually formed of metal and the like and having generally U-shaped cross-section to receive therein the substantial portion of the wiping element. The escaping of the wiping element out of the retaining member is usually prevented by stoppers which are mounted on longitudinal opposite ends of the retaining member. A suitable handle is usually connected to the retaining member.

The stoppers and the retaining member are usually formed of metal and, thus the metal portions are largely exposed to the outside of the window wiper and which may sometimes scratch the surface of the pane and injure the sash of the windows. Accordingly, it is required to handle the wipers carefully, which decreases the working efficiency.

An object of the invention is to provide a window cleaning wiper solving the aforementioned problems in the prior art window cleaning wipers.

Summary of the Invention

According to the invention, there is provided a window cleaning wiper including a wiping member and a handle member releasably supporting the wiping member and adapted to be gripped by a hand, in which, the wiping member is formed of elastomer material and having an elongated configuration, a core metal having a sufficient rigidity and an elongated configuration is provided within the wiping member.

Preferably, a handle member is connected to the wiping member at a portion of the wiping member having therein the core metal.

By incorporating the core metal in the elastomer member, it is possible to prevent the exposure of the core metal out of the elastomer member, to prevent the scratches or damages of window panes or sashes, and to decrease the widthwise size of the handle member. Further, the rigidity of the wiping member is improved, which can prevent the deflection of the wiping member, can improve the wiping quality and can improve the working efficiency.

Brief Description of the Drawings

Further objects and advantages of the invention will become apparent from the following descriptions in conjunction with attached drawings in which:

Fig. 1 is a plan view of a window wiper according to a preferred embodiment of the present invention;
Fig. 2 is a plan view of a wiping member of the window wiper of Fig. 1;
Fig. 3 is an enlarged sectional view taken along line A-A in Fig. 2;
Fig. 4 is a plan view of a prior art window wiper, and
Fig. 5 is an enlarged side view of the window wiper shown in Fig 4.

Detailed Description of Preferred Embodiments

Fig.4 and Fig. 5 show a typical prior art window wiper which includes a wiping member 11 formed preferably of an elastomer material such as rubber and the like. The left end 11a of the wiping member 11 as viewed in Fig.5 acts as a wiping end. A retaining member 14 formed usually of a metal and the like covers the substantial portion of the retaining member 11, and stoppers 15 are provided between the retaining member 14 and the wiping member 11 on longitudinal opposite ends and upper and lower sides thereof.

A handle member not shown in the drawings is usually connected to the retaining member 14.

The stoppers 15 and the retaining member 14 are formed of metal and, thus, the metal portions are largely exposed to the outside of the window wiper and which may sometimes scratch the surface of the pane and injure the sash of the windows. Accordingly, it is required to handle the wipers carefully, which decreases the working efficiency.

An embodiment of the present invention shown in Fig. 1 through Fig. 3 comprises a wiping member 1 generally formed of elastomer material such as rubber and the like, and widthwise one end (the upper end in Fig. 1 and Fig. 2 and, the left end in Fig. 3) acts as a wiping end. It will be understood that the thickness of the wiping end may be reduced with respect to the remaining portion of the wiping member.

A core member 2 formed of a rigid material such as a metal rod and the like is provided in the wiping member 1 as shown in Fig. 3. A handle member 3 is connected to the wiping member 1. It will be understood that the handle member 3 is not required to extend along the substantial length (the length in the horizontal direction as viewed in Fig. 1) of the wiping member 1 since the core member 2 effectively prevents the deflection of the wiping member 1.

The core member 2 and the wiping member 1 are preferably formed by such as an insert forming process, then, the metal portion is completely covered by the elastomer material and does not exposed to the outside. Further, the handle portion 3 can be connected to the lengthwise central portion of the wiping member 1, thereby the stoppers 15 as shown in Fig. 5 may be omitted, and the metal parts do not injure the surface of the pane.

Further, the core member 2 effectively prevents the deflection of the wiping member 1, thus, unevenness of the wiping due to the deflection of the wiping member is effectively prevented, which can reduce the working time and improve the working efficiency.

The core member 2 shown in Fig. 3 has a circular cross-section, however, but it will be understood that the core member 2 may have any desired cross-section.

It will be understood that the embodiment shown in the drawings is a mere example of this invention and, those skilled in the art can easily made various changes and modifications within the scope of this invention.

Claims

1. A window cleaning wiper including a wiping member and a handle member releasably supporting the wiping member and adapted to be gripped by a hand, in which, the wiping member is formed of elastomer material and having an elongated configuration, a core member having a sufficient rigidity and an elongated configuration is provided within the wiping member.

2. A window cleaning wiper according to claim 1, in which a handle member is connected to the wiping member at a portion of the wiping member having therein the core member.

3. A window cleaning wiper according to claim 1, in which a handle member is connected to the wiping member at generally lengthwise central portion of the wiping member and is connected to the core member through the wiping member.

FIG. 1

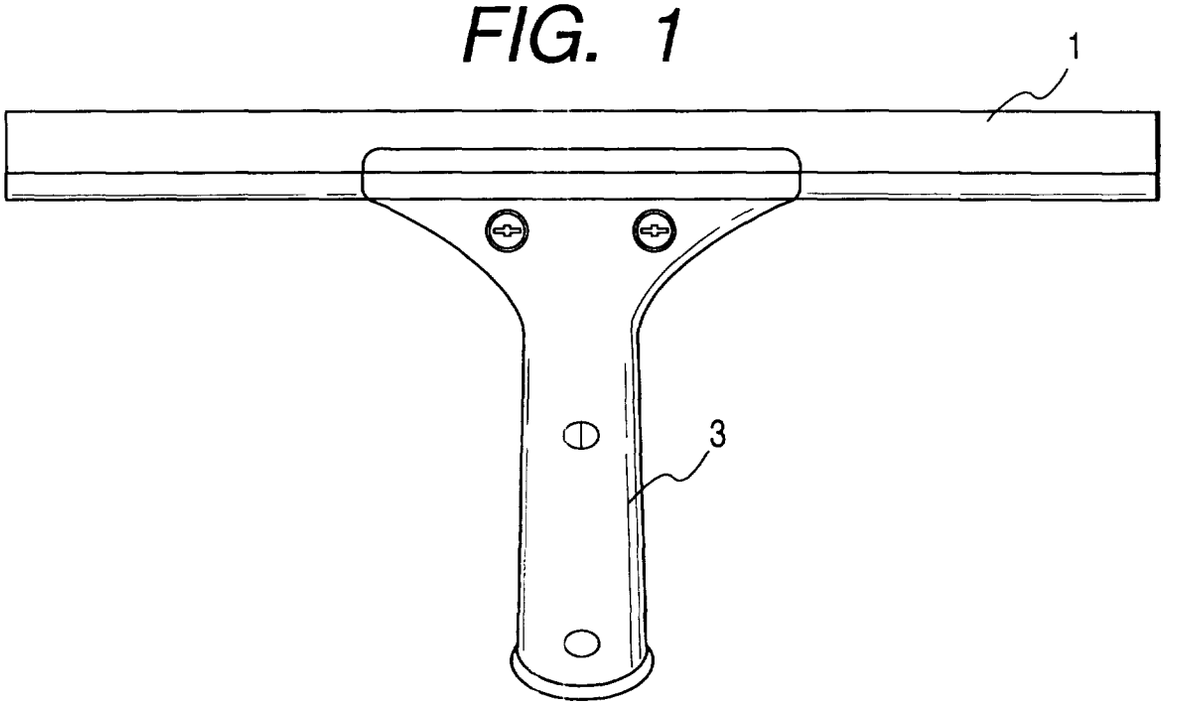


FIG. 2

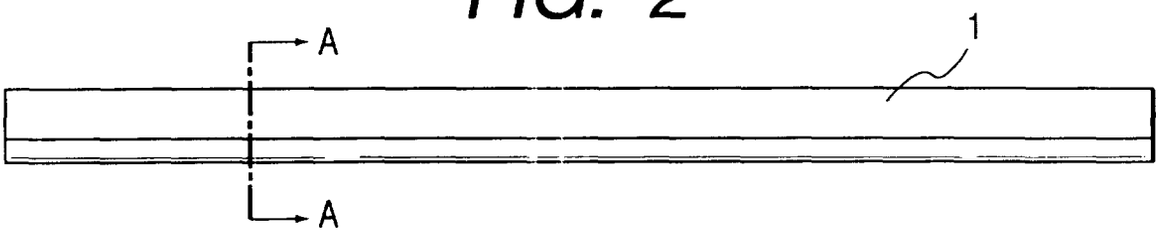


FIG. 3

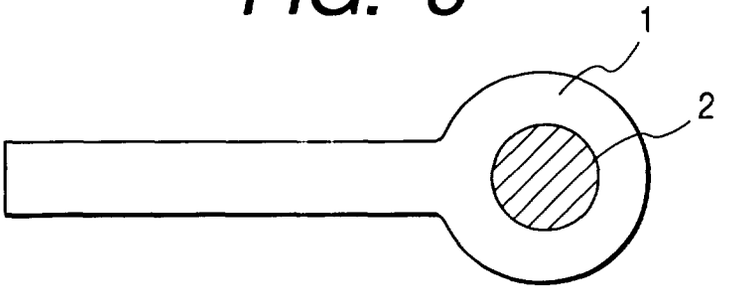


FIG. 4 PRIOR ART

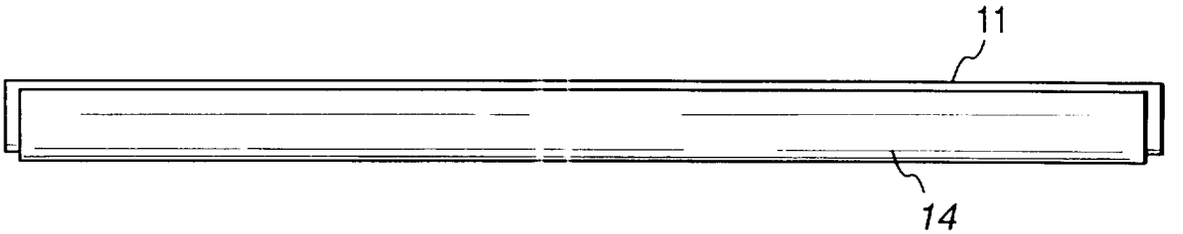
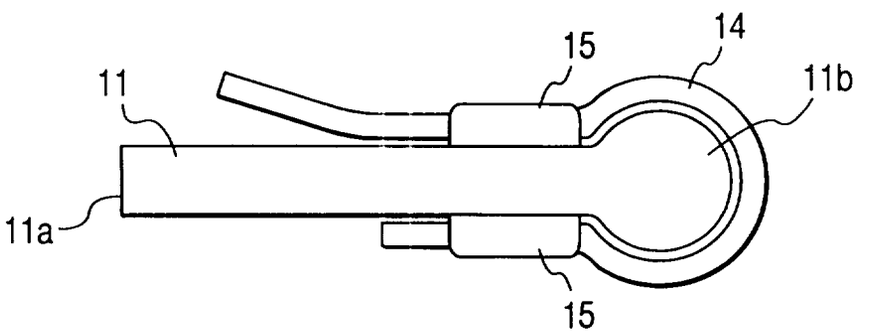


FIG. 5 PRIOR ART



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EUROPEAN SEARCH REPORT

Application Number
EP 97 30 3672

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 3 766 591 A (F. S. SOITO) * column 1, line 13 - line 27 * * column 1, line 57 - column 3, line 31 * * claims 1-4; figures * ---	1-3	A47L1/06
X	US 2 852 798 A (A. M. GROSSFELD) * column 1, line 40 - line 50 * * column 2, line 13 - line 18 * * figures * ---	1-3	
X	US 2 230 489 A (A. GROSSFELD ET AL) * page 1, left-hand column, line 19 - line 27 * * page 1, left-hand column, line 53 - right-hand column, line 42 * * figures * ---	1-3	
A	US 2 265 551 A (E. STECCONE) * page 1, right-hand column, line 1 - line 7; figures * ---	1-3	
A	US 4 075 730 A (H. A. SIEMUND) ---		TECHNICAL FIELDS SEARCHED (Int.Cl.6) A47L
A	DE 44 09 084 A (H. RAAB) -----		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	17 September 1997	Bourseau, A-M

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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