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(54) **MULTI-UTILITY CLEANING DEVICE**

(57) It is disclosed a cleaning device comprising a handle with a deployment assembly further comprising a spring loaded and pivotably arranged carrier having fixing means for a washcloth, wherein the carrier being fully retractable between two support bodies, wherein the attaching means for auxiliary equipment is adapted to connect to one of the support bodies, which attaching means protrudes in an inclined manner away from said support body and extending lengthwise substantially as far as the support body.

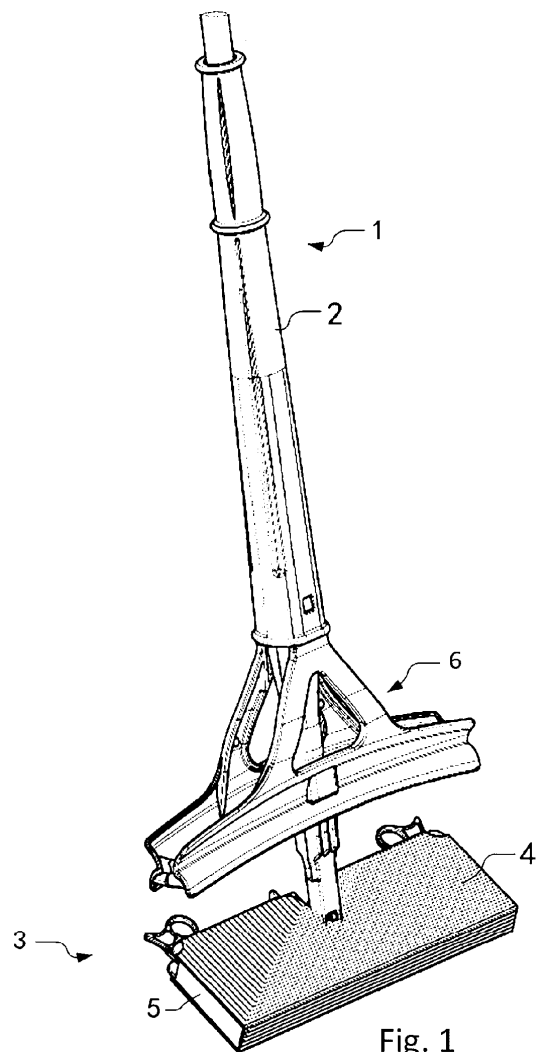


Fig. 1

Description**Reference numerals****Technical field****[0009]**

[0001] The present invention relates to a multi utility cleaning device.

Background

[0002] Publication WO2015/000878 disclose a device for cleaning floors. The device is designed to ease the labour of the user, e.g. by eliminating the need for the washcloth to be detached for rinsing. Said device could also be used for several other purposes, such as cleaning windows, but would then need additional features to maintain its ease of use. When cleaning windows a squeegee is required, which means that the prior art cleaning device will not suffice alone. Another issue with regard to cleaning of windows, is the limited reach caused by the short shaft of said device.

[0003] US patent 7334285 discloses a mop head including an adapter which may be removable attached to hold a cleaning implement such as a scrubber pad or brush. However, in order to mount the cleaning implement the mop head must be disassembled and then re-assembled.

Summary of the invention

[0004] The present invention is a further development of the prior art WO2015/000878.

[0005] By incorporating attaching means for auxiliary equipment to the support bodies of the prior art cleaning device, the field of application of the device is enhanced. The auxiliary equipment, e.g. a squeegee, is easily enabled by retracting the washcloth. In this way the new multi utility cleaning device can provide further required features for a given operation, within the same device.

[0006] By having a telescopic handle or adapting the handle for add-on extensions, the reach of the cleaning device is greatly increased. With an increased reach, said cleaning device is optimized for cleaning windows or tall surfaces, such as water boards.

[0007] These objects are fully or partially achieved by a device according to the independent claim. Preferred embodiments are set forth in the dependent claims.

Brief Description of Figures

[0008] The invention will now be described with reference to the exemplifying embodiments shown in the accompanying drawings, wherein:

Fig. 1 shows the prior art cleaning device,
Fig. 2 shows the prior art cleaning device,
Fig. 3 shows a view of the present invention, and
Fig. 4 shows section cut of the present invention.

- 5 1 Cleaning device
- 2 Handle
- 3 Deployment assembly
- 4 Washcloth
- 5 Pivotably arranged carrier
- 10 6 Support body
- 7 Attaching means
- 8 Auxiliary equipment

Detailed description

- 15 **[0010]** Fig. 1 and 2 shows the prior art cleaning device 1 in extended position and partly retracted position (fully retracted are illustrated with dotted lines), respectively. The cleaning device 1 has a handle 2 for a user to grab.
- 20 This handle 2 can be telescopic or adapted for add-on extensions. From the handle 2, a deployment assembly 3 can be operated between a retracted and an extended position. The deployment assembly 3 comprise a pivotably arranged carrier 5 which has attaching means for a washcloth 4. The pivoted carrier 5 ensures a smooth alignment with the surface to be cleaned. If no external force is applied to the carrier 5, a spring will force it back to a default position. Two support bodies 6 are arranged at the end of the handle 2, parallel to the orientation of the carrier 5 in its default position. In the extended position, the carrier 5 is extended beyond the support bodies 6. In the retracted position, the carrier 5 is fully retracted between the two support bodies 6. A washcloth 4 fixed to the carrier 5 will be wringed when passing between the support bodies 6.
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- [0011]** Fig. 3 shows a view of a modified support body 6. The support body 6 has attaching means 7 for auxiliary equipment 8, such as a squeegee, an ice scraper or a toothed spatula. In a central region of the support body 6 there is an aperture to which the attaching mean interfaces. Fig. 4 shows a section cut of the modified support body 6 with the attaching means 7 installed. At a rear end the interfacing area of the attaching means 7 has a first hook/clip and at a front end a second hook/clip holding it in place. Said hook/clip can be resilient. Other alternatives comprise force fit, slide fit, magnets or a combination thereof. The attaching means 7 are detachably attached to the support body 6. When installed, the attaching means 7 protrudes away from the support body 6 in an inclined manner in the longitudinal direction of the support body 6. The attaching means extends lengthwise substantially as far as the support body 6.
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- [0012]** For the purpose of cleaning windows of a house, the described configuration enables an operator to perform the entire cleaning operation with only one device. With the multi utility cleaning device 1 in the extended position, the operator will soak the washcloth 4 in soapy water before wringing it by shifting the device to its re-
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tracted position. By re-entering the extended position, the washcloth 4 is ready and available for cleaning purposes. Once a window has been completely or partially cleaned with the washcloth 4, the washcloth 4 can be retracted in order to make the squeegee 8 available for use. After squeegeeing, the operation can be repeated, still without having to change device. 5

[0013] Other fields of use are windows of cars, in particular buses. In such cases, potential auxiliary equipment 8 comprises a squeegee and in cold climates also an ice scraper. Further fields of use are painting and tile jointing. 10

Claims

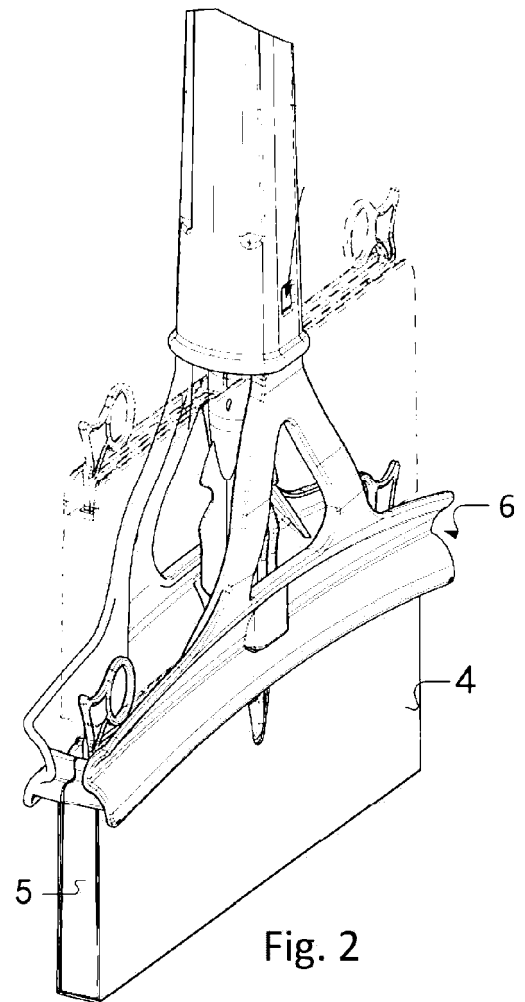
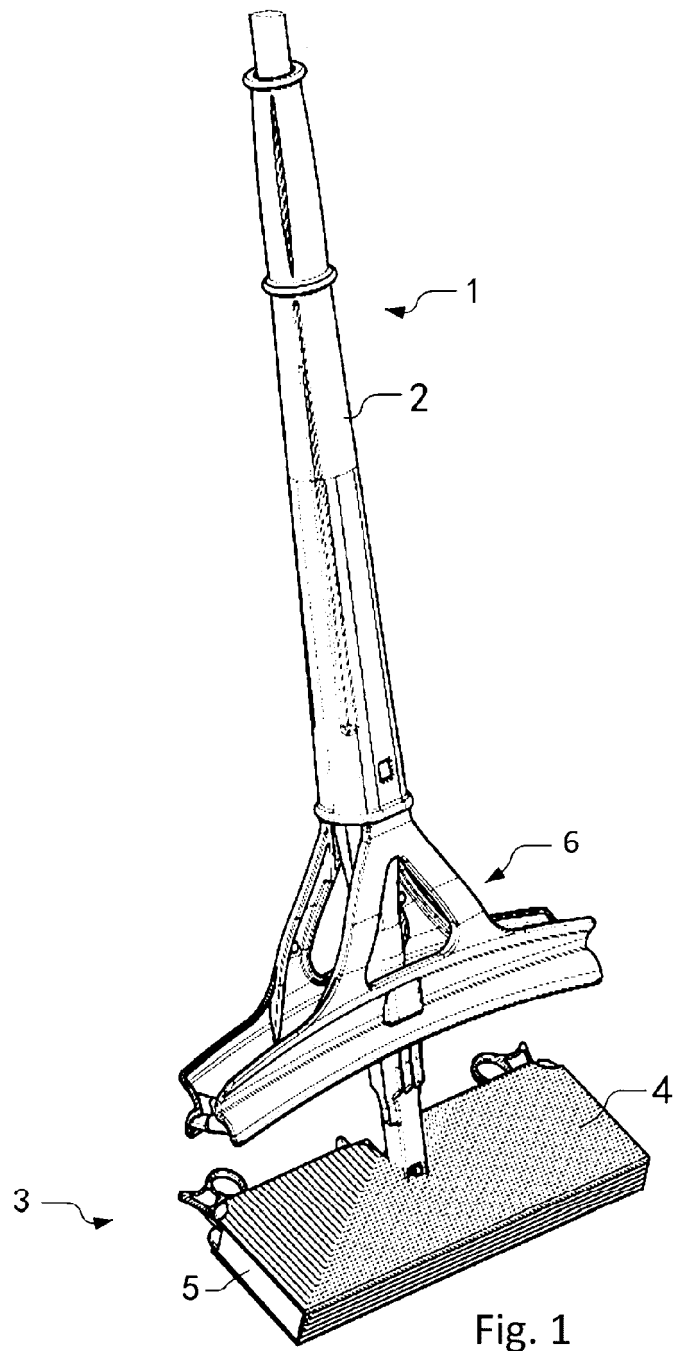
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1. A cleaning device comprising a handle (2) with a deployment assembly (3) further comprising a spring loaded and pivotably arranged carrier (5) having fixing means for a washcloth (4), wherein the carrier being fully retractable between two support bodies (6), 20

characterized in that

attaching means (7) for auxiliary equipment (8) is adapted to connect to one of the support bodies (6), which attaching means protrudes in an inclined manner away from said support body and extending lengthwise substantially as far as the support body; wherein the attaching means (7) interface an aperture in the support body (6) and wherein the attaching means (7) has at least two oppositely oriented hooks and at least one of said hooks are resilient, which allows for the attaching means (7) for auxiliary equipment (8) to be attached to or detached from one of the support bodies (6) without disassembling the cleaning device. 25 30 35

2. The cleaning device according to claim 1, wherein the attachment of the attaching means (7) are selected from the group of force fit, slide fit, clips, hooks, magnets or any combinations thereof. 40
3. The cleaning device according to any preceding claim, wherein the attaching means (7) is detachably attached to the support body (6). 45
4. The cleaning device according to any preceding claim, wherein the cleaning device is substantially made of synthetic polymers. 50
5. The cleaning device according to any preceding claim, wherein the handle (2) is telescopic or adapted for add-on extensions.
6. The cleaning device according to any preceding claim, wherein the auxiliary equipment (8) is a squeegee, an ice scraper or a toothed spatula. 55



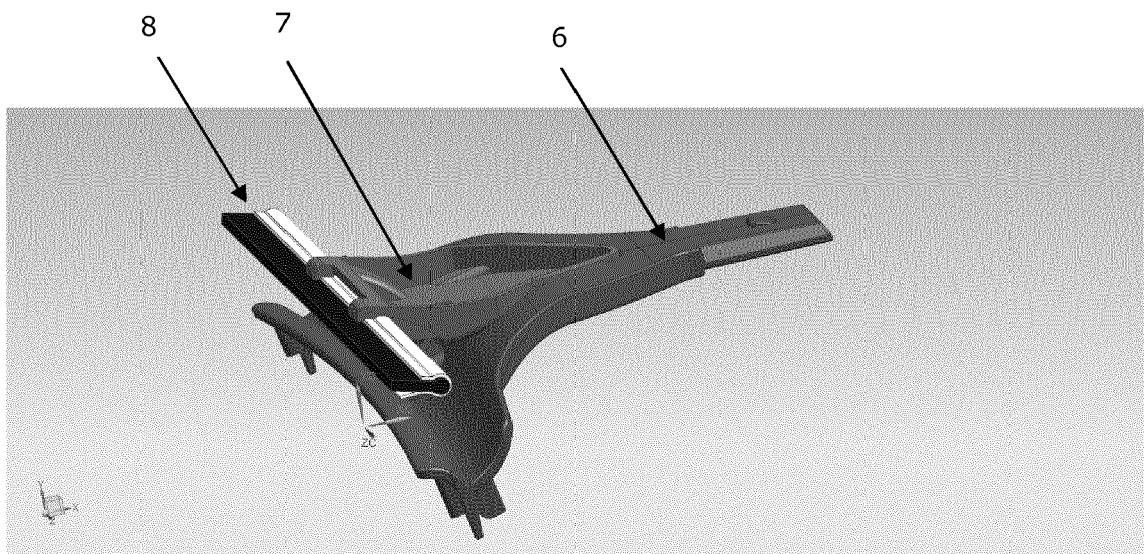


Fig. 3

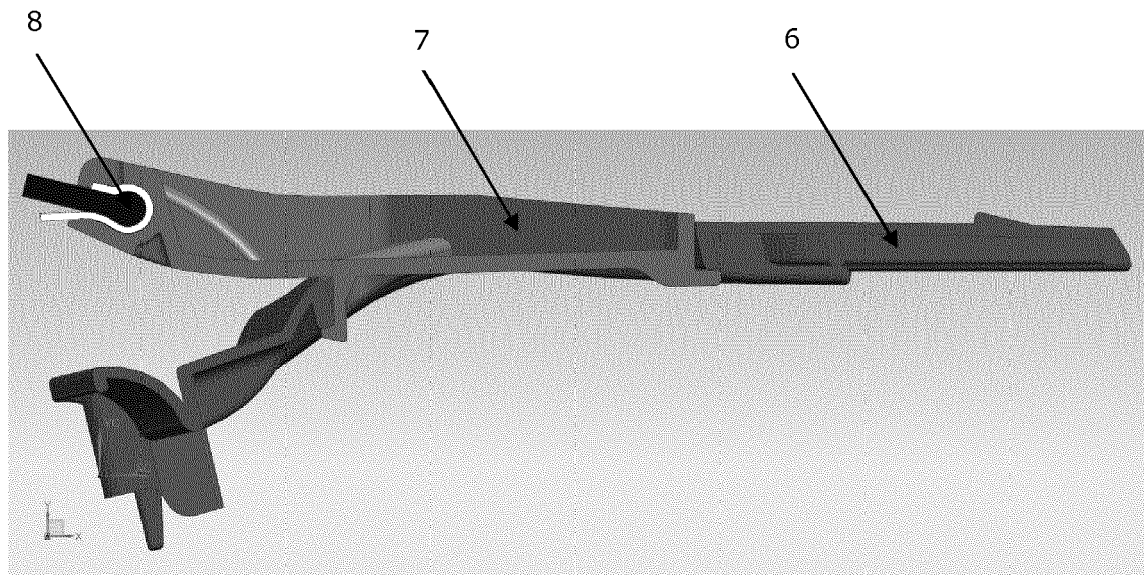


Fig. 4



EUROPEAN SEARCH REPORT

 Application Number
 EP 19 19 1590

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 28 January 2020	Examiner Trimarchi, Roberto
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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 EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 19 19 1590

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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