



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**18.01.2023 Bulletin 2023/03**

(51) International Patent Classification (IPC):  
**B05C 17/02 (2006.01)**

(21) Application number: **21185135.7**

(52) Cooperative Patent Classification (CPC):  
**B05C 17/0225; B05C 17/02**

(22) Date of filing: **12.07.2021**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**  
Designated Validation States:  
**KH MA MD TN**

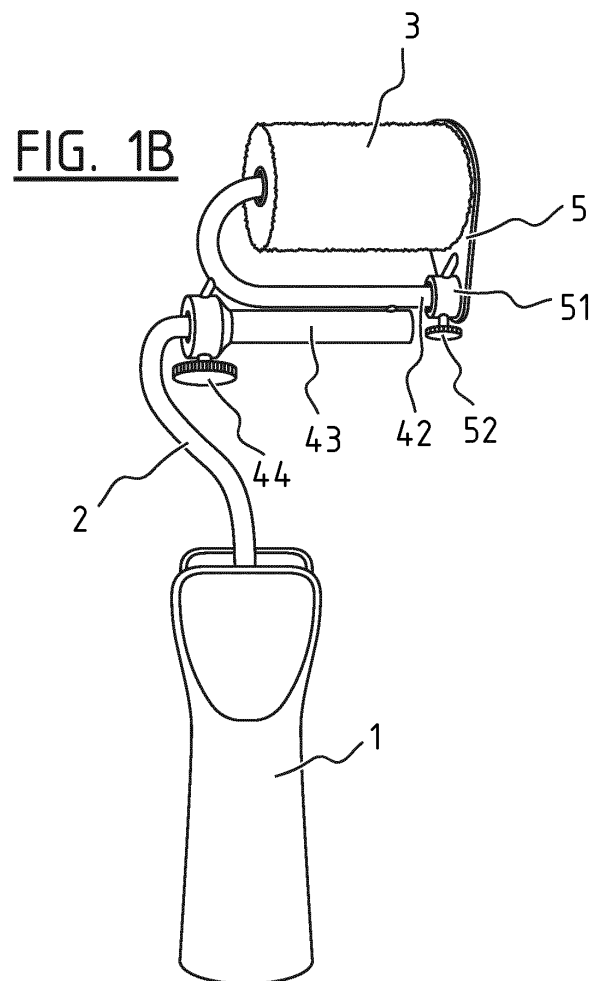
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(54) **AN AUXILIARY PAINT ROLLER MOUNTING DEVICE FOR USE WITH PAINT ROLLER BRACKETS**

(57) An auxiliary paint roller mounting device for use with paint roller brackets (1), comprising: an auxiliary wire frame (4) having a substantially U-shape having a first and a second leg (41, 42) which are parallel to each other, wherein the first leg of said auxiliary wire frame forms an auxiliary shaft having an outer diameter D3 arranged to receive one of said paint rollers (3) having said hollow shaft with said internal diameter D2 which matches the outer diameter D3, wherein the outer diameter D3 of the auxiliary wire frame is substantially equal to the outer diameter D1 of the wire frames of the paint roller brackets, wherein the second leg of said auxiliary wire frame is provided with means (43) to attach the auxiliary wire frame to the shaft of the wire frame (2) of one of said paint roller brackets, such that in the mounted state the auxiliary shaft of the auxiliary wire frame extends parallel to the shaft of the paint roller bracket on which it is mounted, wherein the auxiliary wire frame is further provided with a shield (5) which is movable between a paint roller changing position wherein said paint rollers can be detached from the auxiliary shaft and replaced by another one of said paint rollers, and a working position wherein the shield covers a free end face of the paint roller.



## Description

**[0001]** The invention relates to paint roller brackets comprising a handle and a wire frame extending from said handle and wherein the outer end of said wire frame forms a shaft having an outer diameter D1 and arranged to receive paint rollers having a hollow shaft with an internal diameter D2 which matches the outer diameter D1, wherein said paint roller bracket is provided with a shield which is movable between a paint roller changing position wherein said paint rollers can be detached from the auxiliary shaft and replaced by another one of said paint rollers, and a working position wherein the shield covers a free end face of the paint roller. Such paint roller brackets are disclosed in for instance DE 1 935 417 U, DE 1 277 082 B, DE 44 19 672 C1, DE 203 05 209 U1 and EP 3 388 154 A1. The shield may be generally plate shaped and further shaped such that in the working position it limits the application of paint on the side and enables a straight and clean edge of the paint applied to a surface by the paint roller. Thereby there is no need to use masking tape on the surface to cover the surface not to be painted in order to achieve such a straight and clean edge.

**[0002]** The aim of the invention is to provide a flexible and easy to use solution, which is applicable to existing standard paint rollers.

**[0003]** According to the invention an auxiliary paint roller mounting device in accordance with claim 1 is provided. Said auxiliary paint roller mounting device comprises an auxiliary wire frame having a substantially U-shape having a first and a second leg which are parallel to each other, wherein the first leg of said auxiliary wire frame forms an auxiliary shaft having an outer diameter D3 arranged to receive one of said paint rollers having said hollow shaft with said internal diameter D2 which matches the outer diameter D3, wherein the outer diameter D3 of the auxiliary wire frame is substantially equal to the outer diameter D1 of the wire frames of the paint roller brackets, wherein the second leg of said auxiliary wire frame is provided with means to attach the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets, such that in the mounted state the auxiliary shaft of the auxiliary wire frame extends parallel to the shaft of the paint roller bracket on which it is mounted. According to the invention said auxiliary wire frame is provided with the shield.

**[0004]** The shield is preferably shaped such that in the working position an outer circumference of the shield has substantially the same circular shape as the radial outer circular circumference of said paint rollers, seen in cross section, at the location where a mounted one of said paint rollers is designed to apply paint to a surface. Preferably said circular outer circumference has a slightly smaller diameter than the radial outer circular circumference of said paint rollers, seen in cross section, at the location where a mounted one of said paint rollers is designed to apply paint to a surface, in order to allow the roller to

apply the paint on the surface.

**[0005]** The surface of said shield is preferably substantially pear-shaped whereby the shield has a relatively narrow part and a relatively wide part, wherein the wide part of the shield covers the free end face of the paint roller in the working position and the narrow part of the shield is attached to the second leg.

**[0006]** The shield is preferably mounted on the outer end of the second leg. The shield is preferably mounted on the outer end of the second leg in such a manner that in the working position the shield extends between the outer end of the second leg and the outer end of the first leg, and in the paint roller changing position it extends from the outer end of the second leg to a position away from the outer end of the first leg. Preferably the shield is mounted on the outer end of the second leg in such a manner that it is rotatable around the axis of the second leg between the working position and the paint roller change position. When the shield is (partly) rotated towards the paint roller change position it is also possible to dip the roller 3 in paint without the shield 5 being covered in paint.

**[0007]** The outer end of said second leg preferably comprises a shaft having an outer diameter D4, the shield comprises a sleeve for mounting the shield to said shaft, and said sleeve has an inner diameter D5 which matches the outer diameter D4, and said sleeve comprises a threaded radial screw hole and a first matching screw which can be screwed against said shaft of the second leg for fixing the shield in the working position.

**[0008]** Said means to attach the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets preferably comprises a sleeve on said second leg for mounting the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets, and said sleeve has an inner diameter D6 which matches the outer diameter D1 of the shafts of the wire frames of the paint roller brackets, and said sleeve comprises a threaded radial screw hole and a second matching screw which can be screwed against said shaft of the wire frame of said paint roller bracket for fixing the auxiliary wire frame to the shaft of the wire frame of said paint roller bracket.

**[0009]** Preferably said sleeve on said second leg for mounting the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets has substantially the same shape and size as the hollow shaft of the paint rollers.

**[0010]** The auxiliary wire frame is preferably made of a wire which is bent in a U-shape, wherein said wire is of the same diameter as the wire of which the wire frames of the paint roller brackets are made. Said wire is preferably a metal wire. Said sleeve is preferably attached against and parallel to the second leg of the auxiliary wire frame.

**[0011]** Said first and/or second screws are preferably manually operable screws.

**[0012]** The invention will now be illustrated by means of a preferred embodiment, as shown in the figures,

wherein:

Figure 1A is a perspective view of a paint roller bracket with a paint roller, and an auxiliary paint roller mounting device in accordance with the invention in an unmounted state;

Figure 1B is a perspective view of the paint roller bracket with the paint roller, and the auxiliary paint roller mounting device of Figure 1A in a mounted working position; and

Figure 1C is a perspective view of the paint roller bracket with the paint roller, and the auxiliary paint roller mounting device of Figure 1A in a mounted paint roller changing position.

**[0013]** According to the figures a paint roller bracket comprises a handle 1 and a wire frame 2 extending from said handle 1. The outer end of the wire frame 2 forms a shaft 21 having an outer diameter. Said shaft 21 is arranged to receive paint rollers 3, which have a hollow shaft 31 with an internal diameter which matches the outer diameter of the shaft 21, such that (if the auxiliary device according to the current invention is not used) the paint roller 3 can be rotatably mounted on the shaft 21.

**[0014]** However, according to the invention an auxiliary paint roller mounting device for use with the paint roller bracket is used. The auxiliary paint roller mounting device comprises a U-shaped auxiliary wire frame 4 made of a bent metal wire, with a first leg 41 and a second leg 42 which are parallel to each other. The first leg 41 forms an auxiliary shaft with an outer diameter which is equal to the outer diameter of the shaft 21, such that it is equally arranged to receive a paint roller 3.

**[0015]** The second leg 42 of the auxiliary wire frame 4 is provided with means 43 to attach the auxiliary wire frame 4 to the shaft 21 of the wire frame 2 of one of said paint roller brackets, such that in the mounted state the auxiliary shaft of the auxiliary wire frame extends parallel to the shaft of the paint roller bracket on which it is mounted,

**[0016]** The auxiliary wire frame is further provided with a shield 5 which is rotatable around the shaft 42 between a paint roller changing position (as shown in Figure 1C) wherein the paint roller 3 can be detached from the auxiliary shaft 41 and replaced by another paint roller 3, and a working position (as shown in Figure 1B) wherein the shield 5 covers and extends immediately adjacent the free end face 32 of the paint roller 3. The shield 5 is plate shaped, and the surface of the shield 5 is pear-shaped. The narrow part of the shield 5 comprises a sleeve 51 having an inner diameter which matches the outer diameter of the outer end of the second leg 42 for mounting the shield 5 to the outer end of the second leg 42. When the shield is (partly) rotated towards the paint roller change position as shown in Figure 1C it is also possible to dip the roller 3 in paint without the shield 5 being cov-

ered in said paint, such that the edge of the shield 5 remains clean.

**[0017]** The sleeve 51 comprises a threaded radial screw hole and a matching manually operable screw 52 which can be screwed against the shaft of the second leg 42 for fixing the shield 5 in the working position. In the working position the wide part of the shield 5 covers the free end face 32 of the paint roller 3, and at the top half of the roller 3 where the paint roller 3 applies paint to a surface the outer circumference of the shield 5 has the same circular shape as the radial outer circular circumference of the paint roller 3.

**[0018]** In order to attach the auxiliary wire frame 4 to the shaft 21 of the wire frame 2 a mounting sleeve 43 is welded against and parallel to the second leg 42 of the auxiliary wire frame 4. Said sleeve 43 has an inner diameter which matches the outer diameter of the shaft 21 of the wire frame 2, and the cylindrical core of the sleeve 43 thus has substantially the same shape and size as the hollow shaft 31 of the paint rollers 3. The sleeve 43 comprises a threaded radial screw hole and a matching manually operable screw 44 which can be screwed against the shaft 21 of the wire frame 2 for fixing the auxiliary wire frame 4 to the shaft 21 of the paint roller bracket 2.

**[0019]** The invention has thus been described by means of a preferred embodiment. It is to be understood, however, that this disclosure is merely illustrative. Various details of the structure and function were presented, but changes made therein, to the full extent extended by the general meaning of the terms in which the appended claims are expressed, are understood to be within the principle of the present invention. The description and drawings shall be used to interpret the claims. The claims should not be interpreted as meaning that the extent of the protection sought is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. For the purpose of determining the extent of protection sought by the claims, due account shall be taken of any element which is equivalent to an element specified therein. An element is to be considered equivalent to an element specified in the claims at least if said element performs substantially the same function in substantially the same way to yield substantially the same result as the element specified in the claims.

## Claims

1. An auxiliary paint roller mounting device for use with paint roller brackets, said paint roller brackets comprising a handle and a wire frame extending from said handle and wherein the outer end of said wire frame forms a shaft having an outer diameter D1 and arranged to receive paint rollers having a hollow shaft with an internal diameter

D2 which matches the outer diameter D1, wherein said auxiliary paint roller mounting device comprises:

- an auxiliary wire frame having a substantially U-shape having a first and a second leg which are parallel to each other, wherein the first leg of said auxiliary wire frame forms an auxiliary shaft having an outer diameter D3 arranged to receive one of said paint rollers having said hollow shaft with said internal diameter D2 which matches the outer diameter D3, wherein the outer diameter D3 of the auxiliary wire frame is substantially equal to the outer diameter D1 of the wire frames of the paint roller brackets, wherein the second leg of said auxiliary wire frame is provided with means to attach the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets, such that in the mounted state the auxiliary shaft of the auxiliary wire frame extends parallel to the shaft of the paint roller bracket on which it is mounted, wherein the auxiliary wire frame is further provided with a shield which is movable between a paint roller changing position wherein said paint rollers can be detached from the auxiliary shaft and replaced by another one of said paint rollers, and a working position wherein the shield covers a free end face of the paint roller.
2. The device in accordance with claim 1, wherein the shield is shaped such that in the working position it limits the application of paint on the side and enables a straight and clean edge of the paint applied to a surface by the paint roller.
  3. The device in accordance with claim 1 or 2, wherein the shield is shaped such that in the working position an outer circumference of the shield has substantially the same circular shape as the radial outer circular circumference of said paint rollers, seen in cross section, at the location where a mounted one of said paint rollers is designed to apply paint to a surface.
  4. The device in accordance with claim 3, wherein said circular outer circumference has a slightly smaller diameter than the radial outer circular circumference of said paint rollers, seen in cross section, at the location where a mounted one of said paint rollers is designed to apply paint to a surface.
  5. The device in accordance with any of the previous claims, wherein said shield is plate shaped.
  6. The device in accordance with any of the previous claims, wherein the surface of said shield is substantially pear-shaped whereby the shield has a relatively narrow part and a relatively wide part, wherein the wide part of the shield covers the free end face of the paint roller in the working position and the narrow part of the shield is attached to the second leg.
  7. The device in accordance with any of the previous claims, wherein the shield is mounted on the outer end of the second leg.
  8. The device in accordance with claim 7, wherein the shield is mounted on the outer end of the second leg in such a manner that in the working position the shield extends between the outer end of the second leg and the outer end of the first leg, and in the paint roller changing position it extends from the outer end of the second leg to a position away from the outer end of the first leg.
  9. The device in accordance with claim 7 or 8, wherein the shield is mounted on the outer end of the second leg in such a manner that it is rotatable around the axis of the second leg between the working position and the paint roller change position.
  10. The device in accordance with any of the previous claims, wherein the outer end of said second leg comprises a shaft having an outer diameter D4, the shield comprises a sleeve for mounting the shield to said shaft, and said sleeve has an inner diameter D5 which matches the outer diameter D4, and said sleeve comprises a threaded radial screw hole and a first matching screw which can be screwed against said shaft of the second leg for fixing the shield in the working position.
  11. The device in accordance with any of the previous claims, wherein said means to attach the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets comprises a sleeve on said second leg for mounting the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets, and said sleeve has an inner diameter D6 which matches the outer diameter D1 of the shafts of the wire frames of the paint roller brackets, and said sleeve comprises a threaded radial screw hole and a second matching screw which can be screwed against said shaft of the wire frame of said paint roller bracket for fixing the auxiliary wire frame to the shaft of the wire frame of said paint roller bracket.
  12. The device in accordance with any of the previous claims, wherein said sleeve on said second leg for mounting the auxiliary wire frame to the shaft of the wire frame of one of said paint roller brackets has substantially the same shape and size as the hollow shaft of the paint rollers.
  13. The device in accordance with any of the previous

claims, wherein the auxiliary wire frame is made of a wire which is bent in a U-shape, wherein said wire is of the same diameter as the wire of which the wire frames of the paint roller brackets are made, preferably wherein said wire is a metal wire.

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14. The device in accordance with any of the previous claims, wherein said sleeve is attached against and parallel to the second leg of the auxiliary wire frame.

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15. The device in accordance with any of the previous claims, wherein said first and/or second screws are manually operable screws.

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FIG. 1A

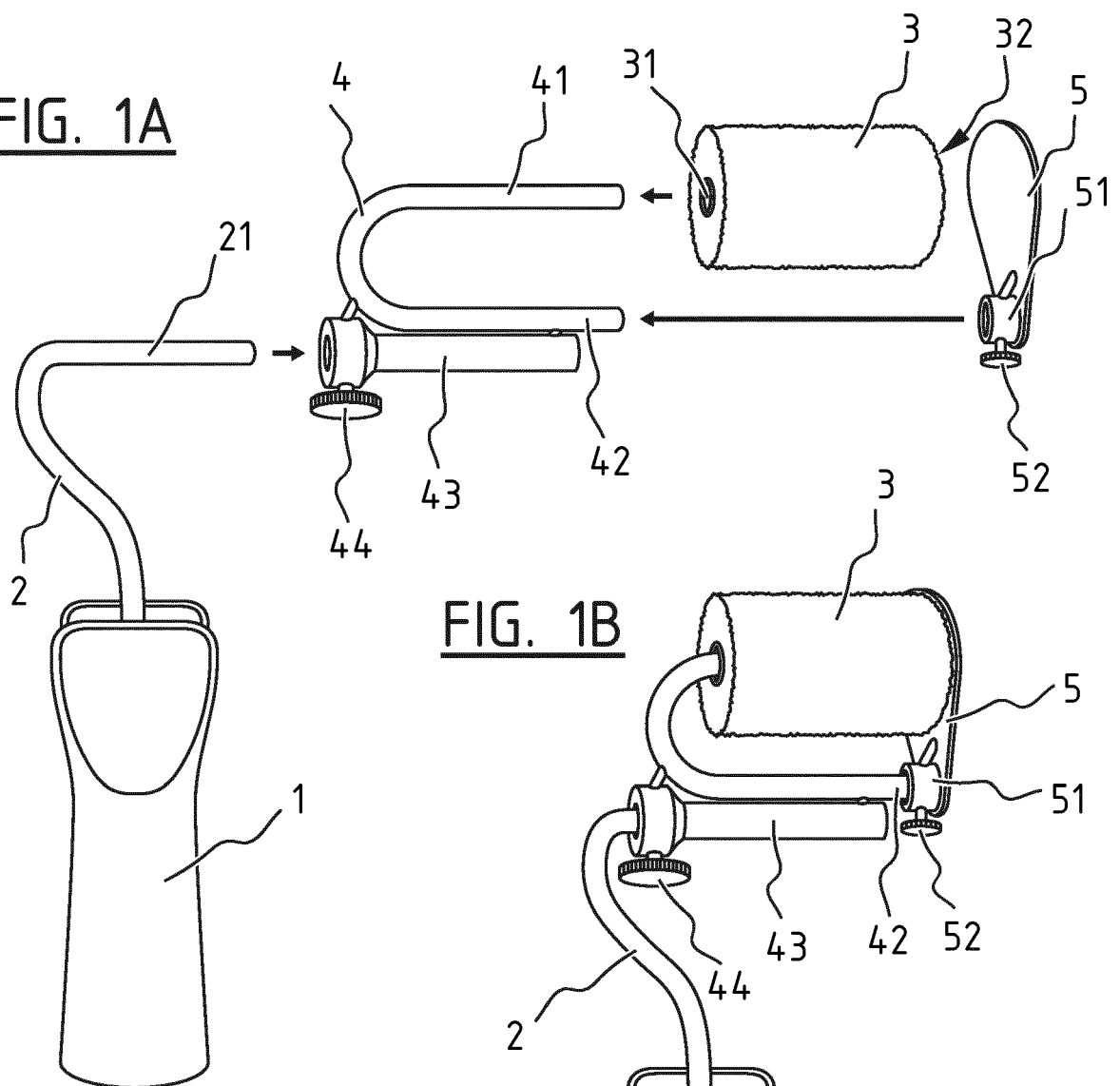


FIG. 1B

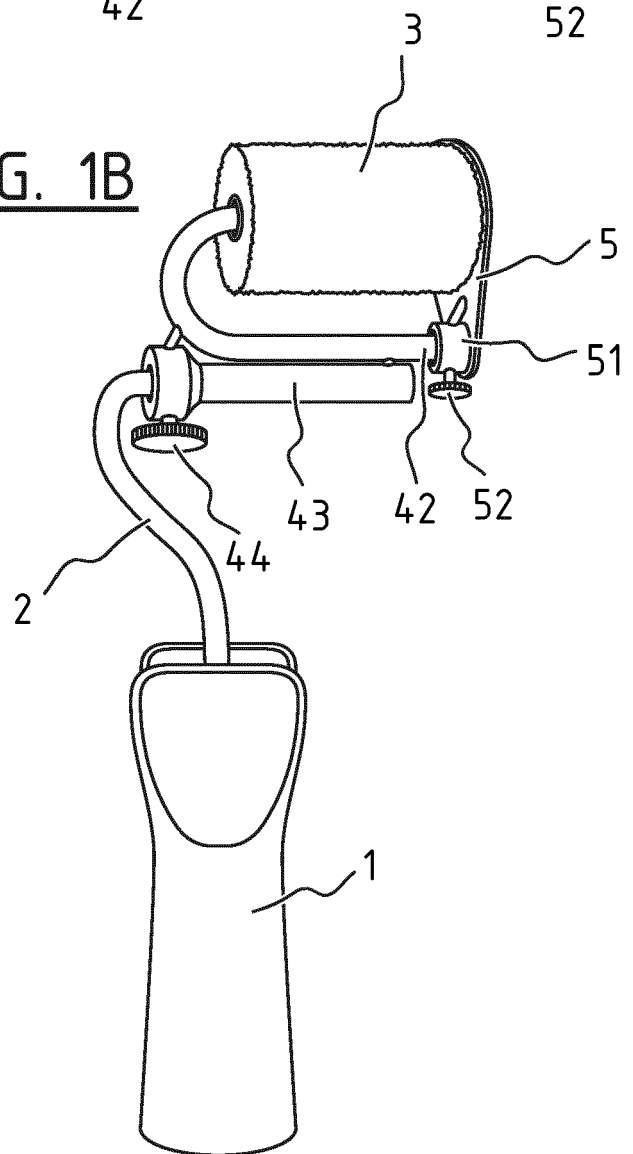
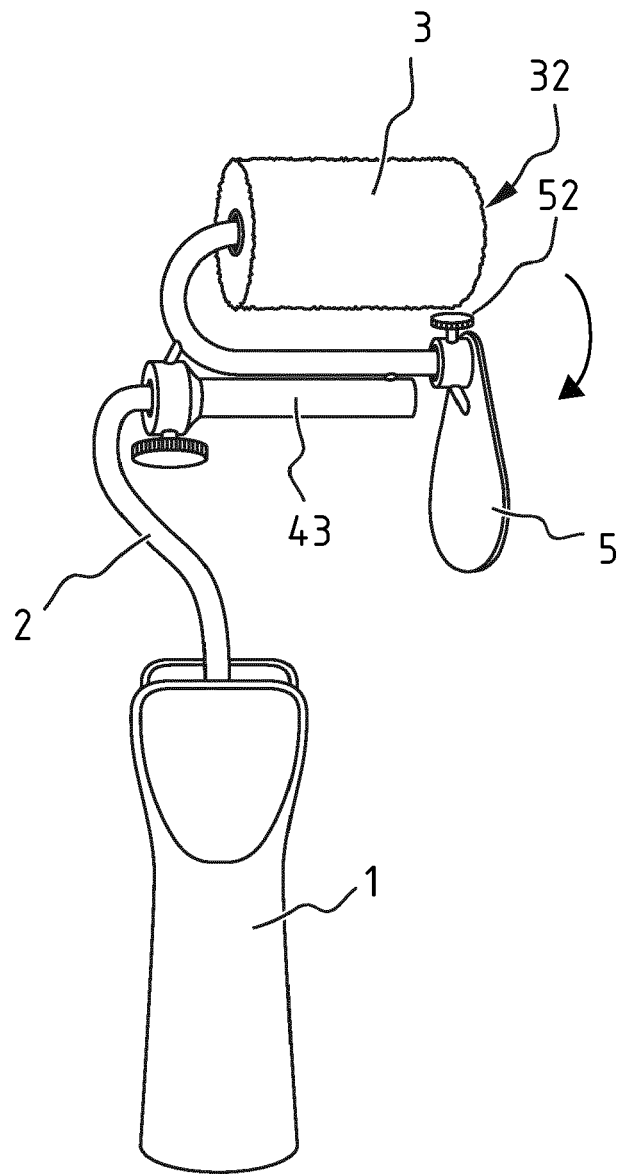


FIG. 1C





## EUROPEAN SEARCH REPORT

Application Number

EP 21 18 5135

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EPO FORM 1503 03.82 (P04C01)

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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>14 December 2021</b>	Examiner <b>Roldán Abalos, Jaime</b>
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			



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

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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**REFERENCES CITED IN THE DESCRIPTION**

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