

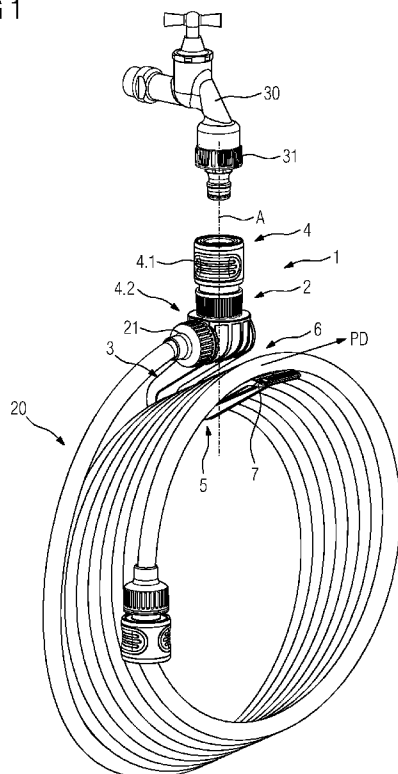


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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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[Continued on next page]

(54) **Title:** HOSE HOLDER

FIG 1



(57) **Abstract:** The invention relates to a hose holder for storing a hose (20) at a water tap (30) comprising a connection portion (2) for connecting the holding device with the water tap (30) and a holding portion (3) for receiving the hose (20), wherein the connection portion (2) comprises a tap connection portion (4) for mechanically and fluidly coupling the hose holder (1) with said water tap (30) and wherein the holding portion (3) comprises a hose receiving area (6) for supporting the coiled hose (20) in a hanging position such that the windings of the coiled hose (20) are arranged in a vertical or essentially vertical plane.

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GW, KM, ML, MR, NE, SN, TD, TG).

— *with international search report (Art. 21(3))*

DescriptionHose holder

The present invention relates generally to the field of hose
5 holding devices. More specifically, the present invention is re-
lated to a hose holder to be attached to a water tap.

BACKGROUND OF THE INVENTION

10 Hose holding devices for storing hoses, specifically water hoses
are well-known in prior art. In the high-price segment, hose
trolleys or hose boxes are known which allow the storage of hos-
es with great length (e.g. 20m or more). Said hose trolleys or
hose boxes require either much space on the floor or may have to
15 be firmly mounted to a wall. Typically, such solutions are not
useful for short hoses.

In the low-price segment, hook-shaped storage devices are known
which can be attached to a wall and are adapted to carry a hose
20 coil. Chinese Patent Application CN 1121971 discloses a hose
storage device to be attached to the supply pipe of the water
tap. When attached to the water tap, the storage device can
swing around and therefore is difficult to handle.

25 SUMMARY OF THE INVENTION

It is an objective of the embodiments of the present invention
to provide a hose holder which is easy to handle and which al-
lows a secure and fixed arrangement at the water tap. The objec-
30 tive is solved by the features of the independent claims. Pre-
ferred embodiments are given in the dependent claims. If not ex-
plicitly indicated otherwise, embodiments of the invention can
be freely combined with each other.

According to an aspect, the invention relates to a hose holder for storing a hose at a water tap. The hose holder comprises a connection portion for connecting the holding device with the water tap. In addition, the hose holder comprises a holding portion for receiving the hose. The connection portion comprises a tap connection portion for mechanically and fluidly coupling the hose holder with said water tap and the holding portion comprises a hose receiving area, specifically a hook-shaped hose receiving area for supporting the coiled hose in a hanging position such that the windings of the coiled hose are arranged in a vertical or essentially vertical plane.

Said hose holder is advantageous because it can be fixedly mounted at the water tap, specifically at the outlet port of the water tap. In addition, a user-friendly usability is obtained because the hose can be stored close to the water tap by securing the hose windings at the holding portion. Before using the hose, the windings of the hose can be simply removed from the holding portion in order to obtain a desired radius of action.

According to embodiments, the connection portion comprises a fluid channel for guiding water received from the water tap to the hose. In other words, a fluid channel is integrated within the connection portion. So, after coupling the connection portion with the water tap, the fluid channel is fluidly coupled with the water outlet of the water tap and the liquid is guided through said fluid channel towards the hose.

According to embodiments, said fluid channel is straight or angled, specifically right-angled. So in other words, the hose connection portion at which the fluid channel ends is provided below the connection portion or laterally next to the connection portion.

According to embodiments, the tap connection portion comprises a quick connector element adapted to be coupled with a tap connector element or the tap connection portion is adapted to receive a quick connector element. Said quick connector element
5 may be a connector element commonly used for coupling a water hose at the water tap. More specifically, the connector element may be a female connector element adapted to receive a male connector element provided at the water tap. The quick connector element may comprise a locking mechanism for securing the coupled state in which the male connector element is at least partially
10 inserted in said female connector element. Said locking mechanism may be disabled by a sliding movement of a ring-shaped portion provided around the female connector element.

15 According to embodiments, the tap connection portion comprises a thread for receiving a quick connector element. Thereby, the quick connector element can be replaced or the hose holder can be adapted to different sizes of male connector elements provided at the water tap.

20 According to embodiments, the quick connector element comprises a fluid channel. Said fluid channel may be arranged in the centre of the quick connector element in order to be coupled with the liquid outlet provided at the water tap. Thus, by means of
25 the quick connector element a mechanical and a fluid connection with the water tap is obtained.

According to embodiments, said tap connection portion comprises a hose connection portion including a hose connector or being
30 adapted to receive a hose connector. So, in other words, the tap connection portion comprises a coupling interface adapted to receive a free end of the hose. Thereby, the hose can be coupled with the hose holder.

According to embodiments, the hose connection portion is coupled with the fluid channel for receiving water provided by the water tap. For example, the hose connection portion comprises a tube section to be inserted in the hose. The tube section may form an integral part of the fluid channel provided in the hose holder.

According to embodiments, the holding portion comprises a hook-shaped section including an inclined hose holding portion. Said hose holding portion may be inclined such that the hose holding portion rises towards its free end. In other words, the hose holding portion may be inclined upwardly. Thereby, the hose windings will slide into the interior of the hose receiving area caused by the gravitation force.

According to embodiments, the hose holder is adapted to be rotated around a vertical axis when coupled with the water tap. Said quick coupling mechanism formed by the connector elements at the hose holder and the water tap may allow a rotational movement of the hose holder around the vertical axis which may be defined by the outlet of the water tap. Thereby, the hose holder may be able to follow the direction into which the hose is pulled.

According to embodiments, the connection portion and the holding portion may be provided by an integrally formed element, e.g. by an injection moulded element. However, said integrally formed element may comprise further elements for coupling the hose holder with the water tap (quick connector element) or with the water hose (hose connector). Thereby, an inexpensive hose holder is obtained.

According to embodiments, the holding portion comprises a clip portion for fixing a free end of the hose. Said clip portion may be adapted to clamp the free end of the hose in order to fix said free end. Said clip portion may be integrally formed at the

hose holder and may be bendable with respect to a horizontal or essentially horizontal axis.

According to embodiments, said clip portion is arranged opposite
5 to the hose holding portion. So in other words, said clip portion may extend in the hose receiving area and may partition off a space for receiving the hose windings and a space for receiving the free hose end.

10 According to embodiments, the clip portion is adapted to reduce the width of said hose receiving area after receiving the free end of the hose. Thereby, by means of said the clip portion, a clamping of one or more hose windings arranged within the hose receiving area is obtained.

15 According to a further aspect, a hose holder set is provided, said hose holder set comprising a hose holder as described before and a water hose to be stored at said hose holder. Said hose may be a spiral hose with a memory characteristic, i.e. the
20 hose may be configured to go back into its helix shape after removal of pulling forces. Said spiral hose may comprise a large coil diameter, e.g. a coil diameter greater than 150mm.

The term "essentially" or "approximately" as used in the invention
25 means deviations from the exact value by +/- 10%, preferably by +/- 5% and/or deviations in the form of changes that are insignificant for the function.

BRIEF DESCRIPTION OF THE DRAWINGS

30 The various aspects of the invention, including its particular features and advantages, will be readily understood from the following detailed description and the accompanying drawings, in which:

Fig. 1 illustrates a first embodiment of a hose holder to be arranged at a water tap with a coiled hose in a perspective view;

5 Fig. 2 illustrates the hose holder according to the first embodiment with a coiled hose in a first side view;

Fig. 3 illustrates the hose holder according to the first embodiment with a coiled hose in a second side view;

10

Fig. 4 illustrates the hose holder according to the first embodiment without a coiled hose in a perspective view;

15 Fig. 5 illustrates a second embodiment of a hose holder to be arranged at a water tap with a coiled hose in a perspective view;

Fig. 6 illustrates the hose holder according to the second embodiment without a coiled hose in a perspective view;
20 and

Fig. 7 illustrates the hose holder according to the second embodiment with a coiled hose in a partially sectional side view.

25

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention will now be described more fully with reference to the accompanying drawings, in which example embodiments are shown. However, this invention should not be construed
30 as limited to the embodiments set forth herein. Throughout the following description similar reference numerals have been used to denote similar elements, parts, items or features, when applicable.

35

Fig. 1 to 4 illustrate a first embodiment of a hose holder 1 to be arranged at a water tap 30. In general, the hose holder 1 comprises a connection portion 2 and a holding portion 3. The connection portion 2 is configured to connect or couple the hose holder 1 with said water tap 30. The holding portion 3 is adapted to receive a coiled hose 20 for storing said hose 20 in a hanging manner. The connection portion 2 forms an upper part of the hose holder 1 and the holding portion 3 forms a lower part of the hose holder 1, i.e. after coupling the hose holder 1 with the water tap 30, said hose holder 1 is arranged below the water outlet of the water tap 30.

The holding portion 3 comprises a hook-shaped section 5. More in detail, said hook-shaped section 5 comprises a first hook portion 5.1 being coupled with the connection portion 2 and extending downwardly, a second hook portion 5.2 being a curved portion configured to couple the first hook portion 5.1 with a third hook portion 5.3, said third hook portion 5.3 being inclined and extending upwardly. Said third hook portion 5.3 is in the following also referred to as hose holding portion 7. Due to the inclination of the third hook portion 5.3, said third hook portion 5.3 is descending to the backside which effectuates that the hose windings slide down to the back side of the hook-shaped section 5. Typically, the first winding of the hose (close to the water inlet of the hose 20) is hanging at the lowermost point of the hook (i.e. at the backside) and the last winding (close to the water outlet) is hanging at the foremost point ready for being picked up for usage.

Said first to third hook portions 5.1, 5.2, 5.3 confine a hose receiving area 6 which is configured to receive a helix shaped hose coil with windings arranged next to each other. Said hose holding portion 7 may be inclined by an angle in the area between 15° and 40° with respect to a horizontal plane, said angle

opening towards the pulling direction PD into which the hose 20 has to be pulled in order to be removed from the hose holder 1.

The connection portion 2 comprises a tap connection portion 4
5 adapted to mechanically and fluidly couple the hose holder 1 with the outlet of the water tap 30. Preferably, the tap connection portion 4 comprises a quick connector element 4.1 which is adapted to be coupled with a corresponding tap connector element 31 arranged at the water tap 30. For example, the quick connect-
10 or element 4.1 may be of plug-in connector type, specifically a female plug-in connector adapted to receive a male connector arranged at the water tap. Said female plug-in connector may be adapted to automatically secure the connection with the male connector after receiving said male connector and may have a
15 portion to be pulled in order to release the connection with said male connector. Based on said quick connector element 4.1, a mechanical and fluid coupling with the water tap 30 is achieved.

20 According to other embodiments, the tap connection portion 4 comprises a thread for coupling said hose holder 1 with said water tap 30. Said thread may be adapted to directly couple the hose holder 1 with the water tap 30 or may be adapted to receive a corresponding thread of a quick connector element 4.1.

25

The connection portion 2 further comprises a fluid channel. Said fluid channel is formed in the interior of the connection portion 2 for providing a fluid connection to the hose 20. In the present embodiment, the fluid connection is angled, i.e. the
30 fluid connection comprises at least a first and a second fluid channel section and said fluid channel sections enclose an acute angle or a right angle. According to other embodiments, said fluid connection may be a straight fluid channel.

The fluid channel may be adapted to receive water from the water tap 30 at the first free end and may end up at a hose connection portion 4.2. Said hose connection portion 4.2 may be adapted to receive a hose connector 21 in order to fluidly couple a hose 20 at said hose connection portion 4.2. Said hose connection portion 4.2 may comprise a port for receiving the free end of the hose 20 and may be adapted to clamp said free end of the hose 20 at the hose holder 1. For example, the hose connection portion 4.2 may comprise a tube section with a sealing edge, said tube section being adapted to be plugged into the free end of the hose 20. Said free end of the hose 20 may be clamped at the hose connection portion 4.2 by using a locking nut, for example. Said hose connection portion 4.2 may be arranged in close proximity to the quick connector element 4.1, respectively to the thread for coupling the hose connector 1 with the water tap 30 in order to reduce the bending moment applied to the tap connection portion 4 when the hose 20 is completely removed from the hose holder 1 and the user pulls the hose 20 in order to reach maximum dispensing radius.

As shown in Fig. 1 to 4, the hose connection portion 4.2 is laterally arranged at the hose holder, i.e. the end of the hose 20 coupled with the hose connection portion 4.2 may be arranged perpendicular to the pulling direction PD. Thereby, the hose 20 starts horizontally at the hose connection portion 4.2 and therefore tangentially into the hose coil. In addition, the hose 20 may have a coil diameter in the region greater than 150mm in order to allow a tidy arrangement of the hose at the hose holder 1. For example, the hose 20 may be a spiral hose, i.e. it automatically goes back into its original helix shape after usage. The usage of a spiral hose with upper-mentioned dimensioning is advantageous because by using windings with a diameter greater than 150mm the action radius of said spiral hose is equal or essentially equal with the developed length (e.g. up to 10m) of

the hose 20 although only small pulling forces have to be applied.

For using the hose 20, a user may pull one winding after another
5 of the hook-shaped section 5, wherein by pulling the hose 20, the hose windings automatically slide along the hose holding portion 7. The tap connection portion 4 is adapted to take up axial loads (mainly caused by gravitation) and radial loads (due to said pulling force). The tap connection portion 4 may be
10 adapted to allow a rotational movement of the hose holder 1 around a vertical axis A, i.e. the vertical axis defined by the water tap outlet. When the user pulls the hose 20 of the hose holder 1 such that the hose 20 gets strained, the hose holder 1 rotates around said axis A (e.g. by 90° or essentially 90°)
15 thereby enabling the hose holder 1 to follow the draining direction.

Fig. 5 to 7 show a second embodiment of a hose holder 1. In the following, only distinguishing features with respect to the
20 first embodiment described before are mentioned. Apart from that, the described features of the first embodiment also remain valid for said second embodiment.

In contrary to the first embodiment, the fluid channel provided
25 within the tap connection portion 4 is straight, i.e. the hose connection portion 4.2 is arranged below the quick connector element 4.1, respectively, the thread configured to couple the hose holder 1 with the water tap 30. The hook-shaped section 5 for receiving the hose 20 is arranged in front of (with respect
30 to the pulling direction PD) the tap connection portion 4, respectively, the connection portion 2.

In addition, according to the second embodiment, the hose holding portion 7 forming the lower portion of the hook-shaped section 5 (bearing the coiled hose 20) may be inclined by an angle
35

between 4° and 25° with respect to the vertical axis A. Thereby, a secure gravitation-supported storage of the hose 20 at the hose holder 1 is obtained. The hook-shaped section 5, specifically the hose holding portion 7 may expand towards the free end
5 (trumpet-like shape) and/or may comprise a rounded edge for improving the disassembling of the hose 20.

As shown in Fig. 6 and 7, the hose holder 1 may comprise a clip portion 8. Said clip portion 8 may be configured to secure one
10 or more windings of the hose 20, specifically one or more of the last windings hanging at the foremost point of the hose holding portion 7. More in detail, said clip portion 8 may be arranged between the first hook portion 5.1 and the third hook portion 5.3 in order to reduce the width of the hose receiving area 6
15 such that one or more windings of the hose 20 are clamped between said clip portion 8 and said third hook portion 5.3 (also referred to as hose holding portion 7). Thereby, the coiled hose 20 is secured within the receiving area 6.

20 Alternatively or in addition, said clip portion 8 may be configured to secure the free end of the hose 20 (water dispensing end of the hose 20). More in detail, the clip portion 8 is adapted to clamp the free end of the hose 20 between the first hook portion 5.1 and the clip portion 8. Preferably, after said clamping
25 of the free end of the hose 20, the clip portion 8 also clamps one or more windings of the hose 20 between said clip portion 8 and said third hook portion 5.3.

Preferably, at the top of the hook-shaped section 5, specifically
30 ly the first hook portion 5.1, a grip portion 9 is provided. Said grip portion 9 may be integrally formed at said hook-shaped section 5 or said first hook portion 5.1. Thereby, the handling and transport of the hose holder 1 is improved.

It should be noted that the description and drawings merely il-

lustrate the principles of the proposed hose holder. Those skilled in the art will be able to implement various arrangements that, although not explicitly described or shown herein, embody the principles of the invention.

List of reference numerals

1	hose holder
2	connection portion
3	holding portion
4	tap connection portion
4.1	quick connector element
4.2	hose connection portion
5	hook-shaped section
5.1	first hook portion
5.2	second hook portion
5.3	third hook portion
6	hose receiving area
7	hose holding portion
8	clip portion
9	grip portion
20	hose
21	hose connector
30	tap
31	tap connector element
A	vertical axis
PD	pulling direction

Claims

1. Hose holder for storing a hose (20) at a water tap (30) comprising a connection portion (2) for connecting the holding
5 device with the water tap (30) and a holding portion (3) for receiving the hose (20), wherein the connection portion (2) comprises a tap connection portion (4) for mechanically and fluidly coupling the hose holder (1) with said water tap (30) and wherein the holding portion (3) comprises a hose receiving
10 area (6) for supporting the coiled hose (20) in a hanging position such that the windings of the coiled hose (20) are arranged in a vertical or essentially vertical plane.
2. Hose holder according to claim 1, wherein the connection portion (2) comprises a fluid channel for guiding water received
15 from the water tap (30) to the hose (20).
3. Hose holder according to claim 2, wherein said fluid channel is straight or angled, specifically right-angled.
- 20 4. Hose holder according to anyone of the preceding claims, wherein the tap connection portion (4) comprises a quick connector element (4.1) adapted to be coupled with a tap connector element (31) or is adapted to receive a quick connector element (4.1).
25
5. Hose holder according to anyone of the preceding claims, wherein the tap connection portion (4) comprises a thread for receiving a quick connector element (4.1).
30
6. Hose holder according to claim 4 or 5, wherein said quick connector element (4.1) comprises a fluid channel.
7. Hose holder according to anyone of the preceding claims,
35 wherein said tap connection portion (4) comprises a hose con-

nection portion (4.2) including a hose connector (21) or being adapted to receive a hose connector (21).

8. Hose holder according to claim 7, wherein the hose connection
5 portion (4.2) is coupled with the fluid channel for receiving water provided by the water tap (30).

9. Hose holder according to anyone of the preceding claims,
wherein the holding portion (3) comprises a hook-shaped section
10 (5) including an inclined hose holding portion (7), specifically an upwardly inclined hose holding portion (7).

10. Hose holder according to anyone of the preceding claims, further being adapted to be rotated around a vertical axis when
15 coupled with the water tap (30).

11. Hose holder according to anyone of the preceding claims, the connection portion (2) and the holding portion (3) being provided by an integrally formed element.

20

12. Hose holder according to anyone of the preceding claims, the holding portion (3) comprising a clip portion (8) for fixing a free end of the hose (20).

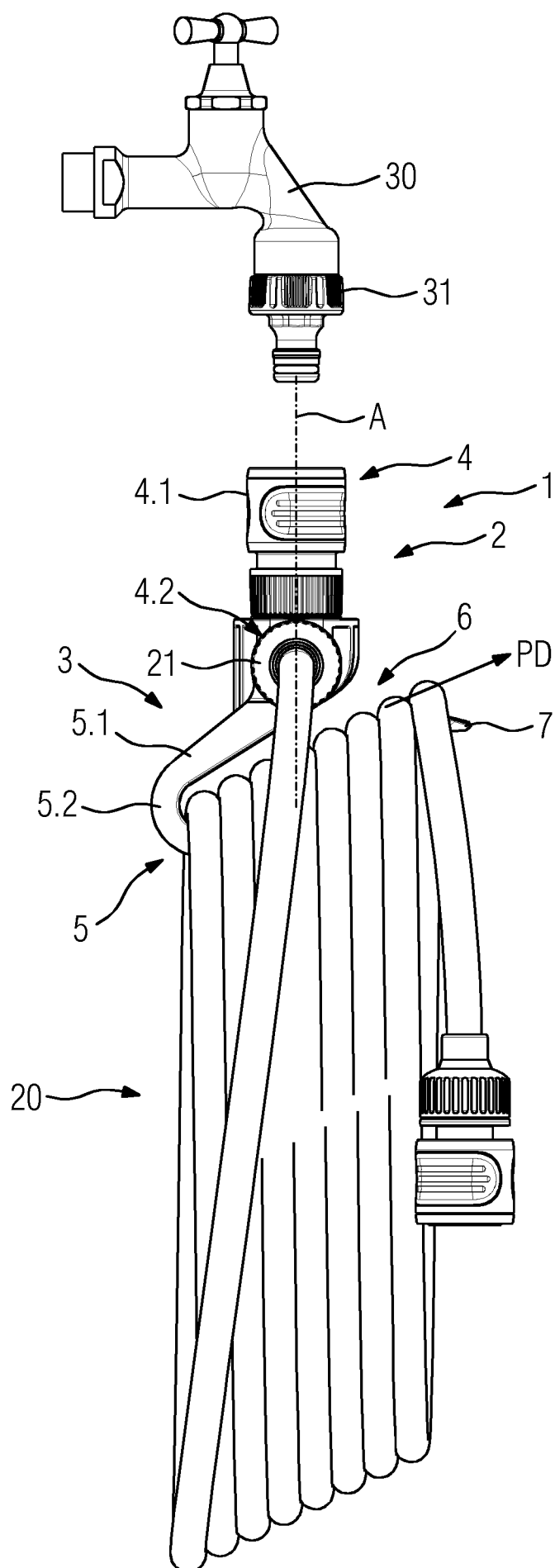
25 13. Hose holder according to anyone of claims 9 to 12, wherein said clip portion (8) is arranged opposite to the hose holding portion (7).

14. Hose holder according to claim 12 or 13, wherein the clip
30 portion (8) is adapted to reduce the width of said hose receiving area (6) after receiving the free end of the hose (20).

15. Hose holder set comprising a hose holder (1) according to any one of the preceding claims and a hose (20) to be supported by said hose holder (1).

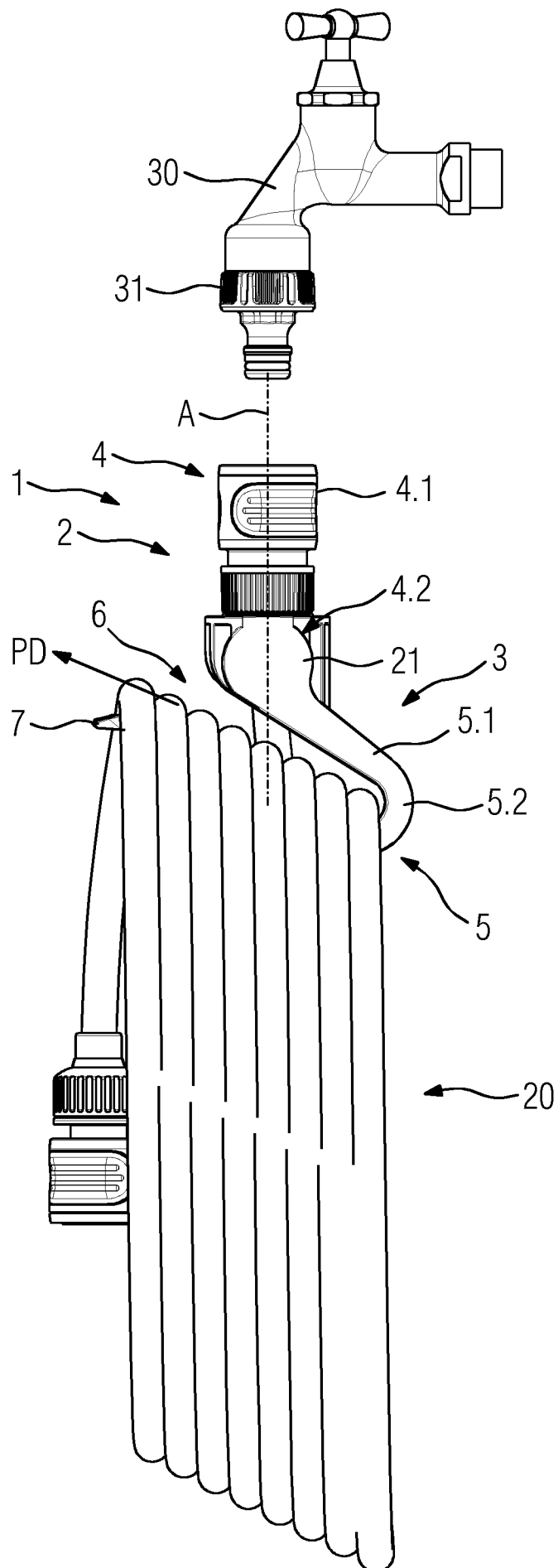
2/5

FIG 2



3/5

FIG 3



4/5

FIG 4

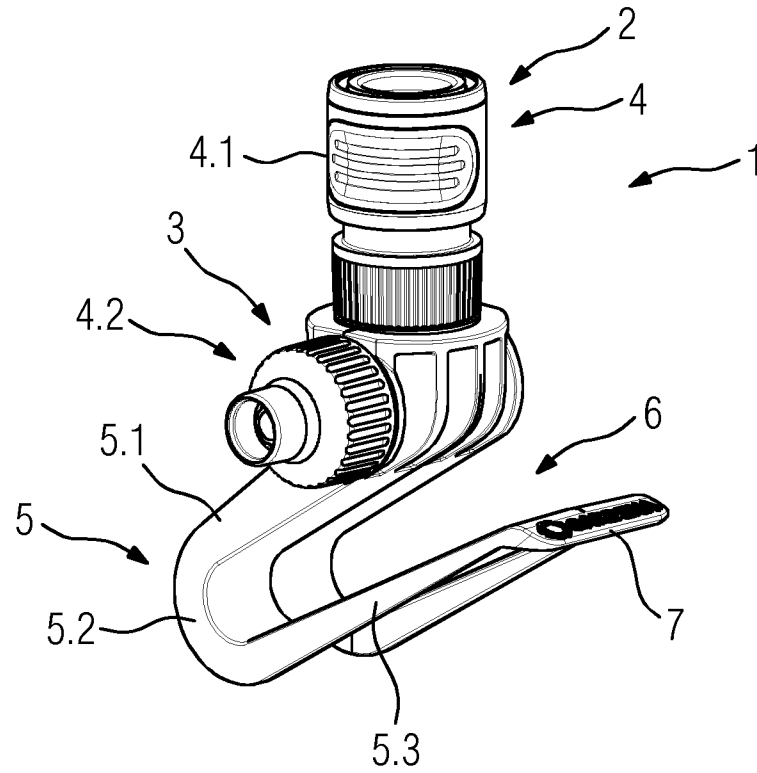


FIG 5

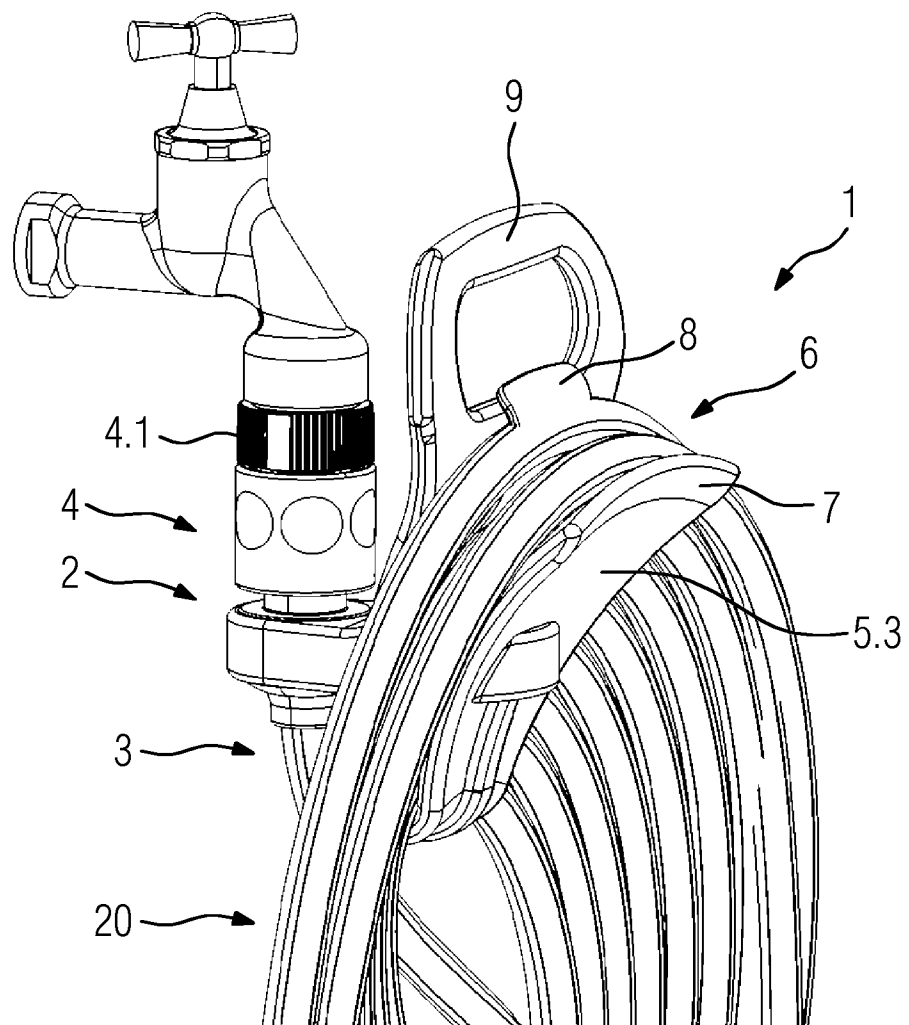


FIG 6

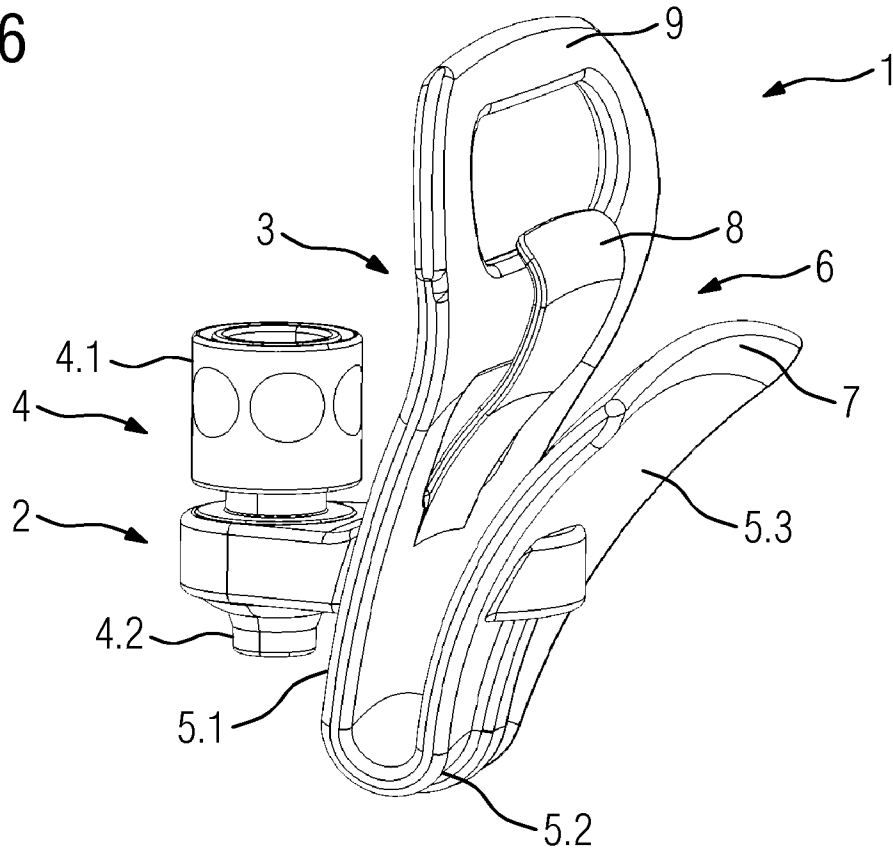
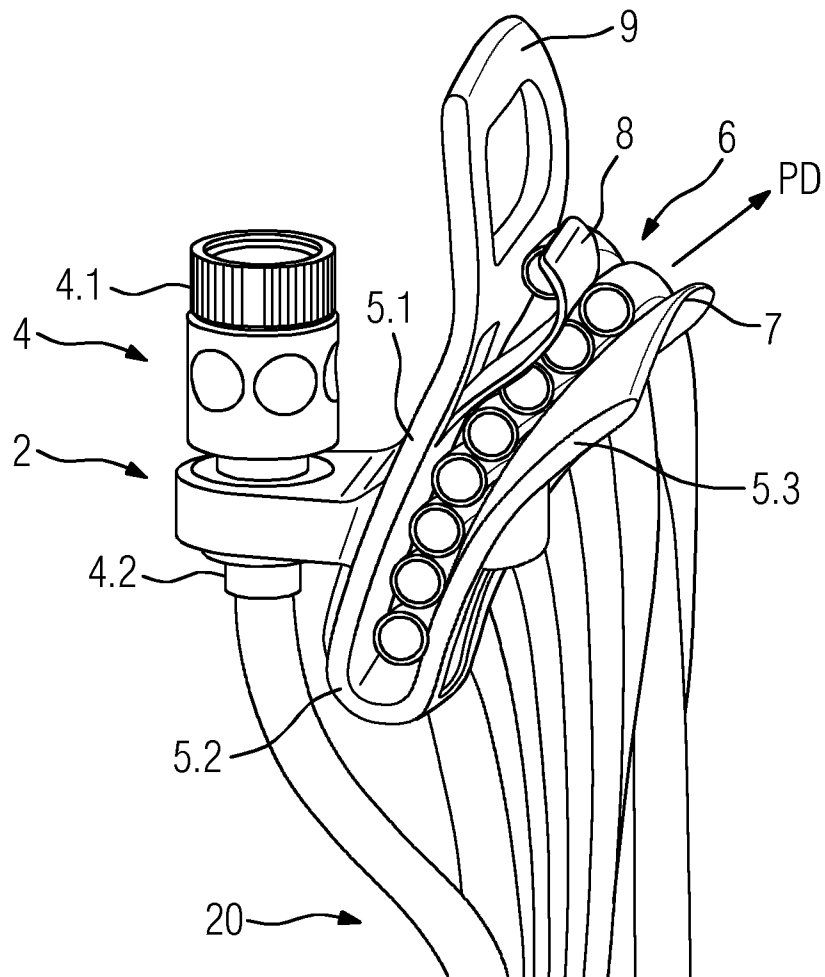


FIG 7



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2016/054584

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65H75/36
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009/272857 A1 (HARDING RICHARD E [US]) 5 November 2009 (2009-11-05)	1-8,15
Y	paragraphs [0001], [0005], [0017] - [0019], [0022]; figures	9-14
Y	----- US 5 429 321 A (SKYBA H KURT [US]) 4 July 1995 (1995-07-04) column 1, lines 7-12 column 5, lines 9-44; figures	9,10, 12-14
X	----- KR 2011 0024876 A (LEE JEONG SHIN [KR]) 9 March 2011 (2011-03-09)	1-8, 10-12,15
Y	figures	11
X	----- US 2 569 857 A (JAEGLE WILLIAM C ET AL) 2 October 1951 (1951-10-02) figures	1,2,7-9, 15
	----- -/-	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"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

"&" document member of the same patent family

Date of the actual completion of the international search

21 September 2016

Date of mailing of the international search report

04/10/2016

Name and mailing address of the ISA/

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Authorized officer

Lemmen, René

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2016/054584

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 2014/367533 A1 (HARRIS CINDY ANN [US]) 18 December 2014 (2014-12-18) figures -----	1-15
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A	JP S53 162418 U (.) 19 December 1978 (1978-12-19) figures -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2016/054584

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