



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.09.2009 Bulletin 2009/38

(51) Int Cl.:
E04F 10/06 ^(2006.01)

(21) Application number: **09003187.3**

(22) Date of filing: **05.03.2009**

(84) Designated Contracting States:
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 SE SI SK TR
Designated Extension States:
AL BA RS

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(30) Priority: **12.03.2008 BE 200800151**

(54) **Improved awning**

(57) Improved awning with a front lath (5) which seals the opening (4) of the awning casing (2) when the awning cloth (12) is rolled up and which is being held in relation to the awning casing (2) by two or more articulated arms (6), whereby the awning (1) is provided with at least one

supporting leg (13) which can be folded into a storage position as of a position of use to support the awning (1), **characterised in that** the supporting leg (13), in a folded storage position, can be stored at least partly under or on top of an arm (6) or in a recess in the arm (6).

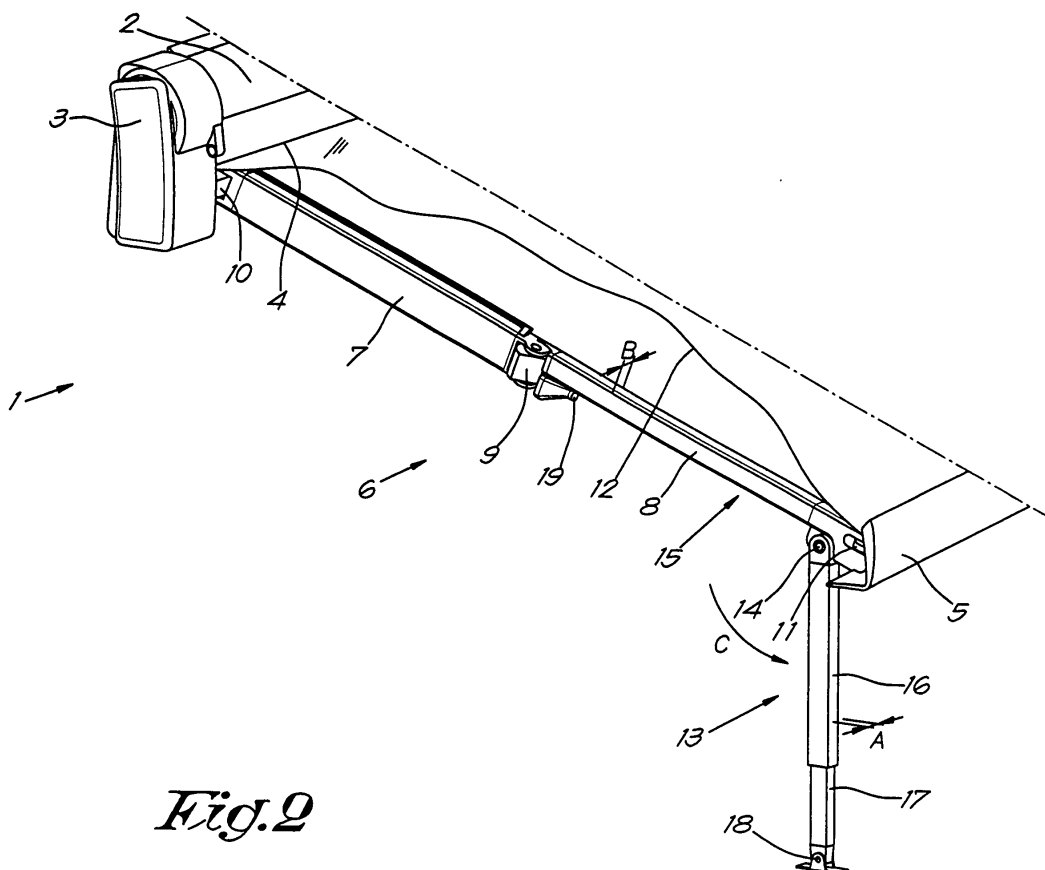


Fig. 2

Description

[0001] The present invention concerns an improved awning.

[0002] Known awnings consist of a shaft provided in a rotating manner in an awning casing and on which is wound an awning cloth fixed through an opening on the front side of the awning to a front lath with one free end, which lath seals the opening of the awning casing when the awning cloth is entirely rolled up and which is being held in place in relation to the awning casing by means of two or more articulated arms with two or more hinge-mounted arm parts, an utmost arm part of which is hinge-mounted to the awning casing and the other utmost arm part of which, what is called the front arm, is hinge-mounted to the front lath.

[0003] The invention in particular concerns an awning which is provided with at least one folding supporting leg which supports the awning cloth when the awning is unfolded and which can be folded up to that end as of a position of use supporting the awning into a storage position.

[0004] Such a supporting leg is designed to relieve the aforesaid arms from the forces exerted thereupon.

[0005] Indeed, large forces and moments can be exerted on the arms, especially in the case of an awning having a large span (length) or when flaps are attached to the awning, for example to make the zone which is covered by the awning wind-proof.

[0006] Major forces can also be exerted on the arms by the wind, which could damage the arms.

[0007] In the known embodiments of awnings, the supporting leg is hinge-mounted to the front lath with its top end, such that, when the supporting leg is not used, said supporting leg can be turned away against the inside of the front lath.

[0008] When the awning cloth is rolled up, the front leg is drawn against the awning casing together with the front lath, whereby the supporting leg on the inside of the front lath is in that case automatically stored in the space of the awning casing which is sealed by the front lath.

[0009] When the awning cloth is rolled up, the arms are simultaneously folded away in the above-mentioned space of the awning casing, such that when the awning cloth is rolled up, the folded arms will be situated in the space concerned next to the folded-up supporting leg.

[0010] A disadvantage of such awnings is that, because of the thickness of the arms and of the supporting legs, they must be rather sizeable so as to be able to offer sufficient space in the depth for the arms and the supporting leg or legs to be stored next to one another along the roll.

[0011] Due to their size, such awnings are usually relatively heavy and relatively much material is required to manufacture for example the relatively voluminous awning casing.

[0012] The present invention aims to remedy the above-mentioned and other disadvantages.

[0013] To this end, the invention concerns an awning of the above-mentioned type with at least one folding supporting leg, whereby the supporting leg, in the folded storage position, can be stored at least partly under or on top of an arm or in a recess in the arm.

[0014] As the supporting leg is at least partly stored under or on top of the arm or in a recess in the arm, one can make sure that, when the awning cloth is rolled up and the front lath seals the awning casing, the folded arms and the supporting leg extending along the latter occupy less space in the width of the arms.

[0015] As a result, the awning can be made finer, which is advantageous from an aesthetic point of view.

[0016] As the awning casing is finer and consequently also lighter, less material will be required to manufacture it, which is advantageous in terms of production costs.

[0017] According to a preferred embodiment, the supporting leg is provided with a hinge at the top with which it is fixed under the front arm, whereby this hinge makes it possible for the supporting leg to be folded round said hinge into a storage position whereby it extends under and along the front arm.

[0018] The advantages of the invention can be realised in a very simple manner in this way.

[0019] In order to better explain the characteristics of the invention, the following preferred embodiments of an improved awning according to the invention are described by way of example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 schematically represents an opened awning according to the invention, seen in perspective, with a supporting leg in the position of use and a partly removed cloth;

figure 2 represents the awning of figure 1, but with the supporting leg in a storage position;

figure 3 shows a section according to line III-III in figure 2, but for a closed, rolled-up awning;

figure 4 shows a section analogous to that in figure 3, but for another embodiment of an awning according to the invention.

[0020] The awning 1 represented in figure 1 comprises an awning casing 2 to fix the awning 1 to a wall or the like. The awning casing 2 is usually made as a profile which is sealed in the axial direction or at both ends by an end cover 3 in aluminium or the like.

[0021] In the longitudinal direction, the awning casing 2 is provided with an opening 4 which can be sealed with what is called a front lath 5 which is being held in relation to the awning casing 2 by two or more articulated arms 6, each having two or more hinge-mounted arm parts, in this case two arm parts, 7 and 8 respectively, which are connected to one another by means of a hinge 9.

[0022] The rear arm part 7 is connected to the awning casing 2 in the known manner at its free end by means of a hinge 10, whereas the front arm part 8, what is called

the front arm, is connected to the front lath 5 by means of a hinge 11.

[0023] The arm parts 7 and 8 are in this case made as hollow profiles in which is provided a spring, not represented in the figures, which tends to make the arm parts 7 and 8 hinge away from one another around the hinge 9 and thus push the front lath 5 away from the awning casing 2.

[0024] In the awning casing 2 is further provided a shaft 12 which is provided with both far ends rotating in the above-mentioned end covers 3 and on which is rolled up an awning cloth 13 which is fixed to the shaft 12 with one far end and which is fixed to the front lath 5 with an opposite free end.

[0025] A drive which is not represented in the figures provides for the rotating drive of the shaft of the awning 1 so as to enable an awning cloth 12 to be rolled up and unrolled, either by means of an electric control via a motor which is built-in in the shaft or by means of a manual control via a transmission in one of the end covers 3 and a crank to be coupled thereto.

[0026] The awning 1 is further provided with one or several supporting legs 13, only one of which is represented in the figures and which supporting leg 13 is fixed to a far end of the supporting leg 13 under the front arm 8 by means of a single, simple hinge 14, whereby this hinge 14 enables the supporting leg 13 to fold round said hinge 14 as of a position of use, as represented in figure 2, into a horizontal storage position, as represented in figure 1, whereby the supporting leg 13 extends under and along the front arm 8.

[0027] In the embodiment of figure 1, the supporting leg 13 is in particular fixed to the front arm 8 near the pivoting point 11 of the front arm 8 with the front lath 5, whereby this pivoting point 11 of the front arm 8 is preferably situated near a far end of the front lath 5, such that the supporting leg 13 maximally supports the front arm 8 and the front lath 5 fixed thereto at one far end.

[0028] In the embodiment of figure 1, the width A of the supporting leg 13 is practically equal to the width B of the front arm 8, such that the supporting leg 13, in the folded storage position of figure 1, mainly extends entirely under the arm 6 and in particular extends mainly entirely under the front arm 8, as is represented more in detail in the section of figure 3.

[0029] In particular, the supporting leg 13, when in a position of rest, is situated in a recess 15 on the bottom side of the front arm 8 extending in the longitudinal direction of the front arm 8.

[0030] The length of the supporting leg 13 itself can in this case be adjusted, as it is made with a base part 16 in which a telescopic part 17 is provided in an extending manner, which telescopic part is provided with a pivoting foot 18.

[0031] The awning 1 further comprises a lock to maintain the supporting leg 13 in the storage position of figure 1, whereby this lock may consist for example of a pin which fits in a corresponding opening on the lower end

of the supporting leg 13, not represented.

[0032] The use of an awning 1 according to the invention is very simple and as follows.

[0033] When the awning is unrolled into the position of use of figure 1, the front lath 5 will be situated at a distance from the awning casing 2, whereby the front lath 5 is being supported by the articulated arms 6 which are then extended to a more or lesser degree, such that the front leg 13 becomes accessible to the user.

[0034] The front leg 13 can be unlocked from this position by sliding the telescopic part 17 somewhat in, as a result of which the pin 19 is released from the supporting leg 13 and as a result of which the supporting leg 13 can be folded down in the direction of arrow C in figure 2 into an upwardly directed position of use so as to support the front arm 8 and front lath 5 fixed thereto.

[0035] From this position, the supporting leg 13 can be folded up to the front arm 8 again in reverse order and it can be locked in the storage position of figure 1.

[0036] By rolling up the cloth 12 on the shaft of the awning 1, the front lath 5 is drawn towards the awning casing 2, whereby the arms 6 are folded up and the arm parts 6 and 7 rotate towards one another round the hinge 9 in the direction of the arrows D, up to the point where the front lath 5 seals the opening 4 of the awning casing 2, whereby the folded arms 6 are entirely enclosed in the awning casing 2, as can be seen in the section of figure 3.

[0037] In this section can moreover be seen how the supporting leg 13 extends entirely under the folded arm 6, in particular under the front arm 8, such that the total width E of the folded arm 6 is not enlarged by the presence of the supporting leg 13 under the front arm 8, as a result of which no extra width is required inside the space 20 which is sealed by the front lath 5 in the awning casing 2 in order to store the supporting leg 13.

[0038] It is clear that, compared to a known awning where the supporting leg is situated next to the folded arm 6 in the situation of figure 3, space can already be gained when the supporting leg 13 extends only partly under the folded arm 6.

[0039] It is also clear that, in the case of the embodiment of figure 2, the hinge 14 is a simple hinge with a single hinge pin which only has to enable a hinge movement round a horizontal shaft, which is advantageous compared to the known awnings which always required a double hinge up till now, which is relatively more expensive and more complicated as such.

[0040] It is easy to imagine a situation whereby the supporting leg is not situated under the arm, but on top of it, making it also possible to gain space in the width of the awning, seen in the cross section of the awning.

[0041] Nor is it excluded, according to the invention, to provide the supporting leg 13, as represented in figure 4, on the side of the front arm 8 in a recess 15 extending in a lateral surface of the front arm 8 in the longitudinal direction of the front arm 8, whereby the hinge 14 of the supporting leg 13 is a double hinge which makes it possible for the supporting leg 13 to be folded up as of a

position of use and to be folded in laterally into the storage position of figure 4, whereby it is at least partly situated in the above-mentioned recess 15.

[0042] Nor is it excluded for the supporting leg to be fixed for example to the front lath and to be enclosed, as the front lath moves inwardly while the awning cloth is being rolled up, at least under or on top of an arm or in a recess in the arm when the front lath 5 seals the awning casing 2.

[0043] The present invention is by no means limited to the embodiments described by way of example and represented in the accompanying figures; on the contrary, such an awning according to the invention can be made in all sorts of shapes and dimensions while still remaining within the scope of the invention.

Claims

1. Improved awning with a shaft provided in a rotating manner in an awning casing (2), whereby an awning cloth (12) is wound on a shaft fixed through an opening (4) of the awning casing (2) with one free edge to a front lath (5) which seals the opening (4) of the awning casing (2) when the awning cloth (12) is rolled up and which is being held in relation to the awning casing (2) by two or more articulated arms (6) with two or more hinge-mounted arm parts (7-8), an utmost arm part (7) of which is hinge-mounted to the awning casing (2) and a second utmost arm part (8) of which, what is called the front arm, is hinge-mounted to the front lath (5), and whereby the awning (1) is provided with at least one supporting leg (13) which can be folded into a storage position as of a position of use to support the awning (1), **characterised in that** the supporting leg (13), in a folded storage position, can be stored at least partly under or on top of an arm (6) or in a recess in the arm (6).
2. Improved awning according to claim 1, **characterised in that** the supporting leg (13) can be folded into a vertical storage position whereby it is situated at least partly under or on top of a front arm (8) or in a recess (15) in the front arm (8).
3. Improved awning according to claim 1 or 2, **characterised in that** the folding supporting leg (13) is provided with a hinge (14) on one far end with which it is fixed to the awning (1).
4. Improved awning according to any one of the preceding claims, **characterised in that** the supporting leg is provided with a hinge (14) on one far end with which it is fixed to the front arm (8) or to the front lath (5) near the pivoting point (11) of the front arm (8) with the front lath (5), whereby this pivoting point (11) of the front arm (8) is preferably situated near a far end of the front lath (5).
5. Improved awning according to any one of the preceding claims, **characterised in that** the supporting leg (13) is provided with a hinge (14) on one far end with which it is fixed under the front arm (8), whereby this hinge (14) enables the supporting leg (13) to fold round said hinge (14) into a storage position whereby it extends under and along the front arm (8).
6. Improved awning according to claim 5, **characterised in that** the front arm (8) is provided with a recess (15) on the bottom side extending in the longitudinal direction of the front arm (8) in which the supporting leg (13) can be at least partly folded in the storage position.
7. Improved awning according to any one of claims 1 to 4, **characterised in that** the supporting leg (13) is provided with a hinge (14) on one far end and **in that** the front arm (13) is provided with a recess (15) in a lateral surface extending in the longitudinal direction of the front arm (8), whereby this hinge (14) enables the supporting leg (13) to be folded up as of a position of use and to be folded in laterally into a storage position whereby it is at least partly situated in the above-mentioned recess (15).
8. Improved awning according to any one of claims 1 to 4, **characterised in that** the supporting leg (13) is provided with a hinge (14) on one far end with which it can be folded up to the front lath (8) into a storage position whereby, when the awning cloth (12) is being rolled up, it can be at least stored under or on top of an arm (6) or in a recess (15) in the arm (6).
9. Improved awning according to any one of the preceding claims, **characterised in that** the length of the supporting leg (13) is adjustable, preferably **in that** it is made telescopic.
10. Improved awning according to any one of the preceding claims, **characterised in that** it is provided with a lock (19) to retain the supporting leg (13) in the storage position.
11. Improved awning according to any one of the preceding claims, **characterised in that** the supporting leg (13), in the folded storage position, can be stored mainly entirely under or on top of an arm (6) or mainly entirely in a recess (15) in the arm (6).
12. Improved awning according to any one of claims 3 to 11, **characterised in that** the hinge (14) with which the supporting leg (13) is fixed to the awning (1) is a simple hinge (14) with only one hinge pin.

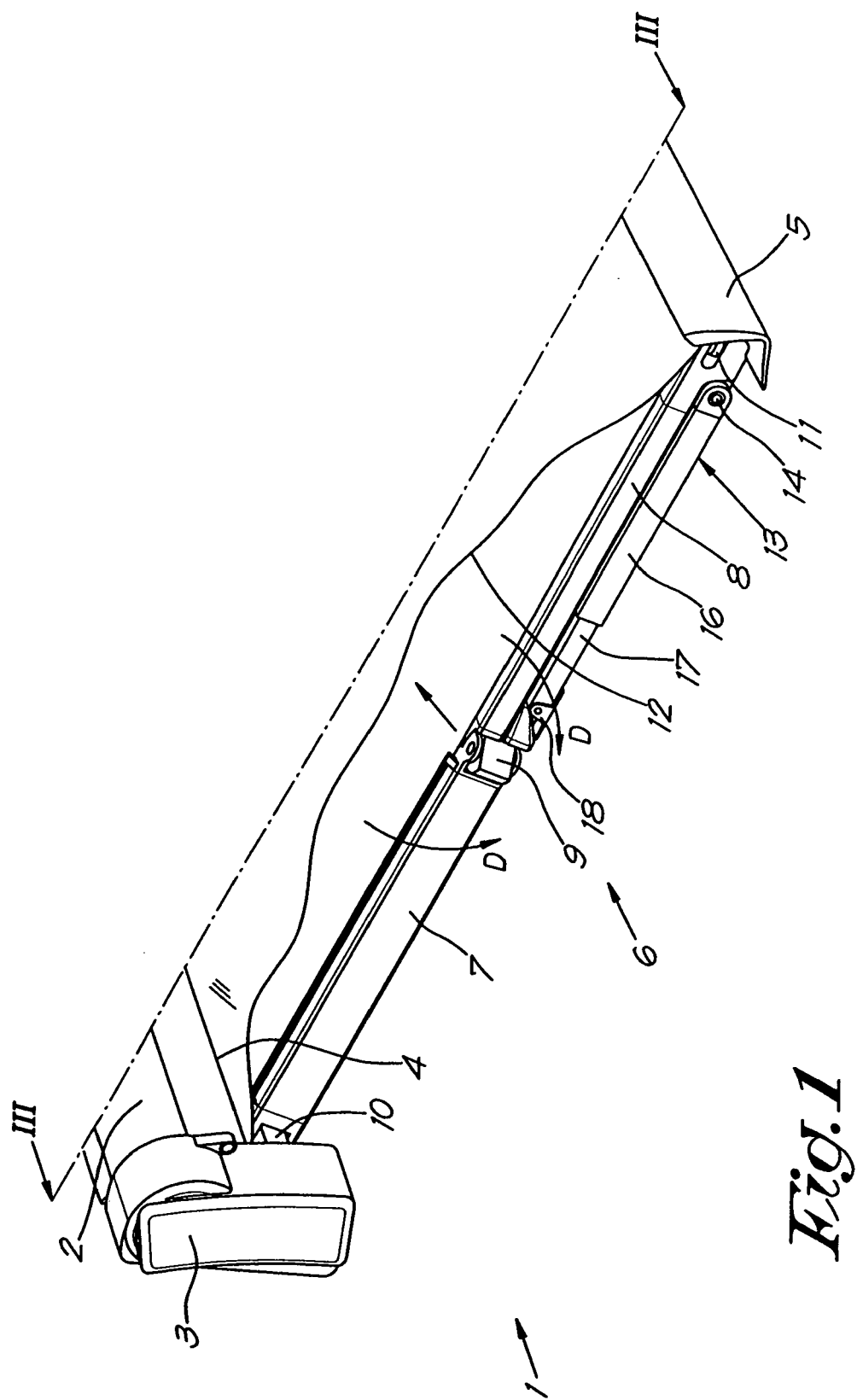
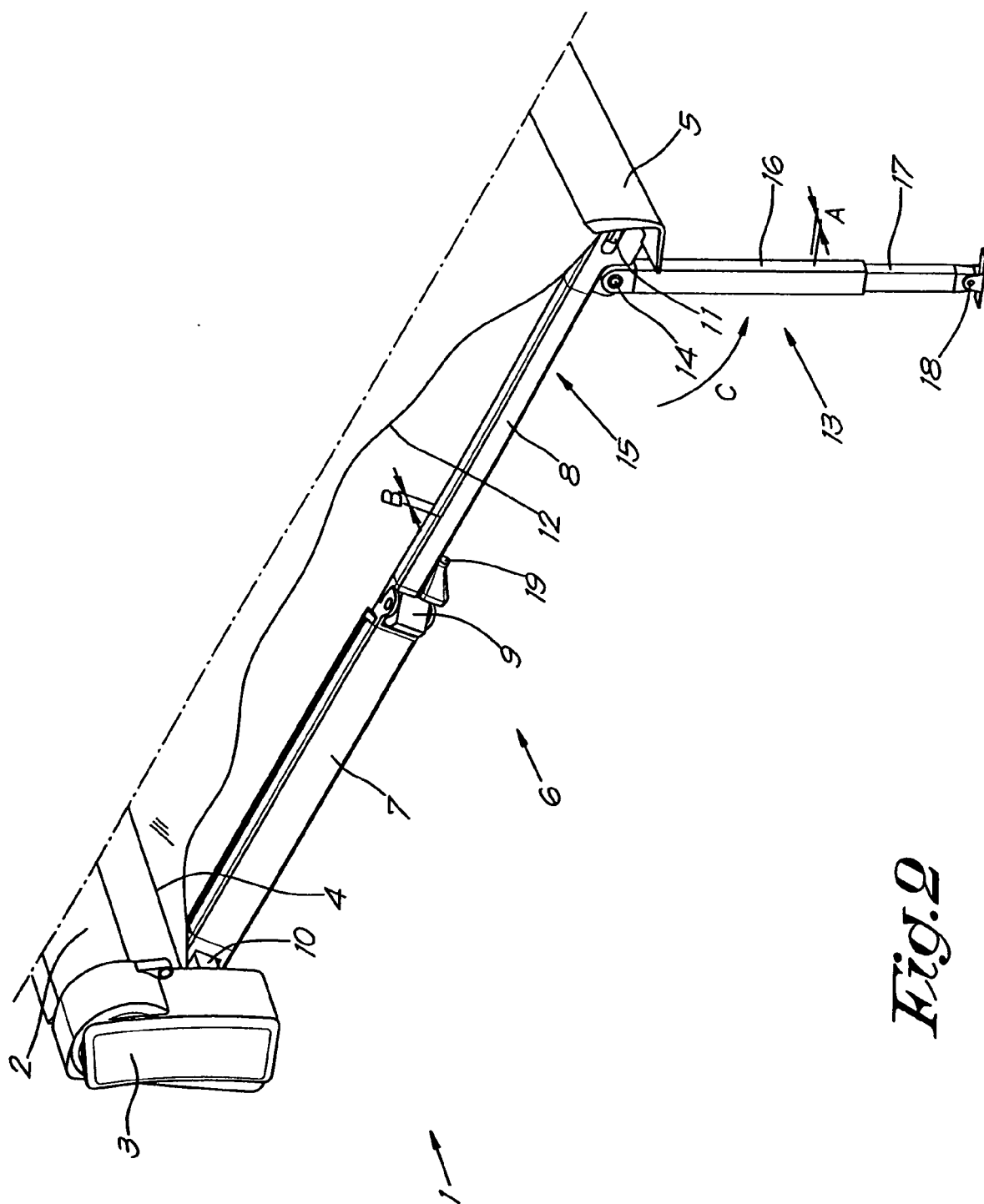


Fig. 1



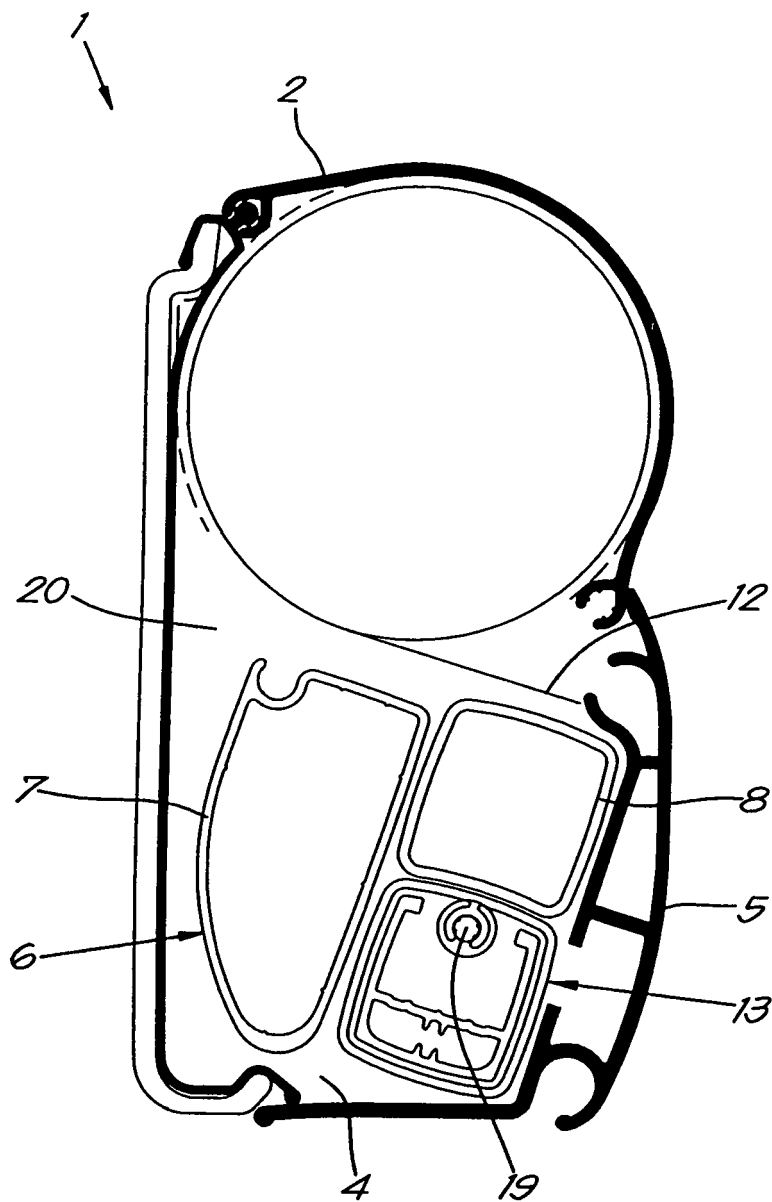


Fig. 3

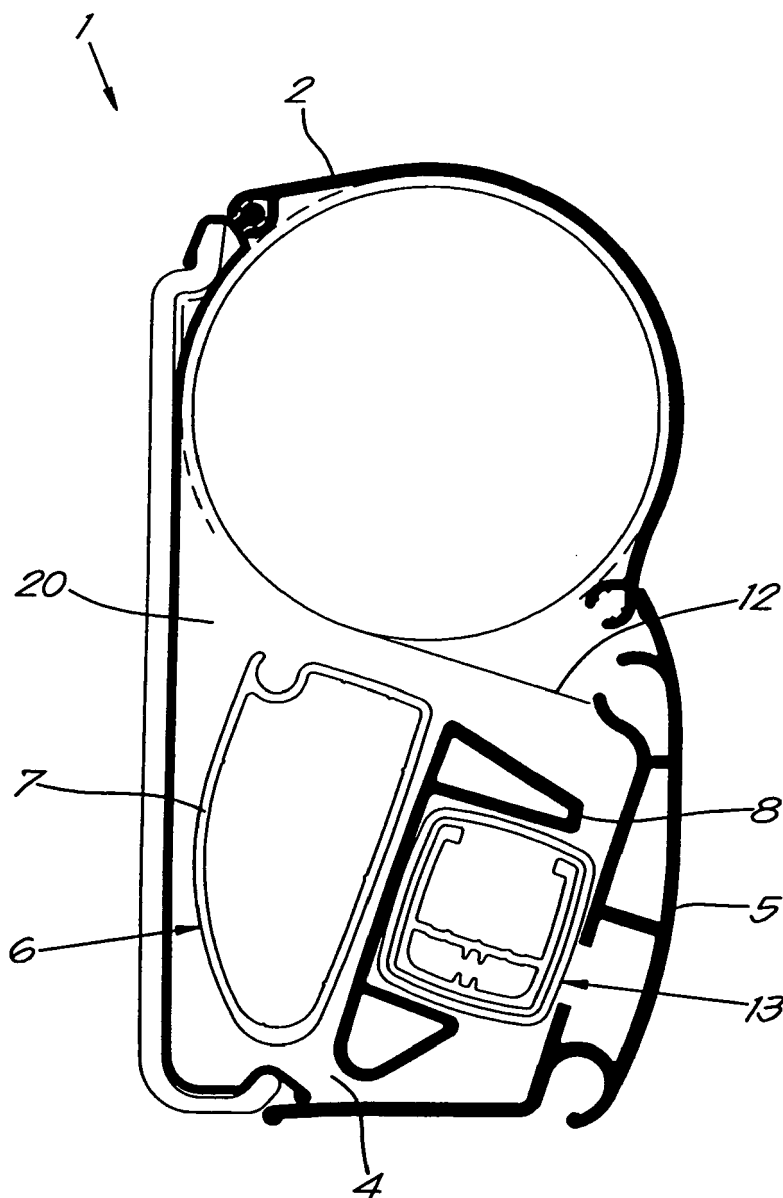


Fig. 4



EUROPEAN SEARCH REPORT

Application Number
EP 09 00 3187

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2007 010326 U1 (POZZI CARLO MAURIZIO [CH]) 27 September 2007 (2007-09-27) * the whole document *	1-5,8-12	INV. E04F10/06
A	EP 0 030 398 A2 (BRUTSAERT LOUIS) 17 June 1981 (1981-06-17)	1	
A	US 5 094 285 A (MURRAY BRENT [US]) 10 March 1992 (1992-03-10) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			E04F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		17 June 2009	Geivaerts, Dirk
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			

EPO FORM 1503 03.82 (P04C01)

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ON EUROPEAN PATENT APPLICATION NO.**

EP 09 00 3187

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17-06-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202007010326 U1	27-09-2007	NONE	
EP 0030398 A2	17-06-1981	BE 885600 A5	09-04-1981
US 5094285 A	10-03-1992	NONE	