(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 480 411 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
08.05.2019 Bulletin 2019/19

(21) Application number: **18203112.0**

(22) Date of filing: **29.10.2018**

(51) Int Cl.:
E06B 9/264 *(2006.01)* ***E04B 2/88*** *(2006.01)*
E04B 2/96 *(2006.01)* ***E04C 2/54*** *(2006.01)*
E06B 9/17 *(2006.01)*

(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

(30) Priority: **03.11.2017 IT 201700125010**

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(54) **PARTITION WALL AND CONTAINMENT DEVICE FOR A ROLL-UP CURTAIN ROLLER FOR THE PARTITION WALL**

(57) A partition wall (10), comprising a perimetric frame of profiled elements (11a, 11b, 11c, 11d) which supports a double glazing unit (24), the upper profiled element (11a) of which contains a curtain roller (12).

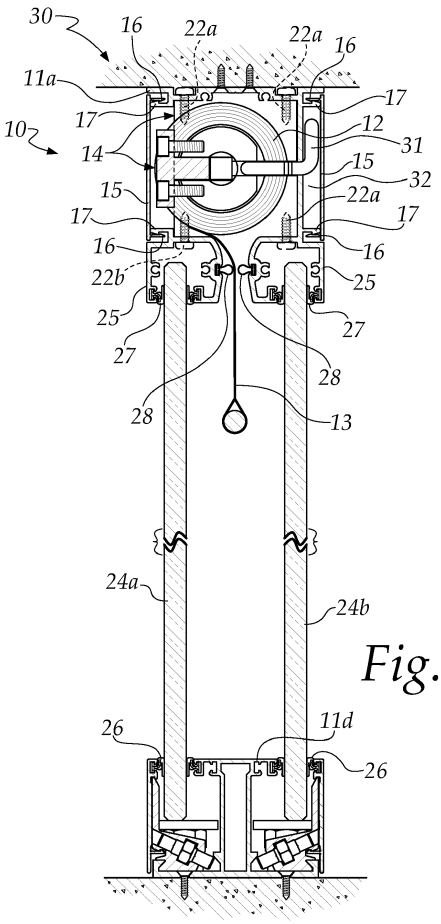

Fig.2

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Description

[0001] The present invention relates to a partition wall and to a containment device for a roll-up curtain roller for the partition wall.

[0002] The use of walls with glass sheets or panels, particularly with double sheet or double panel, with a roll-up curtain to be unwound from above inside the interspace between the two sheets, to separate spaces in open-space offices is currently widespread. Sometimes structures of this type are also used in the provision of external glazing.

[0003] These structures do not require masonry work and allow the passage of light by rolling up the curtain.

[0004] Structurally, they generally comprise one or more lower profiles for the support and positioning of the lower edge of the sheets, which are substantially parallel and spaced, and one or more upper profiles for the positioning and locking of the upper edge of the sheets.

[0005] The roller with the curtain visible is present above the profiles.

[0006] Although they are widespread, these structures have a significant drawback in the fact that inspection and maintenance are laborious and complicated since they require the disassembly of at least one of the two sheets.

[0007] Furthermore, the visible curtain roller has a scarcely pleasant aesthetic impact.

[0008] The aim of the present invention is to provide a containment device for a roll-up curtain for a partition wall that is capable of improving the background art in one or more of the aspects indicated above.

[0009] Within this aim, an object of the invention is to simplify the operations for maintenance and inspection of a glazed partition wall.

[0010] Another object of the invention is to allow operators to perform maintenance of the partition wall without disassembling the sheets.

[0011] A further object of the invention is to conceal the curtain roller while allowing to access it easily.

[0012] Furthermore, an object of the present invention is to overcome the drawbacks of the background art in a manner which is alternative to any existing solutions.

[0013] Another object of the invention is to provide a structure that is highly reliable, relatively simple to provide and at competitive costs.

[0014] This aim, as well as these and other objects which will become better apparent hereinafter, are achieved by a partition wall according to claim 1, optionally provided with one or more of the characteristics of the dependent claims.

[0015] Further characteristics and advantages of the invention will become better apparent from the description of a preferred but not exclusive embodiment of the partition wall according to the invention, illustrated by way of nonlimiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a partition wall;
Figure 2 is a sectional side view of the partition wall with the device according to the invention;
Figure 3 is an exploded perspective view of a portion of the partition wall according to the invention;
Figures 4, 5 and 6 are views of successive steps of the disassembly of the partition wall.

[0016] With reference to the figures, the partition wall according to the invention is designated generally by the reference numeral 10.

[0017] It comprises a perimetric frame of profiled elements 11a, 11b, 11c, 11d which supports a double glazing unit 24, the upper profiled element 11a of which contains a curtain roller 12.

[0018] It furthermore comprises:

- the upper profiled element 11a, which is longitudinally extended and forms a receptacle for the curtain roller 12, being open at least frontally, for the insertion and extraction of said curtain roller 12, and in a lower region, for the passage of the curtain 13 during its downward unwinding,
- means 14 for supporting the axis of the roller in the receptacle for the roller 12,
- a lower profiled element 11d for the support and positioning of the lower edge of two sheets 24a, 24b made of transparent or semitransparent material of the double glazing unit 24, which are substantially parallel and are spaced for the passage between them of the curtain 13 during its downward unwinding,
- at least one profile 25 which is integral with the upper profiled element 11a below it, for the positioning of the upper edge of the two sheets 24a, 24b.

[0019] Advantageously, the partition wall 10 also comprises at least one removable cover 15 for the front closure of the upper profiled element 11a, concealing the roller 12, as shown in Figure 2.

[0020] In particular, the partition wall 10 comprises a pair of covers 15 on opposite front faces.

[0021] These covers 15 have, at opposite upper and lower ends, wings which protrude from the internal face in order to engage by snap action adapted corresponding teeth 17 of the upper profiled element 11a.

[0022] As clearly visible in the sectional side views, the cover 15 that is present on the rear of the upper profiled element 11a (i.e., the one on the right in the illustrations) creates, together with the back of said element, an interspace 32 that is useful for the accommodation of any wiring 31.

[0023] The means for supporting the axis of the roller 14 comprise:

- a plate 18 at each end of an elongated support 19 for the roller 12, to be fixed to the profile of the upper profiled element 11a,

- at least one element 20 for the connection of the end of the elongated support 19 to the plate 18,
- elements 21 for fixing the connecting element 20 to the plate 18, which consist of a pair of screws.

[0024] The connecting element 20 is T-shaped in order to be inserted with the stem in an adapted seat of the plate 18, at right angles to the direction of extension of the support 19 and with the interposition of one end of the latter.

[0025] The partition wall comprises a pair of profiles 25, of which one is provided monolithically with the upper profiled element 11a and the other is rendered integral with the latter by fixing, by means of screws, to the plate 18 fixed beforehand to the upper profiled element 11a.

[0026] The means for supporting the axis of the roller 14 can be clearly distinguished in Figure 3. In particular, the same figure allows to notice that each plate 18 has an opening for transversely accommodating the end of the support 19 and an opening 33 (shown in Figure 6) for the passage of any electrical wires to the interspace 32.

[0027] The plates 18 are joined to the upper profiled element 11a by means of screws 22a.

[0028] The partition wall 10 can have a significant width and therefore can support multiple curtains in sequence, as shown in Figure 1. In this case, an adequate number of plates 18 is installed along the upper profiled element 11a, as a function of the number of curtains to be installed.

[0029] The side of the structure that is shown in cross-section in Figures 2 and 4 to 6 is the freely moving side. At the opposite side there can be a motor for the lifting and lowering of the curtain between the two glass sheets, as an alternative to manual lifting means.

[0030] If the curtain is motorized, the wiring is made to pass in succession through the opening 33 of the plate 18 and in the interspace 32 between the cover 15 and the back of the upper profiled element 11a.

[0031] This allows, when the structure supports multiple curtains, to move them individually and with separate motors, since the electrical wires 31 of the motors have dedicated accommodation spaces. As an alternative, the curtains are moved simultaneously with a single motor, by virtue of particular solutions of a known type, such as for example a rotation transmission shaft having a square cross-section.

[0032] The upper profiled element can be fixed to the ceiling, directly or by means of adapted inclination adjustment profiles, or in a plasterboard element or in an in-wall frame.

[0033] A device for the containment of a roll-up curtain roller for a partition wall as described above is also patent subject matter. The device is generally designated by the reference numeral 30 in the sectional views.

[0034] It comprises:

- a longitudinally extended profiled element 11a which forms a receptacle for a curtain roller 12, being open at least frontally, for the insertion and extraction of said curtain roller 12 and, in a downward region, for the passage of the curtain 13 during its downward unwinding,
- means for supporting the axis of the roller 14 inside the profiled element 11a.

[0035] The device also comprises at least one removable cover 15 for the front closure of the profiled element 11a.

[0036] The use of the partition wall according to the invention is as follows.

[0037] During maintenance and inspection, it is sufficient for the operator to separate a cover 15 from the upper profiled element 11a in order to access the receptacle of the curtain roller 12. Removal of the cover 15 can occur as shown in Figure 4, in the direction indicated with the arrow 29a.

[0038] The subsequent removal of the T-shaped element 20, as shown in Figure 5 and indicated by the arrow 29b, allows to separate the roller 12 from the plates 18 and therefore from the upper profiled element 11a. The extraction of the roller 12 is shown in Figure 6 and designated by the arrow 29c.

[0039] From what has been described and illustrated it is evident that the operator can perform accurate maintenance and inspection of the partition wall by easily accessing the internal parts of the wall and can also extract the curtain roller without having to separate the glass sheets from the rest of the partition wall.

[0040] The invention can also be applied to the leaves of doors of partition walls and in the provision of shop windows or external doors or windows, with appropriate modifications to ensure thermal and acoustic insulations.

[0041] In practice it has been found that the invention achieves the intended aim and objects, providing a partition wall and a device for which maintenance and inspection operations are simplified.

[0042] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims; all the details may furthermore be replaced with other technically equivalent elements.

[0043] In practice, the materials used, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to the requirements and the state of the art.

[0044] The disclosures in Italian Patent Application No. 102017000125010 from which this application claims priority are incorporated herein by reference.

[0045] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A partition wall, **characterized in that** it comprises a perimetric frame of profiled elements (11a, 11b, 11c, 11d) which supports a double glazing unit (24), the upper profiled element (11a) of which contains a curtain roller (12).

2. The partition wall according to claim 1, **characterized in that** it comprises:

   - said longitudinally extended upper profiled element (11a), which forms a receptacle for said curtain roller (12), being open at least frontally, for the insertion and extraction of said curtain roller (12) and in a downward region for the passage of the curtain (13) during its downward unwinding,
   - means for supporting the axis of the roller (14) in said receptacle for said roller (12),
   - a lower profiled element (11d) for the resting and positioning of the lower edge of two sheets (24a, 24b) made of transparent or partially transparent material of the double glazing unit (24), which are substantially parallel and spaced for the passage between them of said curtain (13) during its downward unwinding,
   - at least one profile (25) which is integral with said upper profiled element (11a) below it, for the positioning of the upper edge of said two sheets (24a, 24b).

3. The partition wall according to one or more of the preceding claims, characterizing that it comprises a removable cover (15) for the front closure of said upper profiled element (11a).

4. The partition wall according to one or more of the preceding claims, **characterized in that** said means for supporting the axis of the roller (14) comprise:

   - a plate (18) at each end of an elongated support (19) for said roller (12), to be fixed to the profile of said upper profiled element (11a),
   - at least one element (20) for connecting the end of said elongated support (19) to said plate (18),
   - elements (21) for fixing said connecting element (20) to said plate (18).

5. The partition wall according to one or more of the preceding claims, **characterized in that** said connecting element (20) is T-shaped and can be inserted with its stem in an adapted seat of said plate (18), at right angles to the direction of extension of said support (19) and with the interposition of one end of the latter.

6. The partition wall according to one or more of the preceding claims, **characterized in that** it comprises a pair of said profiles (25), one of which is provided monolithically with said upper profiled element (11a) and the other one is rendered integral with the latter by fixing by means of screws (22b) to at least one said plate (18).

7. A containment device for a roll-up curtain roller for a partition wall according to one or more of the preceding claims, **characterized in that** it comprises:

   - a longitudinally extended profiled element (11a) which forms a receptacle for a curtain roller (12), being open at least frontally, for the insertion and extraction of said curtain roller (12), and in a downward region, for the passage of the curtain (13) during its downward unrolling,
   - means for supporting the axis of the roller (14) inside said profiled element (11a).

8. The device according to claim 7, **characterized in that** it comprises at least one removable cover (15) for the front closure of said profiled element (11a).

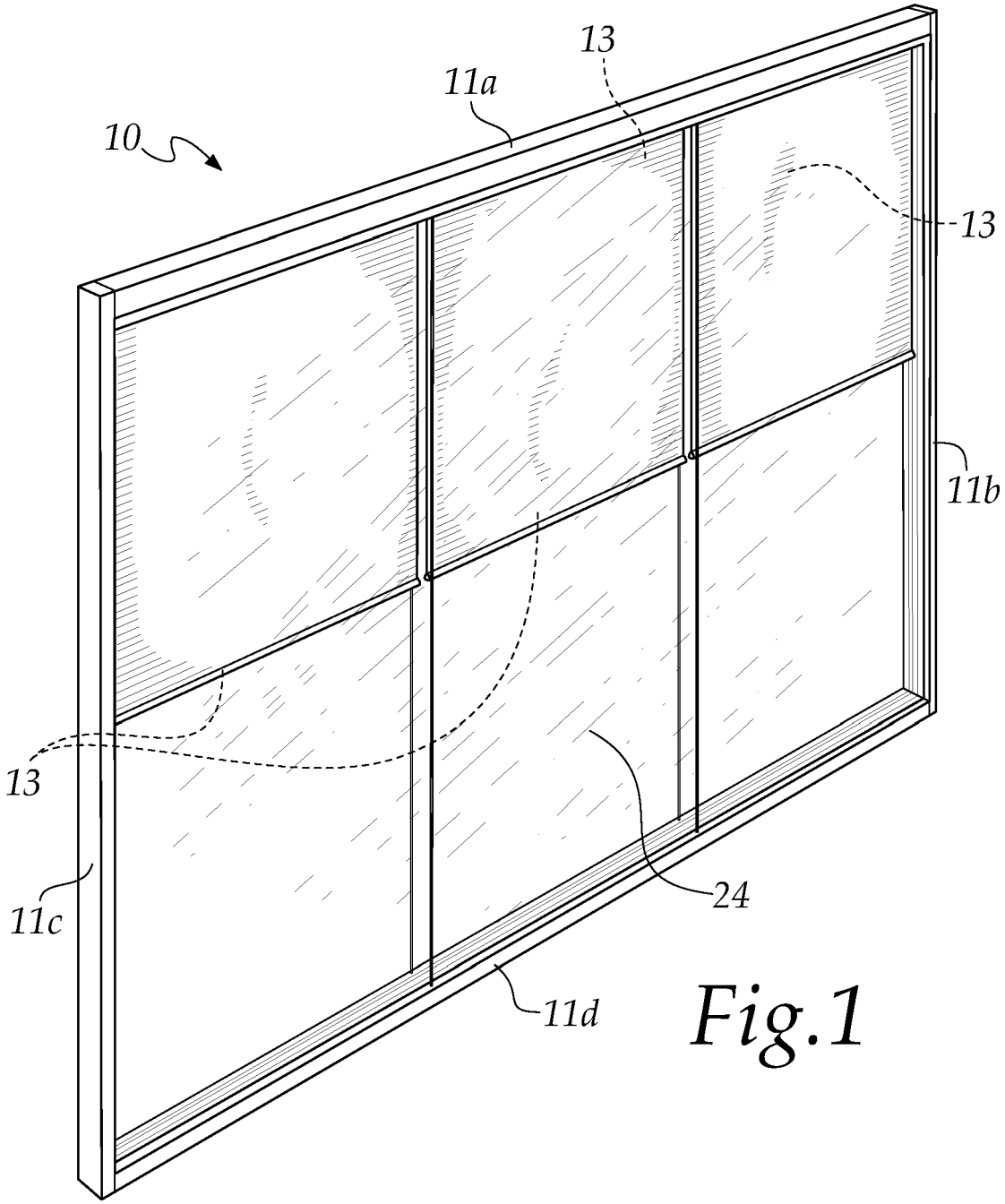

Fig.1

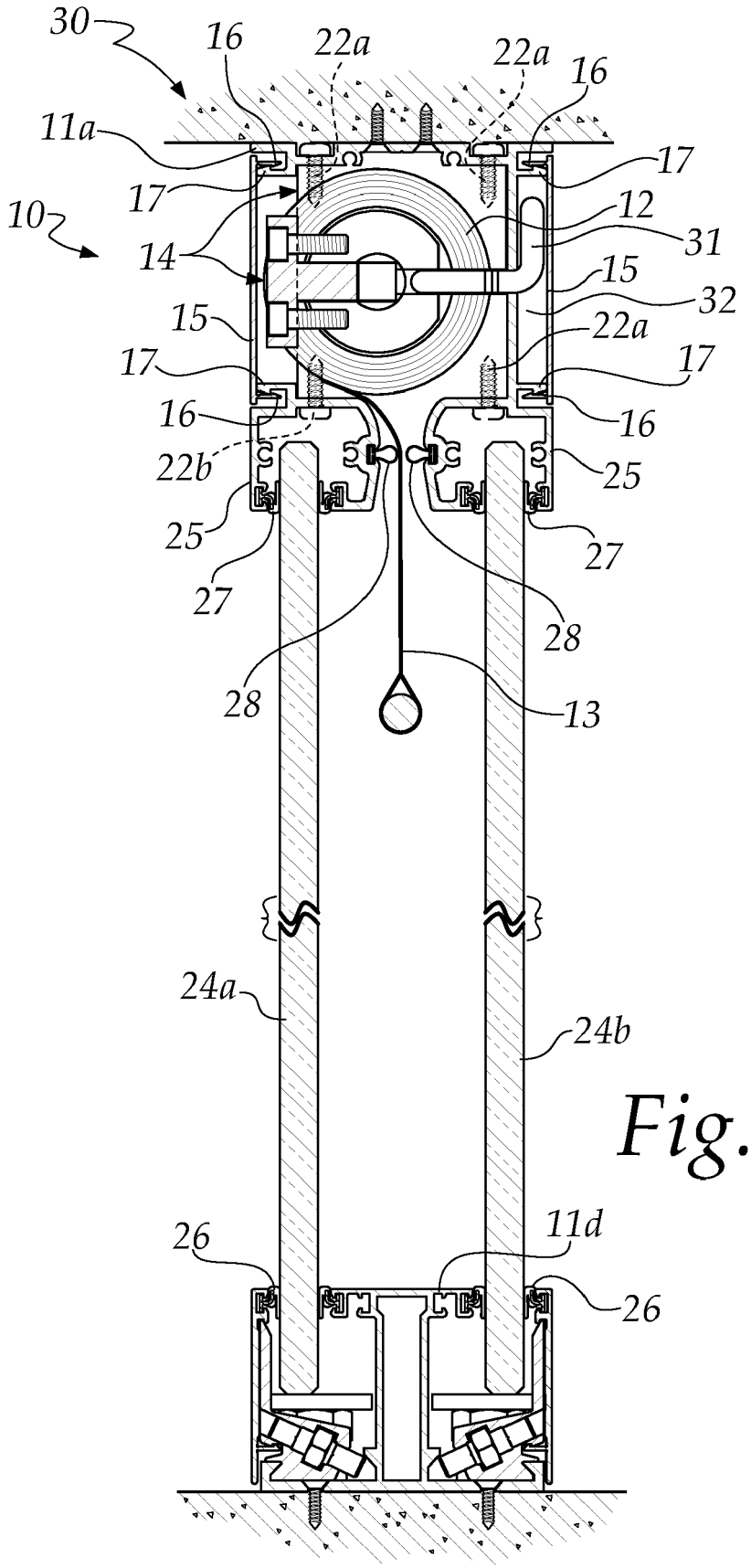
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Fig.2

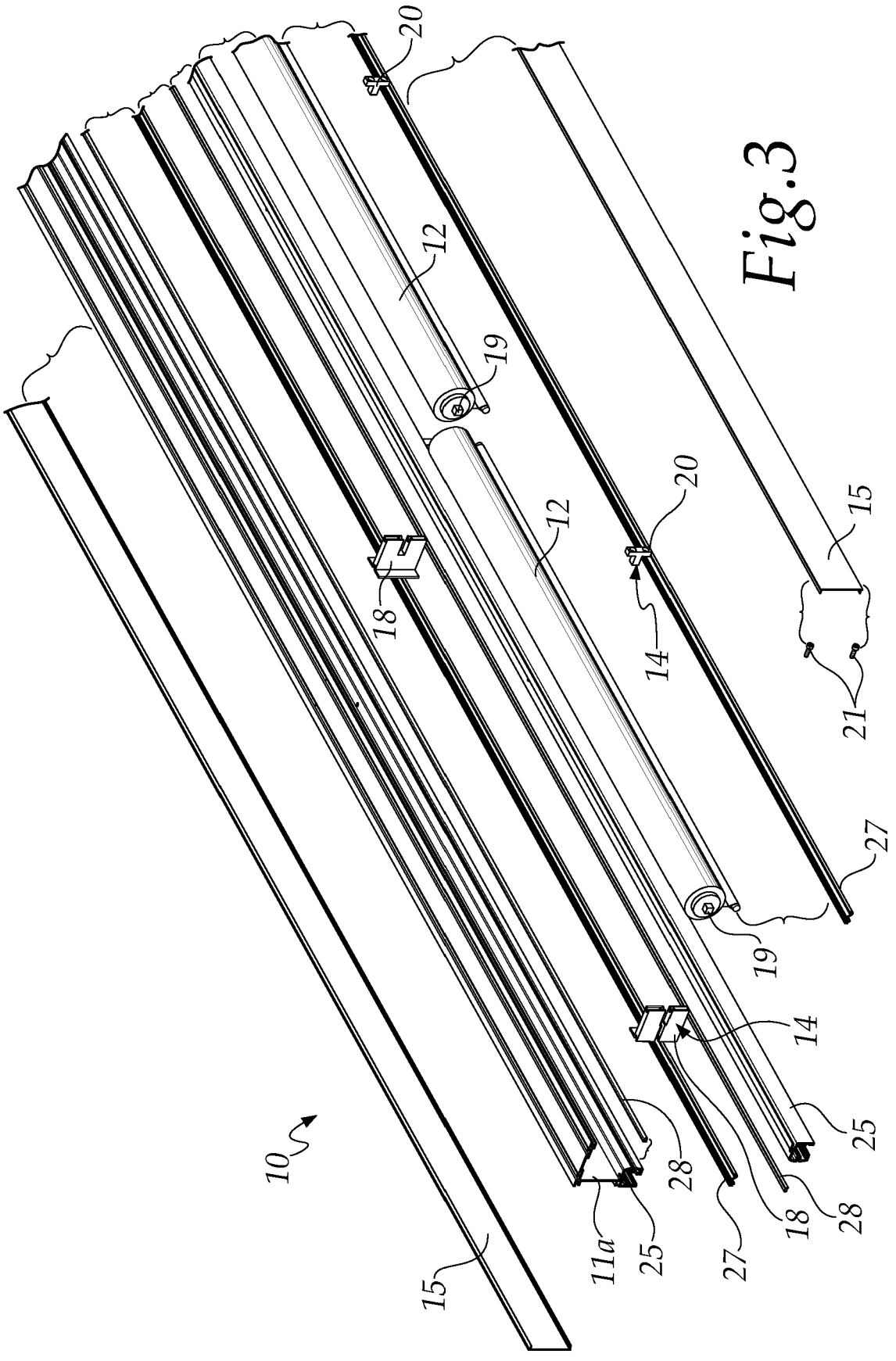
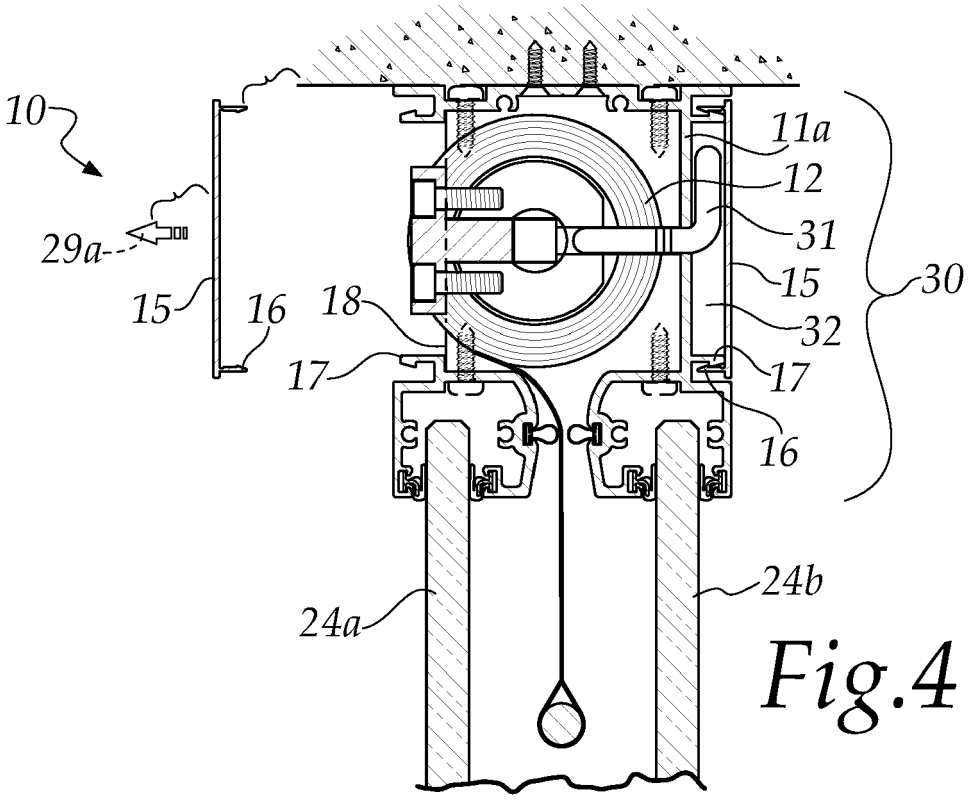


Fig.3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24b

Fig.4

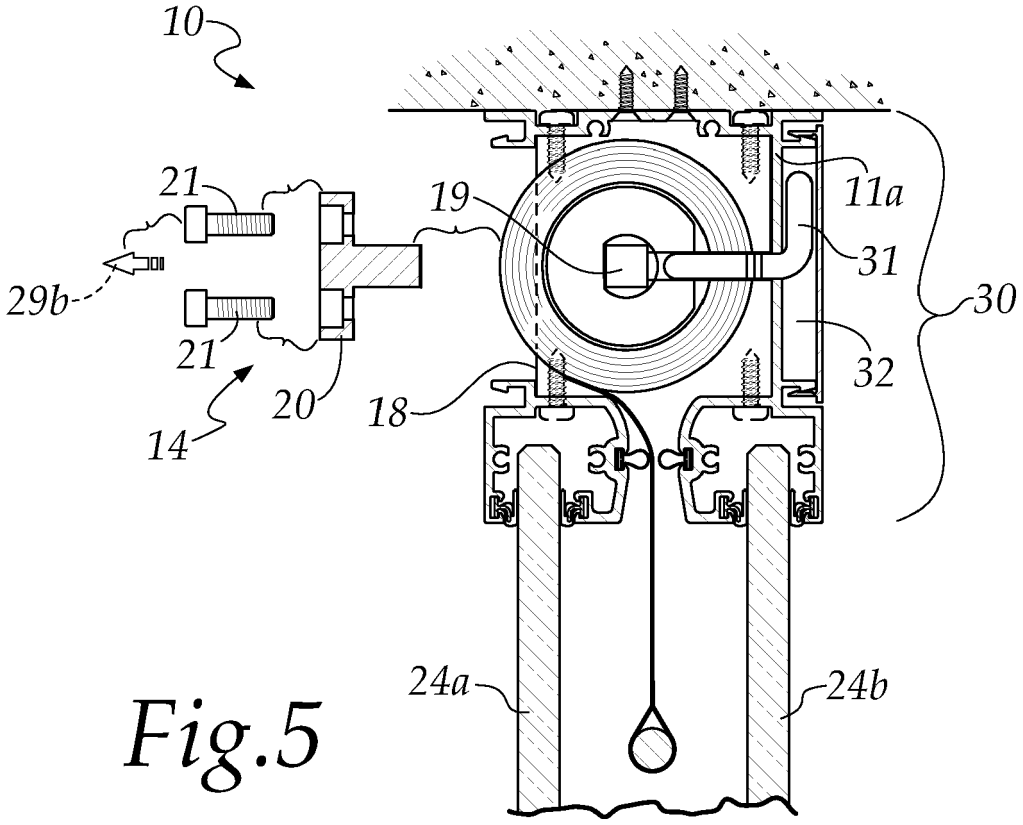
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Fig.5

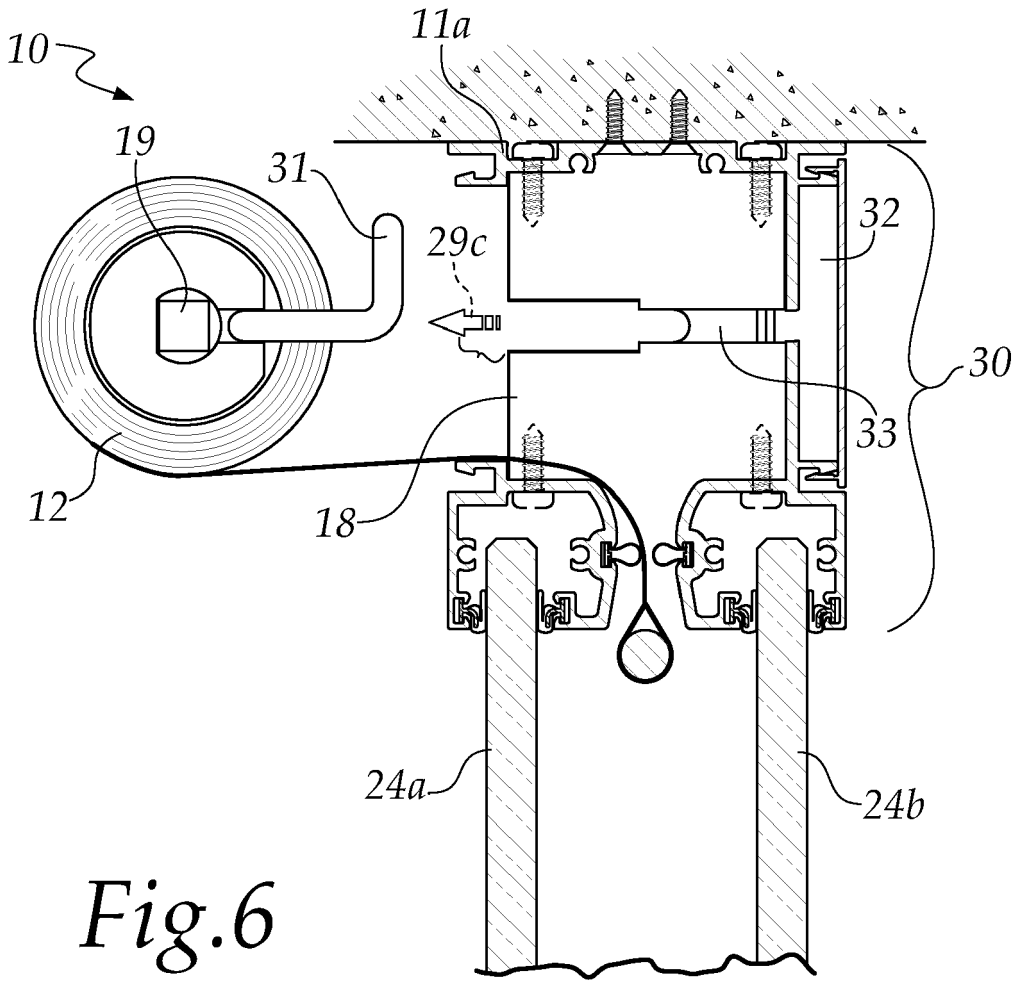

Fig.6

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EUROPEAN SEARCH REPORT

Application Number
EP 18 20 3112

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 A	DE 10 2007 002922 A1 (FEIGL BERNHARD [AT]) 24 July 2008 (2008-07-24) * figure 5 *	1 2-6	INV. E06B9/264 E04B2/88 E04B2/96
X A	US 2017/260798 A1 (BUZEK BRANDON SCOT [US] ET AL) 14 September 2017 (2017-09-14) * figures 3,3a *	1 2-6	E04C2/54 E06B9/17
X	DE 196 42 422 A1 (BECK BERND [DE]; BECK MICHAEL [DE]; BECK VOLKER [DE]) 16 April 1998 (1998-04-16) * figure 1 *	7,8	
X	US 4 282 919 A (TENO FRANCIS D) 11 August 1981 (1981-08-11) * figures 1,2 *	7,8	
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TECHNICAL FIELDS SEARCHED (IPC)

E06B
E04B
E04C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	25 February 2019	Merz, Wolfgang

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EPO FORM 1503 03.82 (P04C01)

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25-02-2019

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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