

US Patent & Trademark Office

Patent Public Search | Text View

United States Patent Application Publication

20250261779

Kind Code

A1

Publication Date

August 21, 2025

Inventor(s)

SANCHEZ GARCIA; Fernando

DEVICE FOR OPENING AND CLOSING CURTAINS AS WELL AS A METHOD FOR CONNECTING AN ELECTRIC MOTOR DRIVE AND/OR A DEFLECTION TO THE PROFILE CROSS-SECTION OF A CURTAIN RAIL

Abstract

A device for opening and closing curtains includes a curtain rail with at least one channel open in the curtain-to-be-hung direction and at least one curtain holding part held movably in the channel in the channel longitudinal direction by guides, for attaching the curtain. The guides are adjustable along the rail via an electric motor drive by a drive mechanism. A laterally-arranged, window-like opening is made in at least one section of the rail profile cross-section, which provides access from outside the rail at least to the channel for the drive mechanism. A structural unit for the electromotive drive and/or a deflection of the drive mechanism is insertable into this opening and fixable therein laterally on the rail for passing the drive mechanism through the region for the electromotive drive and/or the deflection. Also, a method connects an electromotive drive and/or a deflection to the rail profile cross-section.

Inventors: SANCHEZ GARCIA; Fernando (Sundern, DE)

Applicant: H. Büsche GmbH & Co. KG (Neuenrade, DE)

Family ID: 1000008479046

Assignee: H. Büsche GmbH & Co. KG (Neuenrade, DE)

Appl. No.: 19/052526

Filed: February 13, 2025

Foreign Application Priority Data

DE 10 2024 000 512.9

Feb. 18, 2024

Publication Classification

Int. Cl.: A47H5/032 (20060101); A47H1/06 (20060101)

U.S. Cl.:

CPC A47H5/0325 (20130101); A47H1/06 (20130101);

Background/Summary

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Applicant claims priority under 35 U.S.C. § 119 of German Application No. 10 2024 000 512.9 filed Feb. 18, 2024, the disclosure of which is incorporated by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0002] The invention relates to a device for opening and closing curtains and to a method for connecting an electric motor drive and/or a deflection to the profile cross-section of a curtain rail.

2. Description of the Related Art

[0003] Curtain rails are usually used for hanging curtains, in which gliders arranged between the curtain and the curtain rail and fixed to the curtain can be displaced in a sliding or rolling manner in a corresponding groove-like profile shape of the curtain rail relative to the curtain rail. The curtain rail itself is arranged and fastened, for example, on the ceiling or above a wall opening in front of a window. Such devices for hanging a curtain can be operated directly by hand by moving the curtain itself or a corresponding handle such as a curtain rod in the longitudinal direction of the curtain rail. There are also devices for hanging a curtain that can be moved by means of cord pulling technology, usually by manually operated cords running inside the curtain rail and moving the curtain relative to the curtain rail. It is also known that curtains are operated by an electric motor in which a drive motor connected to the curtain rail acts on the curtain, e.g. via drive belts, in such a way that the curtain moves in the longitudinal direction of the curtain rail.

[0004] Inside such curtain rails, guiding and actuating devices are provided with which the curtain can be moved in its relative position to the curtain rail. This requires corresponding profile cross-sections, some of which must have complex geometries. Such curtain rails are often made of metals and in particular light metals such as aluminum. Such curtain rails are also available in many different colors.

[0005] The design of the curtain rails varies considerably in terms of their dimensions and functionality, depending on whether the curtain is operated manually, by means of a cord or by an electric motor. If the curtain is operated by hand, a simple groove open in the direction of the curtain is usually sufficient to guide the gliders or rollers of the curtain, whereas additional grooves and chambers extending along the curtain rail are required for operation by cord pull or electric motor operation of the curtain, e.g. to accommodate drive belts or pull cords or similar. This is necessary to accommodate, guide and move drive belts, pull cords or similar actuating elements within the curtain rail.

[0006] In order to be able to open and close a curtain using an electric motor, an electric motor drive must be provided which, for example, moves drive belts, which run inside the curtain rail and are connected to the curtain via coupling elements, in their position relative to the curtain rail. On the one hand, this electromotive drive must be connected to the guide channels within the curtain rail in order to interact with the guiding and actuating devices; on the other hand, this electromotive drive should be as visually inconspicuous as possible and preferably not visible at all from the front of the curtain.

[0007] For this reason, it is known from EP 2 250 949 B1, for example, that the electric motor

drive for adjusting a curtain is coupled to the curtain rail in such a way that a connecting element is attached to the curtain rail in the extension of the curtain rail, on which an adapter for attaching the electric motor drive and curved channels are provided, through which the actuating device for the curtain in the form of an endless drive belt running along the curtain rail can pass from the channels of the curtain rail into the area of the electromotive drive and be driven there. The toothed drive belt is guided over a toothed wheel driven by the electric motor drive, deflected and driven by the toothed wheel rotating by the electric motor. If a corresponding deflection of the drive belt is provided at both ends of the curtain rail or, in the case of two-part curtains, at the ends of the respective movement areas of the partial curtains, the electric motor drive moves the curtain along the curtain rail. The electric motor drive or the deflection is advantageously arranged in the area that disappears behind the curtain at the ends of the curtain rail for an observer and is therefore largely invisible. For this purpose, the drive belt is guided out of its path along the curtain rail via curved channels into an area behind the curtain, as this is what makes it possible to conceal the electric motor drive or the deflection behind the curtain. This also makes it possible to provide the visible ends of the curtain rail as usual with decorative elements such as end buttons, which are clearly visible from the front of the curtain. The disadvantage of this design is that a corresponding adapter for the electric motor drive or the deflection in the extension of the curtain rail must be provided for each curtain rail, which must be designed to exactly match the dimensions of the respective curtain rail in terms of cross-section and must be attachable to the curtain rail and be as identical as possible in color to the color of the curtain rail in order to also visually match the curtain rail. Due to the large number of possible cross-sections and colors of commercially available curtain rails, the manufacturer or distributor of such curtain rails with electric motor drives must produce and stock a large number of suitable adapters in order to be able to meet all customer requirements. It is also difficult to create a color match between the curtain rail and the adapter, for example when it comes to surface finishing. This impairs economic efficiency.

SUMMARY OF THE INVENTION

[0008] The object of the present invention is therefore to further develop a known device for opening and closing curtains in such a way that the drive for curtain rails can be arranged on the curtain rail in a simplified manner.

[0009] The solution of the object results with regard to the device from the characterizing features according to one aspect of the invention and with regard to the method for connecting an electromotive drive and/or a deflection link to the profile cross-section of a curtain rail from the characterizing features according to another aspect of the invention, in each case in interaction with the features of the associated device or method. Further advantageous embodiments of the invention are discussed below.

[0010] The invention with regard to the device is based on a device for opening and closing curtains, comprising a curtain rail with at least one channel open in the direction of the curtain to be hung and at least one curtain holding part held movably in the channel in the longitudinal direction of the channel by means of guide devices for attaching the curtain to be hung, wherein the guide devices for the at least one curtain holding part are adjustable along the curtain rail via an electric motor drive by means of a drive means. Such a generic device is further developed in accordance with the invention in that a laterally arranged, window-like opening is made in at least one section of the profile cross-section of the curtain rail, which provides access from outside the curtain rail to at least the at least one channel for the drive means, wherein a structural unit for the electromotive drive and/or a deflection of the drive means can be inserted into this opening and can be fixed therein laterally on the curtain rail in such a way that the drive means can pass through the region for the electromotive drive and/or the deflection. The lateral opening of the profile cross-section itself in the area in which an electric motor drive or a deflection is to be attached makes it possible to arrange these on the respective profile of the curtain rail without additional plug-on adapters that fit the profile cross-section, as in EP 2 250 949 B1, and thus to provide the electric motor drive or a

deflection, which is open to the at least one channel for the drive means, so that the drive means can pass from the at least one channel into the area of the electromotive drive or the deflection and can be driven or deflected there. At the same time, the lateral insertion of the window-like opening in the profile cross-section allows the electromotive drive or the deflection to be arranged laterally behind the curtain plane and thus hidden behind the curtain, whereby the electromotive drive or the deflection largely disappears behind the curtain and is largely invisible to the observer located in front of the curtain. Likewise, the usually decoratively designed end area of the curtain rail can be fitted with decorative elements such as conventional end buttons or the like, as was previously the case. In addition, the arrangement of the electromotive drive or the deflection, at least in sections within the profile cross-section of the curtain rail, allows the size of the electromotive drive or the deflection to be reduced. The needed construction size of the electromotive drive or the deflection overlaps or penetrates the needed construction size of the curtain rail and therefore is reduced. This also makes it unnecessary to have separate adapters for the electric motor drive or the deflection for each cross-sectional shape of the curtain rail, as these are no longer required. The color matching of such an adapter, which was previously visible in the installation state, to the color of the curtain rail is also unnecessary, as the curtain rail is unchanged in the area visible from the front of the curtain and the assembly for the electric motor drive or deflection is largely invisible behind the curtain and can therefore be designed in any color. This significantly improves the inventive design of the device both technically and economically compared to the known arrangement of electric motor drive or deflection.

[0011] In a first embodiment, it is conceivable that the structural unit has the electromotive drive and/or the deflection as well as guides for the drive means from the area within the at least one channel for the drive means in the curtain rail into the area of the electromotive drive and/or the deflection and back into the at least one channel for the drive means in the curtain rail. In addition to providing a torque and a deflection point, the structural unit for the electromotive drive and/or the deflection can thus also perform guiding tasks, since the drive means must be safely introduced from the at least one channel for the drive means in the curtain rail into the structural unit for the electromotive drive and/or the deflection and also guided back from this structural unit into the at least one channel for the drive means in order to ensure trouble-free operation. Guides provided for this purpose can ensure this safe transition by allowing engagement through the window-like opening directly into the interior of the at least one channel for the drive means.

[0012] In a further embodiment, the guides of the structural unit for guiding the drive means from the area inside the channel for the drive means in the curtain rail into the area of the electric motor drive and/or the redirection and back can be curved, whereby a successive redirection of the drive means from the path along the curtain rail into the structural unit of the electromotive drive and/or the deflection and back is possible.

[0013] It is also advantageous if a guide for the drive means is provided from the area within the channel for the drive means in the curtain rail into the area of the electric motor drive and/or the deflection and a guide for the drive means back from the area of the electric motor drive and/or the deflection into the channel for the drive means in the curtain rail. As a result, the drive means is guided by separate guides at the transition from the channel in the curtain rail into the unit of the electric motor drive and/or the deflection and back into a channel in the curtain rail and runs independently of the other guide.

[0014] It is also conceivable that the guides are designed as parts of the housing of the structural unit which, when the structural unit is mounted on the curtain rail, protrude into the window-like opening of the curtain rail as far as the at least one channel for the drive means. In this way, the guides can, if necessary, project beyond the outer dimensions of the housing of the structural unit in the direction of the window-like opening and thus be inserted particularly well into the at least one channel for the drive means and guide the drive means over long areas of the transition between the channel and the structural unit.

[0015] It is particularly advantageous that the laterally arranged, window-like opening only interrupts the normal profile cross-section of the curtain rail in sections. As a result, a corresponding window-like opening can be arranged along the curtain rail only where an electric drive or deflection of the drive means is required and a corresponding component can be inserted there. The window-like opening can thus be arranged in at least one end area and/or a middle area of the curtain rail arranged along the curtain rail. This makes it possible not only to provide an electric drive or a deflection at the end of the curtain rail, but also to provide corresponding deflections in the middle of the curtain rail, for example in the case of divided, independently driven partial curtains, which would otherwise only have been possible with additional adapter elements to be inserted into the curtain rail in the longitudinal direction with the problems already described.

[0016] A particular advantage of the lateral arrangement and the lateral insertion of the unit for the electric drive or the deflection is that the curtain rail extends over the entire length of the curtain's range of movement and is visible from the front of the curtain as one continuous part. This makes it possible, in particular, for the opening arranged laterally in the profile cross-section of the curtain rail and thus also the component unit with the electric motor drive and/or the deflection to be concealed behind the curtain in the installed state. From the front of the curtain, the curtain rail appears to be made of one continuous piece and therefore has a uniform appearance.

[0017] From an economic as well as a technical point of view, it is also a great advantage that the construction unit with the electromotive drive and/or the deflection can be designed to fit a large number of curtain rails of different cross-sections. Irrespective of the external design and the external dimensions of the cross-sectional shape of the curtain rail, a uniform construction unit with the electric motor drive and/or the deflection can be used, as the at least one channel for guiding the drive means is arranged identically or at least similarly inside the curtain rail for many cross-sectional shapes. This means that only the shape and dimensions of the window-like opening in the curtain rail need to be designed appropriately to the arrangement of such an universal construction unit at the curtain rail and for engaging with the drive means.

[0018] Furthermore, it is conceivable that the structural unit with the electromotive drive and/or the deflection engages around at least parts of the outer contour of the curtain rail and/or engages in recesses in the outer contour of the curtain rail and is fixed there on the curtain rail. In this way, a simple and easily accessible fixing of the construction unit to the curtain rail can be realized, for example by sections of the construction unit engaging in grooves or around contour sections of the curtain rail and being able to be screwed or clipped on there.

[0019] It is particularly advantageous that the opening arranged laterally in the profile cross-section of the curtain rail can be made, preferably milled, into the profile cross-section of the curtain rail by the user. In this way, a window-like opening can be made for example by milling directly at the installation site and after determining the desired movement options of the curtain in a standard curtain rail at precisely the points where it is required. The curtain rail manufacturer is not required to do this, which provides improved flexibility of use and cost benefits for the customer. The window-like opening can be made, for example, with a milling device that is available to the installation company and creates a predeterminable window-like opening in the curtain rail.

[0020] It is conceivable and advantageous if the drive means is designed as a, preferably endless, belt, preferably a toothed belt, but it is also possible to design the drive means as a cord or belt.

[0021] It is advantageous if the drive means is deflected and possibly also wound up via rollers or gear wheels in the unit for the electric motor drive and/or a deflection.

[0022] With regard to the method, the invention relates to a method for connecting an electric motor drive and/or a deflection to the profile cross-section of a curtain rail, in which, in accordance with the invention, at least one laterally arranged, window-like opening for receiving a structural unit for the electric motor drive and/or a deflection of the drive means is placed into the profile cross-section of the curtain rail in at least one section of the curtain rail, which opening provides

access from outside the curtain rail at least to the at least one channel for a drive means of the curtain. The advantages of the method according to the invention are related to the advantages and properties of the device according to the invention explained in detail above. Thus, the above explanations can be directly transferred to the method, which is hereby expressly done and serves to avoid unnecessary repetition.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] Other objects and features of the invention will become apparent from the following detailed description considered in connection with the accompanying drawings. It is to be understood, however, that the drawings are designed as an illustration only and not as a definition of the limits of the invention.

[0024] In the drawings,

[0025] FIGS. 1A and 1B show a first schematically illustrated embodiment of the device according to the invention, once in FIG. 1A showing the curtain rail provided with a window-like opening and in FIG. 1B with a component unit for electromotive drive or deflection of a drive means arranged in the window-like opening on the curtain rail;

[0026] FIGS. 2A, 2B, 2C, and 2D show various views, sectional views and plan views of the device according to FIG. 1B;

[0027] FIGS. 3A and 3B show the device according to FIG. 2A with drive means arranged thereon and its course between the structural unit and channels within the curtain rail;

[0028] FIGS. 4A and 4B show a bottom view and a side view of the construction unit according to FIG. 1B; and

[0029] FIGS. 5 and 6 show representations of the arrangement of the curtain rail provided with a window-like opening for various typical cross-sectional designs of curtain rails.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0030] The invention is described below with reference to preferred embodiments in its function and structure with the aid of schematic figures.

[0031] FIGS. 1A, 1B show a first schematically illustrated embodiment of the device according to the invention, once in FIG. 1A showing the curtain rail 1 provided with a window-like opening 2 with edges 3 and in FIG. 1B with a component unit 6 explained in more detail later for electromotive drive 13, 14 or deflection 13 of a drive means 12 arranged in the window-like opening 2 on the curtain rail 1.

[0032] The curtain rail 1 has an approximately trapezoidal outer shape with partially rounded corner areas and has a series of chamber-like channels 4, 11 and reinforcements arranged between them on the inside. Such cross-sections of curtain rails 1 are usually extruded from light metals and are extensively known and will only be explained here to the extent that this is relevant to the present invention. Important in this context is the channel-like chamber 4 extending along the curtain rail 1, which in this illustration has a groove 9 at the top opening towards the curtain (not shown further), through which a movement of the drive means 12 (shown more precisely in FIGS. 3A and 3B) arranged movably in the channel 4 along the curtain rail 1 is transferred to hanging means of the curtain in a manner known per se and not further relevant here and therefore moves the curtain along the curtain rail 1. In assembled state of the curtain rail 1 the groove 9 is aligned to the bottom and the curtain hangs underneath the groove 9 on the drive means 12.

[0033] If the drive means 12 is now to be moved within the curtain rail 1 by an electric motor, an electric drive motor 14, which is not shown here, must be able to act on the drive means 12, which is also toothed here, via a toothed wheel 13 and ensure the displacement along the curtain rail 1. For this purpose, the drive means 12 must interact with the drive assembly referred to here simply

as electric motor drive **13**, **14**, in a known manner in that the drive means **12**, designed for example as a toothed belt, wraps around a toothed wheel **13** driven by an electric drive motor **14**, not shown here, arranged on the flange **21**. If the toothed wheel **13** now rotates due to the action of the electric motor drive **14**, the toothed belt-like drive means **12**, coming from a channel **15** arranged inside the chamber **4** and separated by a partition wall **17**, revolves around the toothed wheel **13** and is moved back into another channel **16** arranged inside the chamber **4** and separated by the partition wall **17** inside the chamber **4**. Due to this known wrapping of the drive means **12** around a gearwheel **13**, the curtain connected to the drive means **12** can be moved back and forth along the curtain rail **1** depending on the direction of rotation of the gear wheel **13**.

[0034] However, in order to allow the electric motor drive **13**, **14** to come into contact with the drive means **12**, according to the present invention a window-like opening **2** with edges **3** is milled into the lateral walls of the curtain rail **1**, for example with a device or on a machine, which opens the channel **4** laterally and thus makes the drive means **12** accessible through the window-like opening **2** for interaction with the electric motor drive **13**, **14**. A component unit **6** with an installation space **7** for an electric motor drive **13**, **14** or a deflection **13** can then be inserted into this window-like opening **2** and clamped to the curtain rail **1** by means of screws **10** in a groove **11** of the curtain rail **1**, in the interior of which or on which all the necessary components for an electric motor drive **13**, **14** are present. In addition to an electric motor drive **13**, **14**, the structural unit **6** can also have only a non-driven deflection device such as a rotatably mounted gear wheel **13**. Such a deflection is sufficient for upstream sections of the curtain for which at one end a structural unit **6** with an electric motor drive **13**, **14** is present and at the other end of which the drive means **12** only has to be deflected from the channel **15** into the channel **16** or vice versa. In this case, no electric motor **14** is attached to the flange **21** for such a deflection **13** and the gear wheel **13** rotates passively when the drive means **12** are actively moved by an electric motor device **13**, **14** for example at the other end of the curtain rail **1**.

[0035] As can be seen more clearly in FIG. 2A, the structural unit **6** has an approximately cuboid basic shape, with two openings arranged between guides **8** being present in the outer surface of the structural unit **6** directed towards the window-like opening **2**, which openings extend at an angle to the channels **15** and **16** and through which the drive means **12** can enter or exit the interior of the structural unit **6** from the channels **15**, **16**. For this purpose, these openings are surrounded as far as the area of the channels **15**, **16** by tongue-like guides **8** which, together with the walls of the channels **15**, **16**, surround the movement space of the drive means **12** when it passes between the curtain rail **1** and the structural unit **6** and guide the drive means **12** securely. Sections **18** of the tongue-like guides **8** can be curved in order to ensure a smooth transition of the drive means **12** between curtain rail **1** and structural unit **6** and vice versa. The guides **8** guide the drive means **12** in such a way that the drive means **12** is guided approximately tangentially towards a toothed wheel **13** and approximately tangentially away from the toothed wheel **13**, thereby partially wrapping around the toothed wheel **13**. If the gear wheel **13** rotates, the drive means **12**, which is toothed in the opposite direction here, for example, is also entrained and moved either from channel **15** into channel **16** or vice versa, depending on the direction of rotation of the gearwheel **13**. This moves the curtain arranged on the drive means **12** either to the left or to the right. The gear wheel **13** only has an electromotive drive **14** which can be flanged to the flange **21** on the outside of the structural unit **6** if this structural unit **6** is to serve as a drive. If, on the other hand, the structural unit **6** is only required to deflect the drive means **12**, no electromotive drive **14** is flange-mounted to the flange **21** and the gear wheel **13** is only used for passive deflection of the drive means **12**. This is the standard case with single-drive curtains, where a structural unit **6** with an electromotive drive **13** is required at one end section and a pure deflection **13** is required at the other end section.

[0036] The structural unit **6** itself can be fixed by screws **10** to suitably shaped sections of the cross-sectional shape of the curtain rail **1**, for example by an overhanging housing section **19** forming a receiving space **20** for sections of the curtain rail **1** and enabling the curtain rail **1** and

structural unit **6** to be fixed to each other in a suitable manner.

[0037] FIGS. **5** and **6** show examples of embodiments of the window-like opening **2** and its edges **3** on other cross-sectional shapes of a curtain rail **1**, for which all the above properties and advantages also apply. Ideally, the same construction unit **6** can be used for all these cross-sectional shapes of curtain rails **1**.

[0038] Although only a few embodiments of the present invention have been shown and described, it is to be understood that many changes and modifications may be made thereunto without departing from the spirit and scope of the invention.

Numerals

[0039] **1**—curtain rail [0040] **2**—window-like opening [0041] **3**—edge of window-like opening [0042] **4**—chamber for drive unit [0043] **5**—channel for fastening [0044] **6**—structural unit [0045] **7**—installation space for electric motor drive/deflection [0046] **8**—guides [0047] **9**—open groove to the curtain [0048] **10**—fixing screws [0049] **11**—clamping groove [0050] **12**—toothed belt for electromotive adjustment [0051] **13**—toothed wheel for electric drive/deflection [0052] **14**—electric motor drive [0053] **15**—channel for drive unit [0054] **16**—channel for drive unit [0055] **17**—center bar between channels for drive means [0056] **18**—curved section guide for guiding drive means [0057] **19**—overhanging housing section [0058] **20**—mounting space for curtain rail [0059] **21**—flange for electric motor drive

Claims

1. A device for opening and closing curtains, comprising a curtain rail (**1**) with at least one channel (**9**) open in the direction of the curtain to be hung and at least one curtain holding part held movably in the channel (**9**) in the longitudinal direction of the channel (**9**) by means of guide devices for attaching the curtain to be hung, the guide devices for the at least one curtain holding part being adjustable along the curtain rail (**1**) via an electric motor drive (**13, 14**) by means of a drive means (**12**), wherein a laterally arranged, window-like opening (**2**) is made in at least one section of the profile cross-section of the curtain rail (**1**), which opening provides access from outside the curtain rail (**1**) at least to the at least one channel (**4, 15, 16**) for the drive means (**12**), wherein a structural unit (**6**) for the electromotive drive (**13, 14**) and/or a deflection (**13**) of the drive means (**12**) can be inserted into this opening (**2**) and can be fixed therein laterally on the curtain rail (**1**) in such a way that the drive means (**12**) can pass through the area for the electromotive drive (**13, 14**) and/or the deflection (**13**).

2. The device according to claim 1, wherein the structural unit (**6**) shows the electromotive drive (**13, 14**) and/or the deflection (**13**) as well as guides (**8**) for the drive means (**12**) from the region within the at least one channel (**4, 15, 16**) for the drive means (**12**) in the curtain rail (**1**) into the area of the electromotive drive (**13, 14**) and/or the deflection (**13**) and back into the at least one channel (**4, 15, 16**) for the drive means (**12**) in the curtain rail (**1**).

3. The device according to claim 1, wherein the guides (**8**) of the structural unit (**6**) for guiding the drive means (**12**) from the region within the channel (**4, 15, 16**) for the drive means (**12**) in the curtain rail (**1**) into the region of the electromotive drive (**13, 14**) and/or the deflection (**13**) and back are curved.

4. The device according to claim 3, wherein a guide (**8**) for the drive means (**12**) from the region within the channel (**4, 15, 16**) for the drive means (**12**) in the curtain rail (**1**) into the region of the electromotive drive (**13, 14**) and/or the deflection (**13**) and a guide (**8**) for the drive means (**12**) back from the area of the electric motor drive (**13, 14**) and/or the deflection (**13**) into the channel (**4, 15, 16**) for the drive means (**12**) in the curtain rail (**1**) are provided.

5. The device according to claim 2, wherein the guides (**8**) are designed as parts of the housing of the structural unit (**6**) which, in the assembly state of the structural unit (**6**) on the curtain rail (**1**), project into the window-like opening (**2**) of the curtain rail (**1**) as far as into the at least one channel

(4, 15, 16) for the drive means (12).

6. The device according to claim 1, wherein the laterally arranged, window-like opening (2) interrupts the standard profile cross-section of the curtain rail (1) only in sections.

7. The device according to claim 1, wherein the window-like opening (2) is arranged in at least one end region and/or a middle region of the curtain rail (1) arranged along the curtain rail (1).

8. The device according to claim 1, wherein the curtain rail (1) extends over the entire length of the moving region of the curtain and is visible from the front of the curtain as a continuous part.

9. The device according to claim 8, wherein the opening (2) arranged laterally in the profile cross-section of the curtain rail (1) is concealed behind the curtain in the installed state.

10. The device according to claim 1, wherein the structural unit (6) with the electromotive drive (13, 14) and/or the deflection (13) is designed to fit a plurality of curtain rails (1) of different cross-sections.

11. The device according to claim 1, wherein the structural unit (6) with the electromotive drive (13, 14) and/or the deflection (13) engages around at least parts of the outer contour of the curtain rail (1) and/or engages in recesses (11) in the outer contour of the curtain rail (1) and is fixed there on the curtain rail (1).

12. The device according to claim 1, wherein the opening (2) arranged laterally in the profile cross-section of the curtain rail (1) can be machined, preferably milled, into the profile cross-section of the curtain rail (1) on the user side.

13. The device according to claim 1, wherein the drive means (12) is designed as a, preferably endless, belt, preferably a toothed belt, a cord or a band.

14. The device according to claim 1, wherein the drive means (12) can be deflected via rollers or gear wheels (13) in the structural unit (6) for the electromotive drive (13, 14) and/or a deflection (13).

15. A method for connecting an electromotive drive (13, 14) and/or a deflection (13) to the profile cross-section of a curtain rail (1), wherein at least one laterally arranged, window-like opening (2) for accommodating a structural unit (6) for the electromotive drive (13, 14) and/or a deflection (13) of the drive means (12) is machined into the profile cross-section of the curtain rail (1) in at least one section of the curtain rail (1), which provides access from outside the curtain rail (1) at least to the at least one channel (4, 15, 16) for a drive means (12) of the curtain.

16. The method according to claim 15, wherein the window-like opening (2) is machined into the profile cross-section of the curtain rail (1) to match the dimensions of the curtain rail (1) and the movement lengths of the curtain along the length of the curtain rail (1).

17. The method according to claim 15, wherein the window-like opening (2) is machined in at least one end region and/or a middle region of the curtain rail (1) arranged along the curtain rail (1).

18. The method according to claim 15, wherein the window-like opening (2) is machined into the profile cross-section of the curtain rail (1) on the user side.

19. The method according to claim 18, wherein the opening (2) arranged laterally in the profile cross-section of the curtain rail (1) is milled into the profile cross-section of the curtain rail (1).
