HOLDER FOR TRACK ROLLERS

A holder (1) for track rollers (4) or similar runner devices capable of being displaced along tracks (5) extending along the path of movement of a moving door panel or some other covering element. The invention permits, amongst other things, the use of a single type of roller holder, irrespective of the curvature of the guide tracks. Each track roller (4), etc., is supported by a swinging arrangement (6) attached to the door panel, etc., so that the track rollers (4) are capable of being adjusted to a desired position relative to the track (5) in question.
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Holder for track rollers

The present invention relates to a holder for track rollers or similar runner devices capable of being displaced along tracks extending along the path of movement of a moving door panel or some other covering element.

The principal object of the present invention is, in the first place, to make available an arrangement of the kind indicated above, which enables track rollers of the kind in question to be adjusted to a desired distance from an associated door panel, and which enables the desired clamping effect to be achieved between the door panel and an existing vertical mounting profile upon actuation of a door panel stop arrangement.

Said object is achieved by means of a holder in accordance with the present invention, which is characterized essentially in that the respective track roller, etc., is supported by a swinging arrangement attached to the door panel, etc., so that the track rollers are capable of being adjusted to a desired position relative to the track in question.

The invention is described below as a preferred illustrative embodiment, in conjunction with which reference is made to the accompanying drawings, in which

Fig. 1 illustrates a holder in accordance with the invention in perspective view in a positively activated stop position; and

Fig. 2 illustrates a row of holders arranged between door panel sections.

A holder 1 in accordance with the present invention, which is conveniently so arranged as to be attached to a door panel 2 or some other covering element capable of moving along an opening 3 on the inside 2A of panel sections 21, 22, 23, 24, etc., capable of being connected to one another in a flexible manner in a previously disclosed fashion, and which exhibits track rollers 4 or other similar runner devices which are capable of being displaced along tracks 5 extending along the intended path of movement of the door panel, etc., comprises a swinging
arrangement 6. A swinging arrangement 6, which comprises at least one swinging arm 9, 10 extending between a bearing 7 for the holder 1 and an attachment 8 for a track roller 4, etc., is so arranged as to support the track roller 4, etc., in question in such a way that the track rollers 4 are able to be adjusted to a desired position relative to the track 5 in question.

The track rollers 4, etc., in question are so arranged as to be capable of being accommodated in a previously disclosed fashion inside the cavity 11 in a track 5, so that they are able to interact with those surfaces of the track which face towards one another and with the track surfaces 5A, 5B which extend along the track.

Two swinging arms 9, 10 situated at a certain distance from one another are conveniently attached to one another via shafts 12, 13, which are situated at both the respective ends 1A, 1B of the holder. One shaft 12, which is intended to constitute the swinging axle for the holder 1, is conveniently accommodated in a bearing sleeve 14, which can be divided at its centre, for instance, so that the swinging axle 12 shall also be capable of being connected to a sleeve-shaped bearing part 15, which is attached to a holder part 11, which is so arranged as to be secured to the inside 2A of a panel section 21-26, which is capable of being connected together after the bearing part 15 has been accommodated in a suitable hole 16 in the sleeve 14.

A track roller, etc., 4 is supported on the other hand by the fixing axle 13 at one end 13A of the axle, directly in line with the area of the appropriate accommodating cavity 11 of a rail. Said fixing axle 13 is capable of being accommodated in a rigid tube 17 attached to the free ends 9A, 10A of the swinging arms 9, 10, in the internal cavity 18 of which rigid tube said fixing axle 13 is capable of being accommodated.

Apart from said swinging arms 9, 10 the holder 1 consists of a holder bracket 19 executed preferably from a piece of material of essentially U-shaped cross-section so arranged as to be attached to the inside 2A of the door panel by means of a number of bolts 20, which are preferably accommodated in
slot-shaped holes 21 in the base plate 19A of said bracket for the purpose of enabling the holder to be adjusted to and locked in a desired position along the path of movement A of the door panel by means of the bolts 20 in question. Said bracket piece 19 supports said bearing sleeve 14 at the top, whilst swinging arms 9, 10 in question extend close along a leg 22, 23 which extends outwards at an angle from the base plate 19A at its respective lateral edges, preferably at right-angles.

A lock 24 is also provided on each holder 1, by means of which lock the track roller 4, etc., in question can be locked in a desired set position in relation to the door panel 2 and the track 4, so that the track rollers 4 will be positioned at the correct distance from the door panel 2, with one and the same type of holder 1, so that the outside of the door panel 2B comes into a position close against mounting profiles 25 extending along the path of movement A of the door panel and situated on both vertical lateral edges 3A of the door opening, so as to be capable of interacting with a seal 26 supported by said profile 25 on its surface 25A facing towards the door panel. The lock 24 can consist of a bolt 27 or some other suitable connection which is accommodated by a bow-shaped or some other slot-shaped opening 28 in a leg 22, 23 on the respective swinging arm 9, 10 of a bracket piece 19 in question, so as to permit the swinging arm 9, 10 in question to be connected to the bracket piece 19. The bolt 27, which is accommodated in a hole 29 in the respective swinging arm 9, 10, is so arranged as to be capable of being displaced along said opening 28 and of being set to a desired position along it. By tightening the bolt 27 with its associated nut 27A or similar, it is possible to clamp the swinging arm 9, 10 in question and the leg 22, 23 to one another for the purpose of locking the track roller 4 in a desired set position in such a way that it is capable of being released in order to enable it easily to be adapted to the curvature of the track 5.

The invention lends itself particularly to use in conjunction with a door lock arrangement 30 so arranged, amongst other things, as to be capable of being released in order to
the fracture of a drive spring 31 intended for the door. Locks 32, in the form of blocks capable of being caused to project from the side of the track 5 and the track rollers 4, are so arranged as to arrest the continued downward vertical movement of the track rollers. In this way, due in part to the considerable mass of the door panel, the lock 24 for the respective track roller 4 is actuated in such a way as to be disconnected, and the tube 17 with its associated shaft 13 and track roller 4, which is supported at the pivoting ends 9A, 10A of the swinging arms 9, 10, are caused to swing upwards about the articulated link 12, 14 in the direction of the arrow 33. The door panel 2 is thus caused to move for a further vertical distance in the direction of the associated surface 25A of the mounting profile and the seal 26, and to be clamped securely thereto for the purpose of arresting the continued downward fall of the door panel towards the ground in a more effective manner.

The invention is not restricted to the illustrative embodiment described above and illustrated in the drawings, but may be modified within the scope of the Patent Claims without departing from the idea of invention.
Patent Claims

1. Holder for track rollers (4) or similar runner devices capable of being displaced along tracks (5) extending along the path of movement (A) of a moving door panel or a similar covering element, characterized in that the respective track roller (4), etc., is supported by a swinging arrangement (6) attached to the door panel (2), etc., so that the track rollers (4) are capable of being adjusted to a desired position relative to the track (5) in question.

2. Holder according to Patent Claim 1, characterized in that the holder (1) comprises a lock (24), by means of which the track roller (4) in question is capable of being locked in a desired set position.

3. Holder according to Patent Claim 2, characterized in that the swinging arrangement (6) comprises at least one swinging arm (9, 10) extending between a bearing (7) for the holder (1) and an attachment (8) for a track roller (4).

4. Holder according to Patent Claim 3, characterized in that two swinging arms (9, 10) situated at a certain distance from one another are attached to one another via shafts (12; 13) at their respective ends.

5. Holder according to Patent Claim 4, characterized in that one of the shafts (12) is accommodated in a holder bracket (19) capable of being attached to the inside (2A) of the door panel by means of bolts (20), which bracket is conveniently adjustable for position along the door panel (2).

6. Holder according to Patent Claim 5, characterized in that the bracket (19) is executed from a piece of material of essentially U-shaped cross-section which supports a bearing sleeve (14) adapted to fit a swinging axle (12) in question.

7. Holder according to Patent Claim 6, characterized in that a slot-shaped opening (28) in a leg (22, 23) in a bracket piece (19) in question is so adapted as to accommodate a connection (27) capable of being attached to a swinging arm (9, 10) in question.
8. Holder according to Patent Claim 7, characterized in that the opening (28) is bow-shaped.

9. Holder according to any of the Patent Claims 7–8, characterized in that a bolt (27), which is accommodated in a hole (29) in said swinging arm (9, 10) is adjustable along said opening (28) and is so arranged as to clamp the swinging arm (9, 10) and the leg (22, 23) in question to one another by means of a nut (27A) or similar for the purpose of locking the track roller (4) in a desired set position in such a way that it is capable of being released.

10. Holder according to any of the Patent Claims 4–9, characterized in that a track roller (4) is supported by the mounting shaft (13) at one of its ends (13A), and in that the swinging arms (9, 10) are rigidly connected to one another via a tube (17).
1. Holder for track rollers (4) or similar runner devices capable of being displaced along tracks (5) extending along the path of movement (A) of a moving door panel or a similar covering element, the respective track roller (4), etc., is supported by a swinging arrangement (6) attached to the door panel (2), etc., so that the track rollers (4) are capable of being adjusted to a desired position relative to the track (5) in question, characterized in that the swinging arrangement (6) comprises at least one swinging arm (9, 10) extending close along a leg (22, 23) of a holder bracket (19) and which extends outward at an angle from the door etc (2) between a bearing (7) for the holder (1) and an attachment (8) for a track roller (4), and a lock (24) is aimed to clamp the swinging arm (9, 10) and leg in question to each other, for the purpose of locking the track roller (4) in a desired set position capable of being released.

2. Holder according to Patent Claim 1, characterized in that two swinging arms (9, 10) situated at a certain distance from one another are attached to one another via shafts (12; 13) at their respective ends.

3. Holder according to Patent Claim 2, characterized in that one of the shafts (12) is accommodated in a holder bracket (19) capable of being attached to the inside (2A) of the door panel by means of bolts (20), which bracket is conveniently adjustable for position along the door panel (2).

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5. Holder according to Patent Claim 4, characterized in that a slot-shaped opening (28) in a leg (22, 23) in a bracket piece (19) in question is so adapted as to accommodate a connection (27) capable of being attached to a swinging arm (9, 10) in question.
6. Holder according to Patent Claim 5, characterized in that the opening (28) is bow-shaped.

7. Holder according to any of the Patent Claims 5–6, characterized in that a bolt (27), which is accommodated in a hole (29) in said swinging arm (9, 10) is adjustable along said opening (28) and is so arranged as to clamp the swinging arm (9, 10) and the leg (22, 23) in question to one another by means of a nut (27A) or similar for the purpose of locking the track roller (4) in a desired set position in such a way that it is capable of being released.

8. Holder according to any of the Patent Claims 2–7, characterized in that a track roller (4) is supported by the mounting shaft (13) at one of its ends (13A), and in that the swinging arms (9, 10) are rigidly connected to one another via a tube (17).
FIG. 2
**INTERNATIONAL SEARCH REPORT**

**International Application No**

PCT/SE97/00350

**I. CLASSIFICATION OF SUBJECT MATTER** (if several classification symbols apply, indicate all) *

According to International Patent Classification (IPC) or to both National Classification and IPC 4

E 06 B 9/14, E 05 D 15/24

**II. FIELDS SEARCHED**

**Minimum Documentation Searched** *

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**Documentation Searched other than Minimum Documentation**

to the Extent that such Documents are Included in the Fields Searched *

SE, NO, DK, FI classes as above

**III. DOCUMENTS CONSIDERED TO BE RELEVANT** *

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**IV. CERTIFICATION**

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Date of Mailing of this International Search Report 1987-10-28  
International Searching Authority Swedish Patent Office  
Signature of Authorized-Officer Leif Torén

Form PCT/ISA/210 (second sheet) (January 1985)