

(19)



(11)

EP 4 044 869 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent:

01.11.2023 Bulletin 2023/44

(21) Application number: **20807496.3**

(22) Date of filing: **16.10.2020**

(51) International Patent Classification (IPC):

A47B 88/493 ^(2017.01)

(52) Cooperative Patent Classification (CPC):

A47B 88/493; A47B 2210/004; A47B 2210/0043

(86) International application number:

PCT/IB2020/059772

(87) International publication number:

WO 2021/074885 (22.04.2021 Gazette 2021/16)

(54) **TELESCOPIC GUIDE FOR DRAWER**

TELESKOPFÜHRUNG FÜR SCHUBLADE

GUIDE TÉLESCOPIQUE POUR UN TIROIR

(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**

(30) Priority: **17.10.2019 IT 201900019184**

(43) Date of publication of application:

24.08.2022 Bulletin 2022/34

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Description

[0001] The present invention relates to a telescopic guide for drawers.

[0002] The guides for drawer are used to support the weight of the drawers and at the same time to allow and facilitate the sliding thereof to and from an external support structure such as for example a piece of furniture for kitchens or furnishing.

[0003] The need is felt to reduce the dimensions of these guides, in order to make furnishing more compact and at the same time maximize the capacity of the drawers. A further need felt consists in giving the possibility of full access to the drawer, extracting it almost completely from the piece of furniture.

[0004] For these reasons, it is common to use telescopic guides, i.e. extendable guides formed by two or more elements that slide into one another so as to move the guides between a closed position in which the drawer is retracted in a piece of furniture to an extended position in which the drawer is open.

[0005] Said telescopic guides must rigidly support the drawers to which they are fixed, and must minimize friction in the sliding direction of the drawer in the piece of furniture. Furthermore, the need is felt to realize a guide that is relatively cheap to manufacture and simple to assemble, and at the same time robust and durable over time.

[0006] In this context, the invention is most suitably placed in the furnishing sector for catering structures and professional kitchens, in which the telescopic guides are required to be arranged laterally to the drawers. Furthermore, in this context it is desirable that the telescopic guides can be disassembled to allow frequent maintenance and cleaning of said drawers and of the guides themselves.

[0007] It is known the use of rollers interposed between the elements of the telescopic guide in order to facilitate the sliding of the guide itself. However, under certain conditions, such as for example in the case of a lateral impact against the drawer, the presence of non-pivoted rollers can cause lateral derailing of one or more elements of the telescopic guide from their sliding channel in the guide itself. Said derailing known in the jargon as "slip off" interrupts the correct functioning of the telescopic guide.

[0008] To obviate this drawback, the use of opposing rollers has been proposed. However, this solution entails a considerable lateral overall dimension of the guide, which must therefore be placed under the drawer instead of to the side of the drawer. Consequently, this solution is unsuitable for the catering and professional kitchen sector.

[0009] Examples of known guides are disclosed in DE 25 36 743 A1 or AT 361 171 B.

[0010] The technical problem underlying the present invention is therefore that of providing a telescopic guide for drawers that is structurally and functionally conceived to at least partially obviate one or more of the drawbacks

complained of with reference to the cited prior art.

[0011] Within the scope of this problem, the main object of the present invention is to realise a telescopic guide which is particularly suitable for being mounted on the sides of the drawer.

[0012] A further object is to provide a drawer which is resistant to possible lateral impacts avoiding, or in any case minimizing, the risk of derailings.

[0013] It is also an object of the present invention to provide a telescopic guide which can be easily disassembled for periodic cleaning and any maintenance.

[0014] This problem is solved by the invention and these and other objects are achieved by means of a telescopic guide for drawer realised in accordance with the attached claims.

[0015] According to the invention, this problem is solved by realising a telescopic guide for a drawer of a piece of furniture, comprising a base support, a floating support, and a plurality of grooved rollers.

[0016] The base support can be fixed to the side of the piece of furniture and comprises a pair of base rails, said pair of base rails comprising an upper base rail and a lower base rail.

[0017] Advantageously, the floating support is interposed between the upper base rail and the lower base rail so as to reduce the lateral overall dimension of the telescopic guide.

[0018] The floating support comprises a pair of floating rails, said pair of floating rails comprising an upper floating rail and a lower floating rail.

[0019] The plurality of grooved rollers comprises at least three grooved rollers, divided between upper rollers and lower rollers, which are interposed between said pair of base rails and said pair of floating rails.

[0020] Preferably, the upper grooved rollers are interposed between the upper base rail and the upper floating rail, while the lower grooved rollers are interposed between the lower floating rail and the lower base rail.

[0021] The grooved rollers have respective horizontal rolling axes perpendicular to a sliding direction of the telescopic guide. In this way, a rolling of said grooved rollers about the respective horizontal rolling axes advantageously allows relative sliding between the floating support and the base support in parallel with said sliding direction. Each base rail and each floating rail comprise a sliding surface, preferably convex, which extends in parallel with said sliding direction. Furthermore, each grooved roller comprises a peripheral groove which is configured to match to a respective sliding surface. Advantageously, this expedient limits a lateral play between said peripheral groove and said respective sliding surface. According to a further advantageous aspect, the grooved rollers have a minimum lateral overall dimension.

[0022] The characteristics and the advantages of the invention will become clearer from the following detailed description of a preferred but not exclusive embodiment thereof illustrated, by way of non-limiting example, with

reference to the accompanying drawings in which:

- Fig. 1 is an overall perspective view of the telescopic guide in extended position according to an embodiment of the invention;
- Figs. 2A and 2B are overall perspective views of the telescopic guide of Figure 1 in closed position;
- Figs. 3A and 3B are a front view and an overall rear view of the telescopic guide of Figure 2A, respectively;
- Figs. 4A and 4B are a sectional view according to the line IVA-IVA and a sectional view according to the line IVB-IVB of the telescopic guide of Figure 2A, respectively;
- Fig. 5 is a sectional view along the line V-V of the telescopic guide of Figure 3A;
- Figs. 6-12 are perspective views of details of the telescopic guide of the preceding figures;
- Fig. 13 is an overall perspective view of the telescopic guide in extended position according to a further embodiment of the invention;
- Figures 14 and 15 are a front view and an overall rear view of the telescopic guide of Figure 13, respectively;
- Fig. 16 is a sectional view along the line XVI-XVI of the guide of Fig. 14;
- Fig. 17 is a perspective view of a detail of the guide of Fig. 13 in a partially closed position.

[0023] In the figures, 100 generally indicates a telescopic guide for a drawer of a piece of furniture.

[0024] The telescopic guide 100 comprises a base support 10 and a floating support 20, shown in Figure 1 in the extended position and in Figure 2A in the closed position. The base support 10 can be fixed to the side of the piece of furniture and comprises a pair of upper and lower base rails 11, 12, respectively.

[0025] Advantageously, the floating support 20 is interposed between the upper base rail 11 and the lower base rail 12 so as to reduce the lateral overall dimension of said telescopic guide 100, i.e. the overall dimension occupied by said telescopic guide 100 in a horizontal direction transversal to a sliding direction X of said telescopic guide 100.

[0026] Similarly, the floating support 20 comprises a pair of upper and lower floating rails 21, 22 respectively.

[0027] The telescopic guide 100 also comprises a plurality of grooved rollers which are interposed between said pair of base rails 11, 12 and said pair of floating rails 21, 22. As will be illustrated in greater detail below, the presence of at least three grooved rollers is required to allow a linear sliding of the floating support 20 with respect to the base support 10. However, it may be preferable to use a higher number of grooved rollers to increase load distribution.

[0028] As mentioned above, the grooved rollers comprise at least one upper grooved roller 1 which is interposed between the upper base rail 11 and the upper float-

ing rail 21 and at least one lower grooved roller 2 which is interposed between the lower floating rail 22 and the lower base rail 12, the upper grooved roller 1 and the lower grooved roller 2 being preferably substantially equal to each other.

[0029] Furthermore, on the basis of what has been illustrated above, at least one additional grooved roller is provided to be selected from an additional upper planar roller 1 which is interposed between the upper base rail 11 and the upper floating rail 21 or an additional lower planar roller 2 which is interposed between the lower floating rail 22 and the lower base rail 12.

[0030] An embodiment of the grooved rollers 1, 2 is shown in Fig. 10. The grooved rollers 1, 2 have respective horizontal rolling axes H which are perpendicular to the sliding direction X of the telescopic guide 100 so that a rolling of the grooved rollers 1, 2 about the respective horizontal rolling axes H allows relative sliding between the floating support 20 and the base support 10 in parallel with said sliding direction X. Advantageously, the presence of at least three grooved rollers 1, 2 which are interposed between the base rails 11, 12 and the floating rails 21, 22 prevents a rotation of the floating support 20 with respect to the base support 10 about an axis parallel to the horizontal rolling axes H.

[0031] Each of the base rails 11, 12 and of the floating rails 21, 22 comprise a sliding surface 23, preferably convex, which extends in parallel with said sliding direction X. In other words, the sliding surface 23 is formed by a convexity in relief with respect to a lateral portion of the respective rail.

[0032] Each of the grooved rollers 1, 2 comprises a peripheral groove 3 which is configured to match to a respective convex sliding surface 23 so as to limit lateral play, i.e. in a direction parallel to the rolling axis, between the peripheral groove 3 and said respective sliding surface 23.

[0033] According to a further advantageous aspect, the coupling between the grooved rollers 1, 2 and the respective sliding surfaces 23 prevents, or in any case significantly limits, a derailing (also called "slip off") of the floating support 20 from its operating position in the fixed support 10 in the event of a lateral impact against the telescopic guide 100 or against the drawer supported by it.

[0034] Preferably, the grooved rollers 1, 2 are substantially axially symmetrical with respect to their respective horizontal rolling axes H. In preferred embodiments, the peripheral groove 3 can be axially symmetrical with respect to the horizontal rolling axes H of the grooved rollers 1, 2.

[0035] Preferably, as shown in Fig. 4A the peripheral groove 3 defines a substantially H-shaped contour at any section 30 of the grooved rollers 1, 2 which are intersected by any plane which passes through the horizontal rolling axis H of the grooved rollers 1, 2.

[0036] In one aspect, the base support 10 can be fixed to the lateral wall of a piece of furniture by means of fixing

means such as screws or rivets. The fixing means can pass through a pair of fixing holes 19 provided in a lateral wall 18 of the base support 10. In the condition in which the telescopic guide 100 is closed, the fixing holes 19 can be advantageously accessible through a pair of through holes 29 provided in a lateral wall 28 of the floating support 20.

[0037] According to a further advantageous aspect, the telescopic guide 100 comprises a bracket 40 which can be fixed to the drawer which extends telescopically from the base 10 and floating supports 20. The bracket 40 in turn comprises a pair of upper and lower abutment surfaces 41, 42, respectively, which are mutually opposing and extending in parallel with the sliding direction X.

[0038] Advantageously, the pair of abutment surfaces 41, 42 is interposed between the upper floating rail 21 and the lower floating rail 22 so as to reduce the lateral overall dimension of the telescopic guide 100.

[0039] In some preferred embodiments, the bracket 40 has an L-shaped cross section visible in Fig. 3A. Said L-shaped cross section comprises the abutment surfaces 41, 42 on a -in use- horizontal plane, and also a vertical surface 43 which is configured to be fixed to a lateral wall of a drawer.

[0040] Advantageously, planar rollers 51, 52 are provided, also in this case preferably in a number equal to at least three which are interposed between the floating support 20 and said bracket 40.

[0041] Similarly to what is illustrated with reference to the grooved rollers, the planar rollers 51, 52 comprise at least one upper planar roller 51 which is interposed between the upper floating rail 21 and the upper abutment surface 41 and at least one lower planar roller 52 which is interposed between the lower abutment surface 42 and the lower floating rail 22, the upper planar roller 51 and the lower planar roller 52 preferably being substantially equal to each other.

[0042] In addition, at least one additional planar roller is provided to be selected from an additional upper planar roller 51 which is interposed between the upper floating rail 21 and the upper abutment surface 41 or an additional lower planar roller 52 which is interposed between the lower abutment surface 42 and the lower floating rail 22. An embodiment of the planar rollers 51, 52 is shown in Fig. 11. The planar rollers 51, 52 have respective horizontal rolling axes H' which are perpendicular to the sliding direction X. In this way, a rolling of the planar rollers 51, 52 about the respective horizontal rolling axes H allows relative sliding between said bracket 40 and the floating support 20 in parallel with said sliding direction X.

[0043] According to a further advantageous aspect, each of the floating rails 21, 22 comprises a sliding surface 24 which is opposite a respective sliding surface 23, and each of the planar rollers 51, 52 comprises a rolling surface 54 which is configured to engage in a respective sliding surface 24, as shown in Fig. 3A. Advantageously, the sliding surface 24 of the floating rails 21, 22 has a shape which is complementary with respect to the sur-

face 23, said sliding surfaces preferably being the former concave and the latter convex. Similarly, the rolling surface 54 of the planar rollers 51, 52 preferably has a shape which is complementary with respect to the sliding surface 24 of the floating rails 21, 22. Also in this case it is therefore possible to have convex and concave surfaces, respectively. This expedient prevents lateral play between the convex rolling surface 54 and the respective concave sliding surface 24. It will also be appreciated that also in this case the term concave surface and convex surface is intended to indicate a surface which forms a concavity or a convexity, respectively, with respect to a corresponding adjacent portion.

[0044] Preferably, at least one lateral roller 6 is interposed between the floating support 20 and the bracket 40. An embodiment of the lateral roller 6 is shown in Fig. 12.

[0045] The lateral roller 6 has a vertical rolling axis V so that a rolling of the lateral roller 6 about the vertical rolling axis V allows relative sliding between the floating support 20 and the bracket 40 in parallel with the sliding direction X. Advantageously, the at least one lateral roller 6 facilitates the sliding of the bracket 40 along the floating support 20 in the presence of a horizontal load transversal to said sliding direction X. In one aspect, a first runner 7 is provided which is interposed between the base support 10 and the floating support 20 so as to secure the floating support 20 for translational movement with respect to the base support 10 in the sliding direction X.

[0046] The first runner 7 is secured for translational movement with respect to the base support 10 in said sliding direction X. The first runner 7 comprises an upper cage 71 which is configured to define a position of the upper grooved rollers 1 and a lower cage 72 which is configured to define a position of the lower grooved rollers 2. Preferably, the first runner 7 further comprises a structural connection 73 between the upper cage 71 and the lower cage 72.

[0047] In one embodiment, as shown in Figures 6 and 7, the upper cage 71 and the lower cage 72 comprise first sides 75 which are configured to prevent a horizontal displacement of said grooved rollers 1, 2 with respect to the first runner 7 in a direction transversal to the sliding direction X.

[0048] Advantageously, the first sides 75 are structurally connected through first partitions 76 which are configured to prevent a horizontal displacement of the grooved rollers 1, 2 with respect to the first runner 7 in a direction parallel to the sliding direction X. Preferably, as shown in Fig. 4A, the first sides 75 at their internal surfaces 75' turned towards the grooved rollers 1, 2 comprise first bulges 74. Said first bulges 74 are configured to engage in respective axial cavities 4 of the grooved rollers 1, 2 so as to prevent a radial displacement of the grooved rollers 1, 2 with respect to the first runner 7. In advantageous embodiments, the first bulges 74 and the axial cavities 4 are axially symmetrical. Preferably, the diameter of the axial cavities 4 is greater than the diam-

eter of the first bulges 74 so as to allow radial play of the grooved rollers 1, 2.

[0049] In one aspect, the first bulges 74 allow to achieve a snap coupling, i.e. of the "snap-fit" type, between the first runner 7 and the grooved rollers 1, 2. This expedient eliminates the need to use a securing rotatable pin of the grooved rollers 1,2 and reduces the number of components so as to achieve a simple and economical coupling. Furthermore, the snap fit coupling reduces the assembly, disassembly and maintenance times of the first runner 7 and of the grooved rollers 1, 2. Advantageously, the base support 10 comprises an upper edge 13 and a lower edge 14 which extend along the upper base rail 11 and along the lower base rail 12, respectively. The upper edge 13 and the lower edge 14 are configured to limit tilting of the upper cage 71 and the lower cage 72, respectively, transversely to said sliding direction X so as to prevent a derailing of said first runner 7 from said pair of base rails 11, 12. This expedient advantageously prevents a release of the floating support 20 from the first runner 7 transversely to said sliding direction X.

[0050] According to a further advantageous aspect, a second runner 8 is provided which is interposed between the floating support 20 and the bracket 40. The second runner 8 is configured to define the position of the planar rollers 51, 52.

[0051] In one embodiment, as shown in Figures 8 and 9, the second runner 8 comprises second sides 85 which are configured to prevent a horizontal displacement of the planar rollers 51, 52 with respect to said second runner 8 in a direction transversal to the sliding direction X.

[0052] Advantageously, the second sides 85 are structurally connected through second partitions 86 which are configured to prevent a horizontal displacement of the planar rollers 51, 52 with respect to the second runner 8 in a direction parallel to the sliding direction X.

[0053] Preferably, the second sides 85 at their internal surfaces 85' turned towards the planar rollers 51, 52 comprise second bulges 84 which are configured to engage in respective axial cavities 53 of the planar rollers 51, 52 so as to prevent a vertical displacement of the planar rollers 51, 52 with respect to the second runner 8. In advantageous embodiments, the second bulges 84 and the axial cavities 53 are axially symmetrical. Preferably, the diameter of the axial cavities 53 is greater than the diameter of the second bulges 84 so as to allow radial play of the planar rollers 51, 52.

[0054] According to a further advantageous aspect, the second runner 8 comprises horizontal walls 89 which are configured to prevent a vertical displacement of the at least one lateral roller 6 with respect to said second runner 8.

[0055] Advantageously, the horizontal walls are structurally connected through lateral partitions 87 which are configured to prevent a horizontal displacement of the at least one lateral roller 6 with respect to the second runner 8 in a direction parallel to the sliding direction X.

[0056] Preferably, the horizontal walls 89 at their inter-

nal surfaces 89' turned towards the lateral roller 6 comprise second bulges 84 which are configured to engage in respective axial cavities 64 of the lateral roller 6 so as to prevent a horizontal displacement of the lateral roller 6 with respect to the second runner 8 transversely to the sliding direction X.

[0057] Preferably, the diameter of the axial cavities 64 is greater than the diameter of the second bulges 84 so as to allow radial play of the lateral roller 6.

[0058] In one aspect, the second bulges 84 allow to achieve a snap coupling, i.e. of the "snap-fit" type, between the second runner 8 and the planar rollers 51, 52 and/or the lateral roller 6. This expedient eliminates the need to use a securing rotatable pin of the planar rollers 51, 52 and/or of the lateral roller 6 and reduces the number of components so as to achieve a simple and economical coupling. Furthermore, the snap coupling reduces the assembly, disassembly and maintenance times of the second runner 8, of the planar rollers 51, 52 and/or of the lateral roller 6. Preferably, as shown in Fig. 3A, the second runner 8 comprises a tongue 81 which is configured to engage in a concave sliding surface 24 of the pair of floating rails 21, 22. The tongue 81 allows to secure the second runner 8 for translational movement with respect to the floating support 20 in the sliding direction X of the telescopic guide 100. Advantageously, the tongue 81 is resiliently deformable in order to allow inserting the second runner 8 in the floating support 20 transversely to the sliding direction X, i.e. inserting the second runner 8 laterally in the floating support 20 without having to fit the second runner 8 into the floating support 20 in the sliding direction X. If necessary, the tongue 81 is resiliently deformable in order to allow the lateral release of the second runner 8 from the floating support 20, i.e. the release of the second runner 8 from the floating support 20 transversely to the sliding direction X.

[0059] According to a further advantageous aspect, the floating support 20 comprises an internal rear wing 25 and an internal front wing 26 which are configured to delimit the path of the second runner 8 with respect to the floating support 20 in said sliding direction X under the condition in which the telescopic guide 100 is extended and under the condition in which the telescopic guide 100 is closed, respectively.

[0060] In one aspect, as shown in Fig. 5, a first stop 77 is provided which is fixedly joined to the base support 10 and is configured to delimit the path of the first runner 7 with respect to the base support 10 in the sliding direction X. The first stop 77 is removable to allow the first runner 7 to be removed from the base support 10 in parallel with the sliding direction X.

[0061] Preferably, the first stop 77 is intended to collide alternatively with a first front end stop surface 78' or with a first rear end stop surface 78" of the first runner 7 so as to stop the travel of the first runner 7 with respect to the base support 10 in the sliding direction X at a predetermined point. Preferably, the first stop 77 comprises a first block 78 intended to collide with the first front end

stop surface 78'. Preferably, a first stop hole 15 is provided through one of the base rails 11, 12 which is configured to receive the first block 78. According to a further advantageous aspect, the first stop 77 comprises a hook 79 intended to collide with the first rear end stop surface 78". The hook 79 is configured to engage in a first hooking hole 15' provided in said base rail, the hook 79 being configured to fix in a removable way the first stop 77 to said base support 10.

[0062] According to a further advantageous aspect, as shown in Fig. 5, the floating support 20 comprises a pair of external wings 27 which are configured to engage on respective abutment surfaces 27' of said first runner 7 so as to stop the advancement of said floating support 20 with respect to the first runner 7 at a predetermined point. Preferably, the external wings 27 are located at one end of the floating support 20 in the sliding direction X.

[0063] In one aspect, the upper base rail 11 and the lower base rail 12 comprise an upper longitudinal groove 31 and a lower longitudinal groove 32, respectively, which extend in parallel with the sliding direction X. Furthermore, as shown in Fig. 3B, the floating support 20 comprises an upper tooth 33 and a lower tooth 34 which are configured to engage in a sliding manner in the upper longitudinal groove 31 and in the lower longitudinal groove 32, respectively, so as to prevent a derailing of the floating support 20 with respect to the pair of base rails 11, 12. Preferably, the upper tooth 33 and the lower tooth 34 extend from the upper 21 and lower 22 floating rail, respectively, in the vertical direction away from the respective rail, until they engage in the respective groove. Preferably, the upper tooth 33 and the lower tooth 34 are located at one end of the floating support 20 in the sliding direction X. According to a further advantageous aspect, the upper tooth 33 and the lower tooth 34 are molded in rigid plastic material and are configured to be keyed onto the pair of external wings 27.

[0064] In some embodiments, as shown in Fig. 5, a second stop 88 is provided which is fixedly joined to the bracket 40 and configured to delimit the path of said bracket 40 with respect to said second runner 8 in said sliding direction X.

[0065] Preferably, the second stop 88 is molded in rigid plastic material and is keyed to a keying wing 17 provided in the bracket 40.

[0066] Preferably, the second stop 88 is intended to collide alternatively with a second front end stop surface 82' or with a second rear end stop surface 82" of the second runner 8 so as to stop the travel of the bracket 40 with respect to the second runner 8 in the sliding direction X at a predetermined point.

[0067] According to a further advantageous aspect, as shown in Fig. 4B, the second runner 8 comprises a longitudinal edge 97 which extends in parallel with said sliding direction X, said longitudinal edge 97 being configured to secure the second stop 88 for sliding in the sliding direction X so as to prevent a release of the bracket 40

from the second runner 8 transversely to the sliding direction X. Advantageously, this expedient ensures that the bracket 40 remains connected in a sliding manner to the second runner 8 even in the event of a lateral impact against the telescopic guide 100.

[0068] Preferably, the second stop 88 is removable so as to allow the bracket 40 to be removed from the second runner 8 in the sliding direction X.

[0069] In one aspect, the first runner 7 and the second runner 8 slide inside the base support 10 and inside the floating support 20, respectively, so as to reduce the lateral overall dimension of the telescopic guide 100.

[0070] In one aspect, the first runner 7 and/or the second runner 8 comprise a joint 9 which is interposed between the seats of two grooved rollers 1, 2 or of the two planar rollers 51, 52, respectively. Advantageously, the joint 9 has a length in the sliding direction X which is adjustable so as to adjust a horizontal distance D between the two grooved rollers 1, 2 or between the two planar rollers 51, 52, respectively.

[0071] According to a further advantageous aspect, the joint 9 is of the telescopic type, i.e. it comprises a rod 92 which slides along a track 91 in a direction parallel to the sliding direction X so as to vary the length of the joint 9 in the sliding direction X. Preferably, the track 91 and the rod 92 comprise an internal surface 93 and an external surface 94, respectively, in contact with each other. The internal surface 93 and the external surface 94 are specularly corrugated in order to engage one on the other so as to prevent a translation of the rod 92 with respect to the track 91 unless a force is applied in the sliding direction X, said force having a value equal to or greater than a minimum pre-established threshold for adjusting the length of the joint 9. Preferably, the track 91 comprises a reading surface 95 on which a graduated scale 96 is reproduced, which is configured to allow the reading of a position of said rod 92 along the track 91.

[0072] The internal surface 93 and the external surface 94 which is specularly corrugated as well as the graduated scale 96 allow adjusting the length of said first runner 7 and/or said second runner 8 quickly and without the aid of further tools, thus facilitating the assembly and the maintenance of the telescopic slide 100.

[0073] In preferred embodiments, the base support 10, the floating support 20 and the bracket 40 are obtained by mechanical processing of a metal sheet such as for example a stainless steel sheet. Preferably, the base rails 11, 12, the floating rails 21, 22 and the abutment surfaces 41, 42 are produced by blanking and bending said metal sheet. According to a further advantageous aspect, the first runner 7 and the second runner 8 are produced by molding plastic materials. In this way, the manufacturing process of the telescopic guide 100 is advantageously quick and economical.

[0074] Advantageously, the grooved rollers 1, 2, the planar rollers 51, 52 and the at least one lateral roller 6 are made of a material such as Teflon which is configured to minimize the friction coefficient among the rollers 1, 2,

51, 52, 6 and the steel metal sheet of the base support 10, of the floating support 20 and of the bracket 40.

[0075] A more preferred example of embodiment of the invention is described below with reference to Figures 13 to 17.

[0076] In this example, the first stop 77 which delimits the path of the first runner 7 with respect to the base support 10 in the sliding direction X, is fixedly joined to the front longitudinal end 98 of the base support 10, preferably at the upper base rail 11. In this way, the first stop 77 prevents the first runner 7 from coming off the base support 10 during the extension phase of the telescopic guide 100 and the opening phase of the relative drawer.

[0077] It should be noted that, in this context, the terms "front" and "rear" refer to the opposing sides of the telescopic guide 100 turned towards the opening and closing direction, respectively, of the guide itself and of the relative drawer.

[0078] As highlighted in Fig. 17, the bracket 40 preferably comprises: the abutment surfaces 41, 42 on a - in use - horizontal plane; the vertical surface 43 which is configured to be fixed to a lateral wall of a drawer; and also a second vertical surface 44 which in use is parallel and adjacent to the lateral wall 28 of the floating support 20.

[0079] In one aspect shown in Fig. 13, the second vertical surface 44 develops along a portion of the longitudinal length of the bracket 40 comprised between the front longitudinal end 99 of the bracket 40 and the fixing point of the second stop 88. Advantageously, an anti-slip device 101 is provided, which is fixedly joined to the floating support 20 and is configured to prevent the bracket 40 from slipping off, as shown in Fig. 17.

[0080] In one aspect, the anti-slip device 101 is removably fixed to the front longitudinal end 90 of the floating support 20, preferably by means of a shape coupling.

[0081] A saddle 105 which is configured to support the lower abutment surface 42 of the bracket 40 sliding in the sliding direction X is defined in the anti-slip device 101.

[0082] Advantageously, a projection 102 develops from the saddle 105 which projection 102 is configured to engage in a sliding manner in a longitudinal slot 103 defined in the bracket 40 in the sliding direction X. In use, the projection 102 is oriented vertically so as to secure the bracket 40 for translational movement in the direction X without allowing lateral deviations of the bracket.

[0083] According to a further advantageous aspect, the anti-slip device 101 has a shoulder 104 facing the saddle 105 and configured to abut the upper profile 106 of the second vertical surface 44 of the bracket 40 during the sliding thereof in the sliding direction X.

[0084] In order to ensure a better anchoring of the anti-slip device 101 to the floating support 20, the anti-slip device 101 can include a protrusion 103 which fits into the upper floating rail 21.

[0085] The invention thus solves the proposed problem achieving numerous advantages including:

- the elimination of the risk of slipping off, i.e. of the risk of a derailing of the guide transversally to the sliding direction following a lateral impact,
- the reduction of the lateral overall dimension of the telescopic guide,
- the reduction of the manufacturing costs of said guide,
- the simplification of the guide assembly process,
- a better sliding of the guide,
- the possibility of at least partially disassembling the guide without having to remove it.

Claims

1. A telescopic guide (100) for a drawer of a piece of furniture comprising:

- a base support (10) which can be fixed to the side of said piece of furniture, said base support (10) comprising a pair of base rails (11, 12) which include an upper base rail (11) and a lower base rail (12),
- a floating support (20) comprising a pair of floating rails (21, 22) which include an upper floating rail (21) and a lower floating rail (22),
- at least three grooved rollers (1, 2) which are interposed between said pair of base rails (11, 12) and said pair of floating rails (21, 22), said grooved rollers (1, 2) having respective horizontal rolling axes (H) which are perpendicular to a sliding direction (X) of said telescopic guide (100), each of said base rails (11, 12) and of said floating rails (21, 22) comprising a sliding surface (23) which extends in parallel with said sliding direction (X), each of said grooved rollers (1, 2) comprising a peripheral groove (3) which is configured to match to a respective sliding surface (23) and in contact therewith so as to limit lateral play between said peripheral groove (3) and said respective sliding surface (23).

2. A telescopic guide (100) according to claim 1, wherein said peripheral groove (3) defines a substantially H-shaped contour (31) at any section (30) of said grooved rollers (1, 2) which are intersected by any plane which passes through the horizontal rolling axis (H) of said grooved rollers (1, 2).

3. A telescopic guide (100) according to claim 1 or claim 2, comprising:

- a bracket (40) which can be fixed to said drawer, said bracket (40) comprising a pair of abutment surfaces (41, 42) which are mutually opposing, said pair of abutment surfaces (41, 42) comprising an upper abutment surface (41) and a lower abutment surface (42), said abutment

- surfaces (41, 42) extending in parallel with said sliding direction (X),
- at least three planar rollers (51, 52), said planar rollers (51, 52) comprising at least one upper planar roller (51) which is interposed between said upper floating rail (21) and said upper abutment surface (41) and at least one lower planar roller (52) which is interposed between said lower abutment surface (42) and said lower floating rail (22) and at least one additional planar roller to be selected from an additional upper planar roller (51) or an additional lower planar roller (52), said planar rollers (51, 52) having respective horizontal rolling axes (H) which are perpendicular to said sliding direction (X) so that a rolling of said planar rollers (51, 52) about said respective horizontal rolling axes (H') allows relative sliding between said bracket (40) and said floating support (20) in parallel with said sliding direction (X).
- A telescopic guide (100) according to the preceding claim, wherein each of said floating rails (21, 22) comprises an additional sliding surface (24) which is opposite a respective sliding surface (23), each of said planar rollers (51, 52) comprising a rolling surface (54) which is configured to engage in a respective additional sliding surface (24) so as to prevent lateral play between said rolling surface (54) and said additional respective sliding surface (24), said additional sliding surface (24) being preferably concave.
 - A telescopic guide (100) according to claim 4, wherein said rolling surface (54) has a shape which is complementary with respect to said additional sliding surface (24), said rolling surface (54) being preferably convex.
 - A telescopic guide (100) according to any one of claims 3 to 5, comprising at least one lateral roller (6) which is interposed between said floating support (20) and said bracket (40), said lateral roller (6) preferably having a vertical rolling axis (V) so that a rolling of said lateral roller (6) about said vertical rolling axis (V) allows relative sliding between said floating support (20) and said bracket (40) in parallel with said sliding direction (X).
 - A telescopic guide (100) according to any one of the preceding claims, comprising a first runner (7) which is secured for translational movement with respect to said base support (10) in said sliding direction (X), said first runner (7) comprising:
 - an upper cage (71) which is configured to define a seat of the at least one upper grooved roller (1),
 - a lower cage (72) which is configured to define
- a seat of the at least one lower grooved roller (2),
- a structural connection (73) between said upper cage (71) and said lower cage (72),
- said first runner (7) securing said floating support (20) for translational movement with respect to said base support (10) in said sliding direction (X).
- A telescopic guide (100) according to claim 7, wherein said base support (10) comprises an upper edge (13) and a lower edge (14) which extend along said upper base rail (11) and along said lower base rail (12), respectively, said upper edge (13) and said lower edge (14) being configured to limit tilting (T) of said upper cage (71) and of said lower cage (72), respectively, transversely to said sliding direction (X) so as to prevent a release of said floating support (20) from said first runner (7) transversely to said sliding direction (X).
 - A telescopic guide (100) according to any one of claims 3 to 8, comprising a second runner (8) which is configured to define seats of said planar rollers (51, 52), said second runner (8) comprising a tongue (81) which is configured to engage in said concave sliding surface (24) so as to secure said second runner (8) for translational movement with respect to said floating support (20) in said sliding direction (X), said tongue (81) being resiliently deformable in order to allow a release of said second runner (8) from said floating support (20) transversely to said sliding direction (X).
 - A telescopic guide (100) according to any one of claims 3 to 9, comprising at least one device to be selected from a first stop (77) which is fixedly joined to said base support (10) and a second stop (88) which is fixedly joined to said bracket (40), said first stop (77) delimiting a path of said first runner (7) with respect to said base support (10) in said sliding direction (X), said first stop (77) being removable in order to allow said first runner (7) to be removed from said base support (10) in parallel with said sliding direction (X), said second stop (88) delimiting a path of said bracket (40) with respect to said second runner (8) in said sliding direction (X).
 - A telescopic guide (100) according to the preceding claim, wherein said second runner (8) comprises a longitudinal edge (97) which extends in parallel with said sliding direction (X), said longitudinal edge (97) being configured to secure said second stop (88) for sliding in said sliding direction (X) so as to prevent a release of said bracket (40) from said second runner (8) transversely to said sliding direction (X).
 - A telescopic guide (100) according to any one of the preceding claims, when dependent on claim 3 and

either claims 7 or claim 9, wherein said first runner (7) or said second runner (8) comprises a joint (9) which is interposed between the seats of two grooved rollers (1, 2) or of two planar rollers (51, 52), respectively, said joint (9) having a length in said sliding direction (X) which is adjustable so as to adjust a horizontal distance (D) between said two grooved rollers (1, 2) or between said two planar rollers (51, 52), respectively.

13. A telescopic guide (100) according to any one of the preceding claims, wherein said grooved rollers (1, 2) comprise at least one upper grooved roller (1) which is interposed between said upper base rail (11) and said upper floating rail (21) and at least one lower grooved roller (2) which is interposed between said lower floating rail (22) and said lower base rail (12) and at least one additional grooved roller to be selected from an additional upper grooved roller (1) or an additional lower grooved roller (2).
14. A telescopic guide (100) according to any one of the preceding claims, wherein said upper base rail (11) and said lower base rail (12) comprise an upper longitudinal groove (31) and a lower longitudinal groove (32), respectively, which extend in parallel with said sliding direction (X) and in which said floating support (20) comprises an upper tooth (33) and a lower tooth (34) which are configured to engage in a sliding manner in said upper longitudinal groove (31) and in said lower longitudinal groove (32), respectively, so as to prevent a derailing of said floating support (20) with respect to said pair of base rails (11, 12).
15. A telescopic guide (100) according to any one of the preceding claims, wherein said sliding surface (23) has a convex shape and preferably defines a relief with respect to respective lateral portions of said base rails (11, 12) and of said floating rails (21, 22).

Patentansprüche

1. Teleskopführung (100) für eine Schublade eines Möbelstücks umfassend:
- einen Basisträger (10), der an der Seite des Möbelstücks befestigbar ist, wobei der Basisträger (10) ein Paar Basisschienen (11, 12) aufweist, die eine obere Basisschiene (11) und eine untere Basisschiene (12) umfassen,
 - einen Gleitträger (20) mit einem Paar Gleitschienen (21, 22), die eine obere Gleitschiene (21) und eine untere Gleitschiene (22) umfassen,
 - zumindest drei Nutrollen (1, 2), die zwischen dem Paar Basisschienen (11, 12) und dem Paar Gleitschienen (21, 22) angeordnet sind, wobei die Nutrollen (1, 2) jeweils horizontale Rollach-

sen (H) aufweisen, die senkrecht zu einer Gleitrichtung (X) der Teleskopführung (100) verlaufen,

5 wobei jede der Basisschienen (11, 12) und der Gleitschienen (21, 22) eine Gleitfläche (23) aufweist, die sich parallel zur Gleitrichtung (X) erstreckt, wobei jede der Nutrollen (1, 2) eine Umfangsnut (3) umfasst, die so konfiguriert ist, dass diese zu einer jeweiligen Gleitfläche (23) passt und mit dieser in Berührung steht, um das seitliche Spiel zwischen der Umfangsnut (3) und der jeweiligen Gleitfläche (23) zu begrenzen.

10 2. Teleskopführung (100) nach Anspruch 1, wobei die Umfangsnut (3) eine im Wesentlichen H-förmige Kontur (31) an jedem Abschnitt (30) der Nutrollen (1, 2) definiert, die von einer beliebigen Ebene geschnitten werden, die durch die horizontale Rollachse (H) der Nutrollen (1, 2) verläuft.

15 3. Teleskopführung (100) nach Anspruch 1 oder Anspruch 2, umfassend:

25 • eine Halterung (40), die an der Schublade befestigbar ist, wobei die Halterung (40) ein Paar einander gegenüberliegende Anlageflächen (41, 42) umfasst, wobei das Paar der Anlageflächen (41, 42) eine obere Anlagefläche (41) und eine untere Anlagefläche (42) umfasst, wobei sich die Anlageflächen (41, 42) parallel zur Gleitrichtung (X) erstrecken,

30 • zumindest drei planare Rollen (51, 52), wobei die planaren Rollen (51, 52) zumindest eine obere planare Rolle (51), die zwischen der oberen Gleitschiene (21) und der oberen Anlagefläche (41) angeordnet ist, und zumindest eine untere planare Rolle (52), die zwischen der unteren Anlagefläche (42) und der unteren Gleitschiene (22) angeordnet ist, und zumindest eine zusätzliche planare Rolle umfassen, die aus einer zusätzlichen oberen planaren Rolle (51) oder einer zusätzlichen unteren planaren Rolle (52) auszuwählen ist, wobei die planaren Rollen (51, 52) jeweilige horizontale Rollachsen (H) aufweisen, die senkrecht zur Gleitrichtung (X) verlaufen, so dass ein Rollen der planaren Rollen (51, 52) um die jeweiligen horizontalen Rollachsen (H') ein relatives Gleiten zwischen der Halterung (40) und dem Gleitträger (20) parallel zur Gleitrichtung (X) ermöglicht.

40 4. Teleskopführung (100) nach dem vorhergehenden Anspruch, wobei jede der Gleitschienen (21, 22) eine zusätzliche Gleitfläche (24) umfasst, die einer jeweiligen Gleitfläche (23) gegenüberliegt, wobei jede der planen Rollen (51, 52) eine Abrollfläche (54) aufweist, die zum Eingriff in eine jeweilige zusätzliche

Gleitfläche (24) konfiguriert ist, um ein seitliches Spiel zwischen der Abrollfläche (54) und der jeweiligen zusätzlichen Gleitfläche (24) zu unterbinden, wobei die zusätzliche Gleitfläche (24) vorzugsweise konkav ist.

5. Teleskopführung (100) nach Anspruch 4, wobei die Abrollfläche (54) eine Form aufweist, die komplementär zur zusätzlichen Gleitfläche (24) ist, wobei die Abrollfläche (54) vorzugsweise konvex ist.

6. Teleskopführung (100) nach einem der Ansprüche 3 bis 5, die zumindest eine seitliche Rolle (6) umfasst, die zwischen dem Gleitträger (20) und der Halterung (40) angeordnet ist, wobei die seitliche Rolle (6) vorzugsweise eine vertikale Rollachse (V) aufweist, sodass ein Rollen der seitlichen Rolle (6) um die vertikale Rollachse (V) ein relatives Gleiten zwischen dem Gleitträger (20) und der Halterung (40) parallel zur Gleitrichtung (X) ermöglicht.

7. Teleskopführung (100) nach einem der vorhergehenden Ansprüche, die einen ersten Läufer (7) umfasst, der für eine translatorische Bewegung in Bezug auf den Basisträger (10) in der Gleitrichtung (X) befestigt ist, wobei der erste Läufer (7) umfasst:

- einen oberen Käfig (71), der zum Definieren eines Sitzes für die zumindest eine obere Nutrolle (1) konfiguriert ist,
- einen unteren Käfig (72), der zum Definieren eines Sitzes für die zumindest eine untere Nutrolle (2) konfiguriert ist,
- eine strukturelle Verbindung (73) zwischen dem oberen Käfig (71) und dem unteren Käfig (72), wobei der erste Läufer (7) den Gleitträger (20) für eine translatorische Bewegung in Bezug auf den Basisträger (10) in der Gleitrichtung (X) sichert.

8. Teleskopführung (100) nach Anspruch 7, wobei der Basisträger (10) einen oberen Rand (13) und einen unteren Rand (14) aufweist, die sich jeweils entlang der oberen Basisschiene (11) und entlang der unteren Basisschiene erstrecken (12), wobei der obere Rand (13) und der untere Rand (14) jeweils zum Begrenzen der Neigung (T) des oberen Käfigs (71) und des unteren Käfigs (72) quer zur Gleitrichtung (X) konfiguriert sind, um ein Lösen des Gleitträgers (20) vom ersten Läufer (7) quer zur Gleitrichtung (X) zu unterbinden.

9. Teleskopführung (100) nach einem der Ansprüche 3 bis 8, die einen zweiten Läufer (8) umfasst, der zum Definieren von Sitzen der planaren Rollen (51, 52) konfiguriert ist, wobei der zweite Läufer (8) eine Zunge (81) umfasst, die zum Eingriff in die konkave Gleitfläche (24) konfiguriert ist, um den zweiten Läu-

fer (8) für eine translatorische Bewegung in Bezug auf den Gleitträger (20) in der Gleitrichtung (X) zu sichern, wobei die Zunge (81) elastisch verformbar ist, um ein Lösen des zweiten Läufers (8) vom Gleitträger (20) quer zur Gleitrichtung (X) zu ermöglichen.

10. Teleskopführung (100) nach einem der Ansprüche 3 bis 9, die zumindest eine Vorrichtung umfasst, die aus einem ersten Anschlag (77), der mit dem Basisträger (10) fest verbunden ist, und einem zweiten Anschlag (88), der mit der Halterung (40) fest verbunden ist, ausgewählt ist, wobei der erste Anschlag (77) einen Weg des ersten Läufers (7) in Bezug auf den Basisträger (10) in der Gleitrichtung (X) begrenzt, wobei der erste Anschlag (77) abnehmbar ist, um das Entfernen des ersten Läufers (7) vom Basisträger (10) parallel zur Gleitrichtung (X) zu ermöglichen, wobei der zweite Anschlag (88) einen Weg des Trägers (40) in Bezug auf den zweiten Läufer (8) in der Gleitrichtung (X) begrenzt.

11. Teleskopführung (100) nach dem vorhergehenden Anspruch, wobei der zweite Läufer (8) einen Längsrand (97) aufweist, der sich parallel zur Gleitrichtung (X) erstreckt, wobei der Längsrand (97) dazu konfiguriert ist, den zweiten Anschlag (88) zum Gleiten in der Gleitrichtung (X) zu sichern, um ein Lösen der Halterung (40) vom zweiten Läufer (8) quer zur Gleitrichtung (X) zu unterbinden.

12. Teleskopführung (100) nach einem der vorhergehenden Ansprüche, sofern von Anspruch 3 und entweder von Anspruch 7 oder Anspruch 9 abhängig, wobei der erste Läufer (7) oder der zweite Läufer (8) eine Verbindung (9) umfasst, die jeweils zwischen den Sitzen von zwei Nutrollen (1, 2) oder von zwei planaren Rollen (51, 52) angeordnet ist, wobei die Verbindung (9) eine Länge in der Gleitrichtung (X) aufweist, die einstellbar ist, um jeweils einen horizontalen Abstand (D) zwischen den beiden Nutrollen (1, 2) oder zwischen den beiden planaren Rollen (51, 52) einzustellen.

13. Teleskopführung (100) nach einem der vorhergehenden Ansprüche, wobei die Nutrollen (1, 2) zumindest eine obere Nutrolle (1), die zwischen der oberen Basisschiene (11) und der oberen Gleitschiene (21) angeordnet ist, und zumindest eine untere Nutrolle (2), die zwischen der unteren Gleitschiene (22) und der unteren Basisschiene (12) angeordnet ist, und zumindest eine zusätzliche Nutrolle umfassen, die aus einer zusätzlichen oberen Nutrolle (1) oder einer zusätzlichen unteren Nutrolle (2) auszuwählen ist.

14. Teleskopführung (100) nach einem der vorhergehenden Ansprüche, wobei die obere Basisschiene (11) und die untere Basisschiene jeweils eine obere Längsnut und eine untere Längsnut umfassen, die

sich parallel zur Gleitrichtung (X) erstrecken, und wobei der Gleitträger (20) einen oberen Zahn (33) und einen unteren Zahn (34) aufweist, die jeweils zum gleitenden Eingriff, in die obere Längsnut (31) und die untere Längsnut (32) konfiguriert sind, um ein Entgleisen des Gleitträgers (20) in Bezug auf das Paar der Basisschienen (11, 12) zu verhindern.

15. Teleskopführung (100) nach einem der vorhergehenden Ansprüche, wobei die Gleitfläche (23) eine konvexe Form aufweist und vorzugsweise ein Relief in Bezug auf die jeweiligen seitlichen Abschnitte der Basisschienen (11, 12) und der Gleitschienen (21, 22) definiert.

Revendications

1. Guide télescopique (100) pour un tiroir d'un meuble comprenant :

- un support de base (10) qui peut être fixé au côté dudit meuble, ledit support de base (10) comprenant une paire de rails de base (11, 12) qui comporte un rail de base supérieur (11) et un rail de base inférieur (12),
- un support flottant (20) comprenant une paire de rails flottants (21, 22) qui comporte un rail flottant supérieur (21) et un rail flottant inférieur (22),
- au moins trois rouleaux rainurés (1, 2) qui sont interposés entre ladite paire de rails de base (11, 12) et ladite paire de rails flottants (21, 22), lesdits rouleaux rainurés (1, 2) présentant des axes de roulement horizontaux (H) respectifs qui sont perpendiculaires à une direction de coulissement (X) dudit guide télescopique (100), chacun desdits rails de base (11, 12) et desdits rails flottants (21, 22) comprenant une surface de coulissement (23) qui s'étend parallèlement à ladite direction de coulissement (X), chacun desdits rouleaux rainurés (1, 2) comprenant une rainure périphérique (3) qui est configurée pour correspondre à une surface de coulissement (23) respective et en contact avec celle-ci de manière à limiter le jeu latéral entre ladite rainure périphérique (3) et ladite surface de coulissement (23) respective.

2. Guide télescopique (100) selon la revendication 1, dans lequel ladite rainure périphérique (3) définit un contour sensiblement en forme de H (31) au niveau de toute section (30) desdits rouleaux rainurés (1, 2) qui sont coupés par tout plan qui traverse l'axe de roulement horizontal (H) desdits rouleaux rainurés (1, 2).

3. Guide télescopique (100) selon la revendication 1

ou la revendication 2, comprenant :

- une équerre (40) qui peut être fixée audit tiroir, ladite équerre (40) comprenant une paire de surfaces de butée (41, 42) qui sont mutuellement opposées, ladite paire de surfaces de butée (41, 42) comprenant une surface de butée supérieure (41) et une surface de butée inférieure (42), lesdites surfaces de butée (41, 42) s'étendant parallèlement à ladite direction de coulissement (X),
- au moins trois rouleaux plans (51, 52), lesdits trois rouleaux plans (51, 52) comprenant au moins un rouleau plan supérieur (51) qui est interposé entre ledit rail flottant supérieur (21) et ladite surface de butée supérieure (41) et au moins un rouleau plan inférieur (52) qui est interposé entre ladite surface de butée inférieure (42) et ledit rail flottant inférieur (22) et au moins un rouleau plan supplémentaire à sélectionner parmi un rouleau plan supérieur supplémentaire (51) ou un rouleau plan inférieur supplémentaire (52), lesdits rouleaux plans (51, 52) présentant des axes de roulement horizontaux (H) respectifs qui sont perpendiculaires à ladite direction de coulissement (X) de telle sorte qu'un roulement desdits rouleaux plans (51, 52) autour desdits axes de roulement horizontaux (H) respectifs permet un coulissement relatif entre ladite équerre (40) et ledit support flottant (20) parallèlement à ladite direction de coulissement (X).

4. Guide télescopique (100) selon la revendication précédente, dans lequel chacun desdits rails flottants (21, 22) comprend une surface de coulissement supplémentaire (24) qui est opposée à une surface de coulissement (23) respective, chacun desdits rouleaux plans (51, 52) comprenant une surface de roulement (54) qui est configurée pour venir en prise dans une surface de coulissement supplémentaire (24) respective de manière à empêcher un jeu latéral entre ladite surface de roulement (54) et ladite surface de coulissement supplémentaire (24) respective, ladite surface de coulissement supplémentaire (24) étant de préférence concave.

5. Guide télescopique (100) selon la revendication 4, dans lequel ladite surface de roulement (54) présente une forme qui est complémentaire par rapport à ladite surface de coulissement supplémentaire (24), ladite surface de roulement (54) étant de préférence convexe.

6. Guide télescopique (100) selon l'une quelconque des revendications 3 à 5, comprenant au moins un rouleau latéral (6) qui est interposé entre ledit support flottant (20) et ladite équerre (40), ledit rouleau latéral (6) présentant de préférence un axe de rou-

lement vertical (V) de telle sorte qu'un roulement dudit rouleau latéral (6) autour dudit axe de roulement vertical (V) permet un coulisement relatif entre ledit support flottant (20) et ladite équerre (40) parallèlement à ladite direction de coulisement (X).

7. Guide télescopique (100) selon l'une quelconque des revendications précédentes, comprenant une première glissière (7) qui est fixée pour un déplacement de translation par rapport audit support de base (10) dans ladite direction de coulisement (X), ladite première glissière (7) comprenant :

- une cage supérieure (71) qui est configurée pour définir un siège de l'au moins un rouleau rainuré supérieur (1),
- une cage inférieure (72) qui est configurée pour définir un siège de l'au moins un rouleau rainuré inférieur (2),
- une liaison structurale (73) entre ladite cage supérieure (71) et ladite cage inférieure (72), ladite première glissière (7) fixant ledit support flottant (20) pour un déplacement de translation par rapport audit support de base (10) dans ladite direction de coulisement (X).

8. Guide télescopique (100) selon la revendication 7, dans lequel ledit support de base (10) comprend un bord supérieur (13) et un bord inférieur (14) qui s'étendent le long dudit rail de base supérieur (11) et ledit dudit rail de base inférieur (12), respectivement, ledit bord supérieur (13) et ledit bord inférieur (14) étant configurés pour limiter l'inclinaison (T) de ladite cage supérieure (71) et de ladite cage inférieure (72), respectivement, transversalement à ladite direction de coulisement (X) de manière à empêcher une libération dudit support flottant (20) vis-à-vis de ladite première glissière (7) transversalement à ladite direction de coulisement (X).

9. Guide télescopique (100) selon l'une quelconque des revendications 3 à 8, comprenant une deuxième glissière (8) qui est configurée pour définir des sièges desdits rouleaux plans (51, 52), ladite deuxième glissière (8) comprenant une languette (81) qui est configurée pour venir en prise dans ladite surface de coulisement concave (24) de manière à fixer ladite deuxième glissière (8) pour un déplacement de translation par rapport audit support flottant (20) dans ladite direction de coulisement (X), ladite languette (81) étant élastiquement déformable afin de permettre une libération de ladite deuxième glissière (8) vis-à-vis dudit support flottant (20) transversalement à ladite direction de coulisement (X).

10. Guide télescopique (100) selon l'une quelconque des revendications 3 à 9, comprenant au moins un dispositif à sélectionner parmi une première butée

(77) qui est reliée fixement audit support de base (10) et une deuxième butée (88) qui est reliée fixement à ladite équerre (40), ladite première butée (77) délimitant un chemin de ladite première glissière (7) par rapport audit support de base (10) dans ladite direction de coulisement (X), ladite première butée (77) étant amovible afin de permettre à ladite première glissière (7) d'être retirée dudit support de base (10) parallèlement à ladite direction de coulisement (X), ladite deuxième butée (88) délimitant un chemin de ladite équerre (40) par rapport à ladite deuxième glissière (8) dans ladite direction de coulisement (X).

11. Guide télescopique (100) selon la revendication précédente, dans lequel ladite deuxième glissière (8) comprend un bord longitudinal (97) qui s'étend parallèlement à ladite direction de coulisement (X), ledit bord longitudinal (97) étant configuré pour fixer ladite deuxième butée (88) pour coulisser dans ladite direction de coulisement (X) de manière à empêcher une libération de ladite équerre (40) vis-à-vis de ladite deuxième glissière (8) transversalement à ladite direction de coulisement (X).

12. Guide télescopique (100) selon l'une quelconque des revendications précédentes, lorsqu'elle dépend de la revendication 3 et soit de la revendication 7 ou de la revendication 9, dans lequel ladite première glissière (7) ou ladite deuxième glissière (8) comprend un joint (9) qui est interposé entre les sièges de deux rouleaux rainurés (1, 2) ou de deux rouleaux plans (51, 52), respectivement, ledit joint (9) présentant une longueur dans ladite direction de coulisement (X) qui est réglable de manière à régler une distance horizontale (D) entre lesdits deux rouleaux rainurés (1, 2) ou entre lesdits deux rouleaux plans (51, 52), respectivement.

13. Guide télescopique (100) selon l'une quelconque des revendications précédentes, dans lequel lesdits rouleaux rainurés (1, 2) comprennent au moins un rouleau rainuré supérieur (1) qui est interposé entre ledit rail de base supérieur (11) et ledit rail flottant supérieur (21) et au moins un rouleau rainuré inférieur (2) qui est interposé entre ledit rail flottant inférieur (22) et ledit rail de base inférieur (12) et au moins un rouleau rainuré supplémentaire à sélectionner parmi un rouleau rainuré supérieur supplémentaire (1) ou un rouleau rainuré inférieur supplémentaire (2).

14. Guide télescopique (100) selon l'une quelconque des revendications précédentes, dans lequel ledit rail de base supérieur (11) et ledit rail de base inférieur (12) comprennent une rainure longitudinale supérieure (31) et une rainure longitudinale inférieure (32), respectivement, qui s'étendent parallèlement

à ladite direction de coulissement (X) et dans lequel ledit support flottant (20) comprend une dent supérieure (33) et une dent inférieure (34) qui sont configurées pour venir en prise d'une manière coulissante dans ladite rainure longitudinale supérieure (31) et dans ladite rainure longitudinale inférieure (32), respectivement, de manière à empêcher un déraillement dudit support flottant (20) vis-à-vis de ladite paire de rails de base (11, 12).

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15. Guide télescopique (100) selon l'une quelconque des revendications précédentes, dans lequel ladite surface de coulissement (23) présente une forme convexe et de préférence définit un relief par rapport à des positions latérales respectives desdits rails de base (11, 12) et desdits rails flottants (21, 22).

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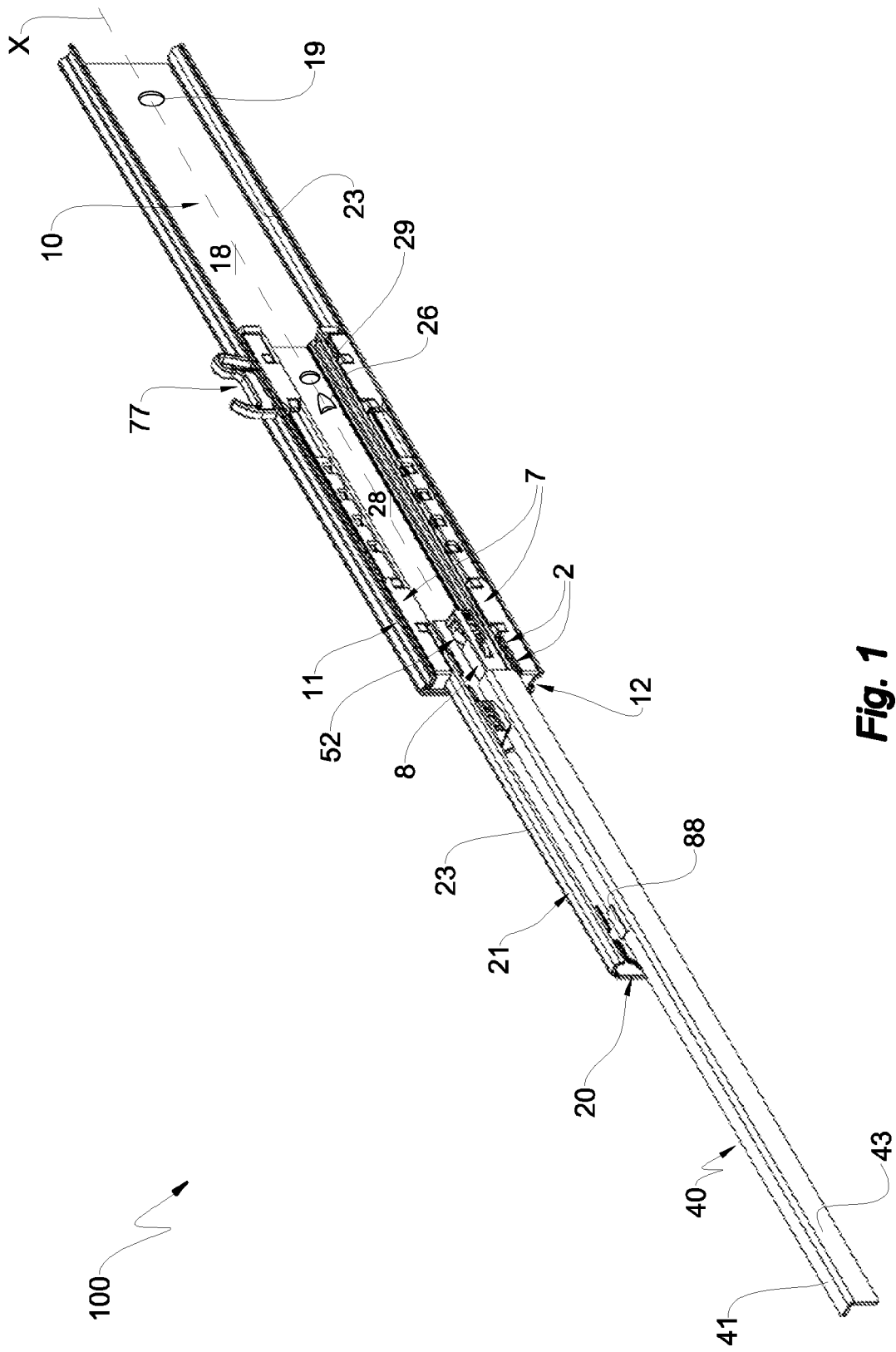


Fig. 1

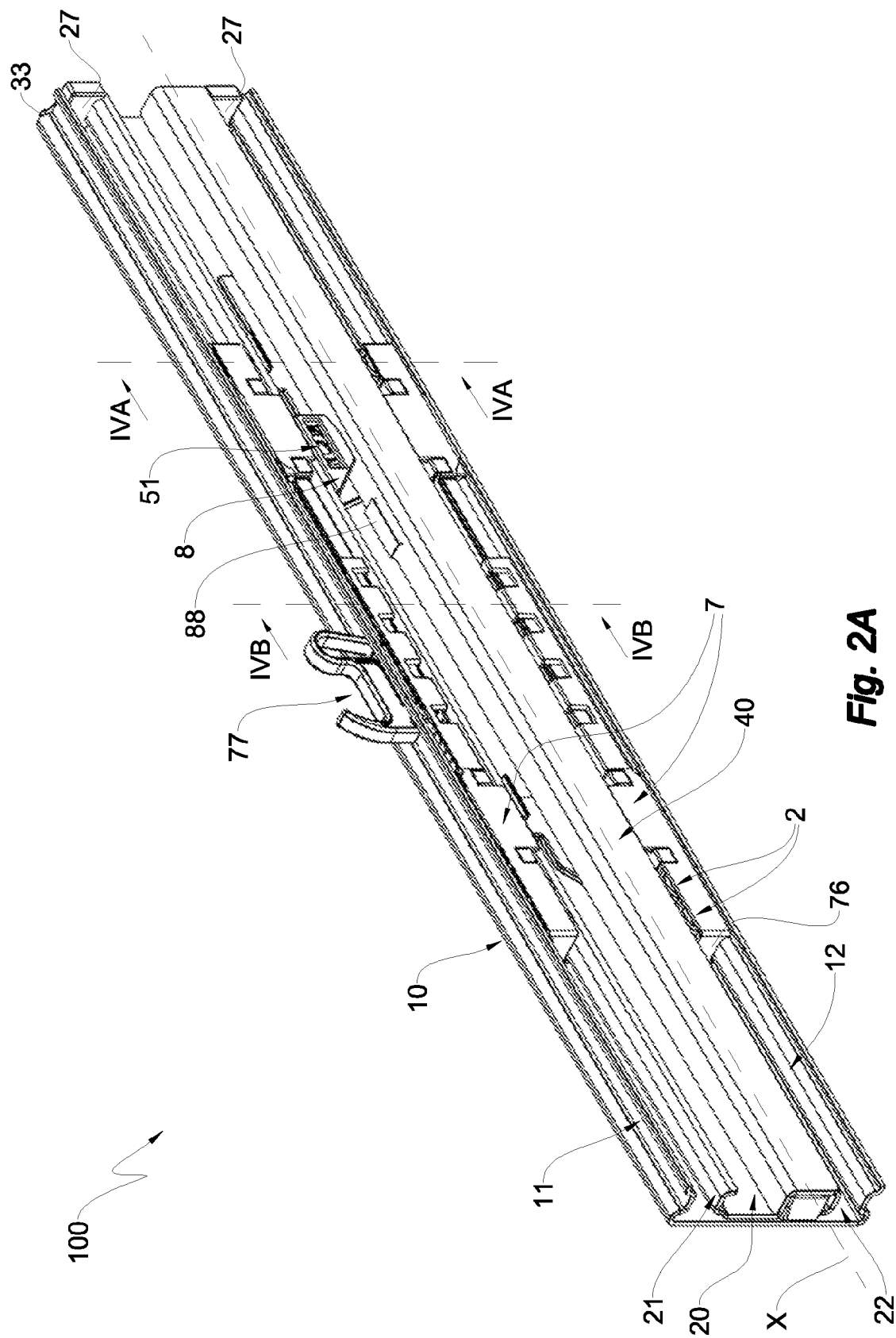


Fig. 2A

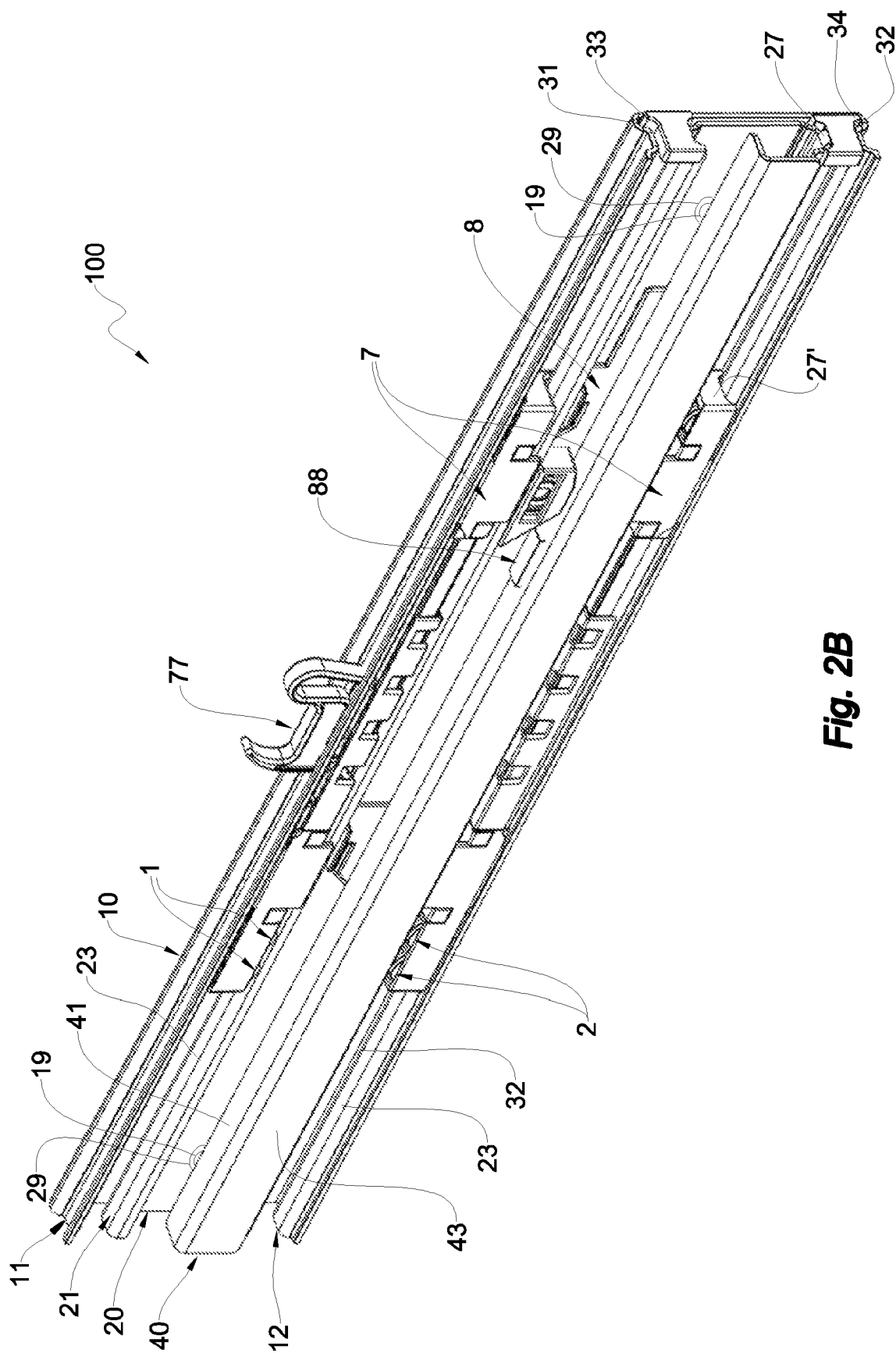
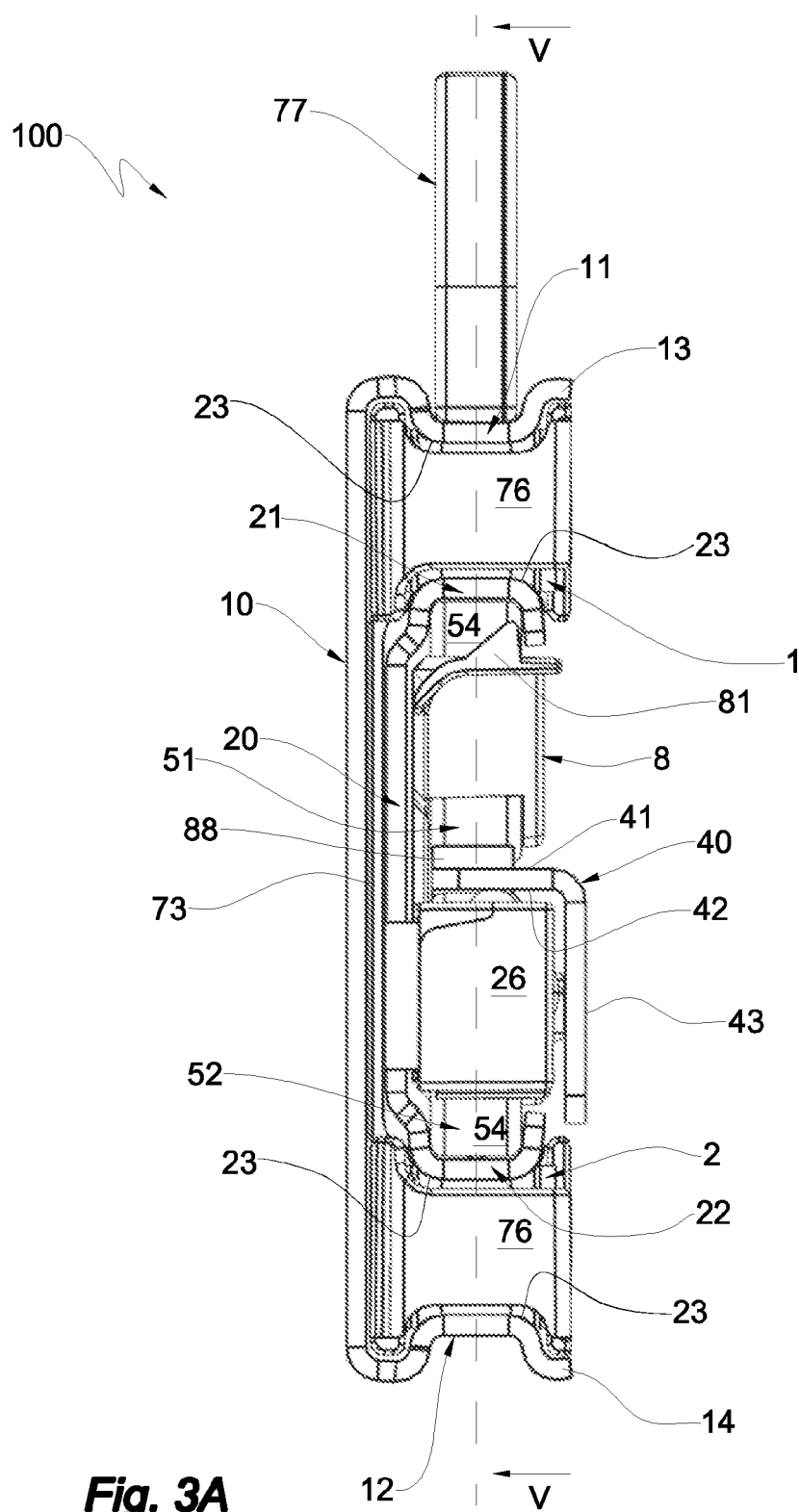


Fig. 2B



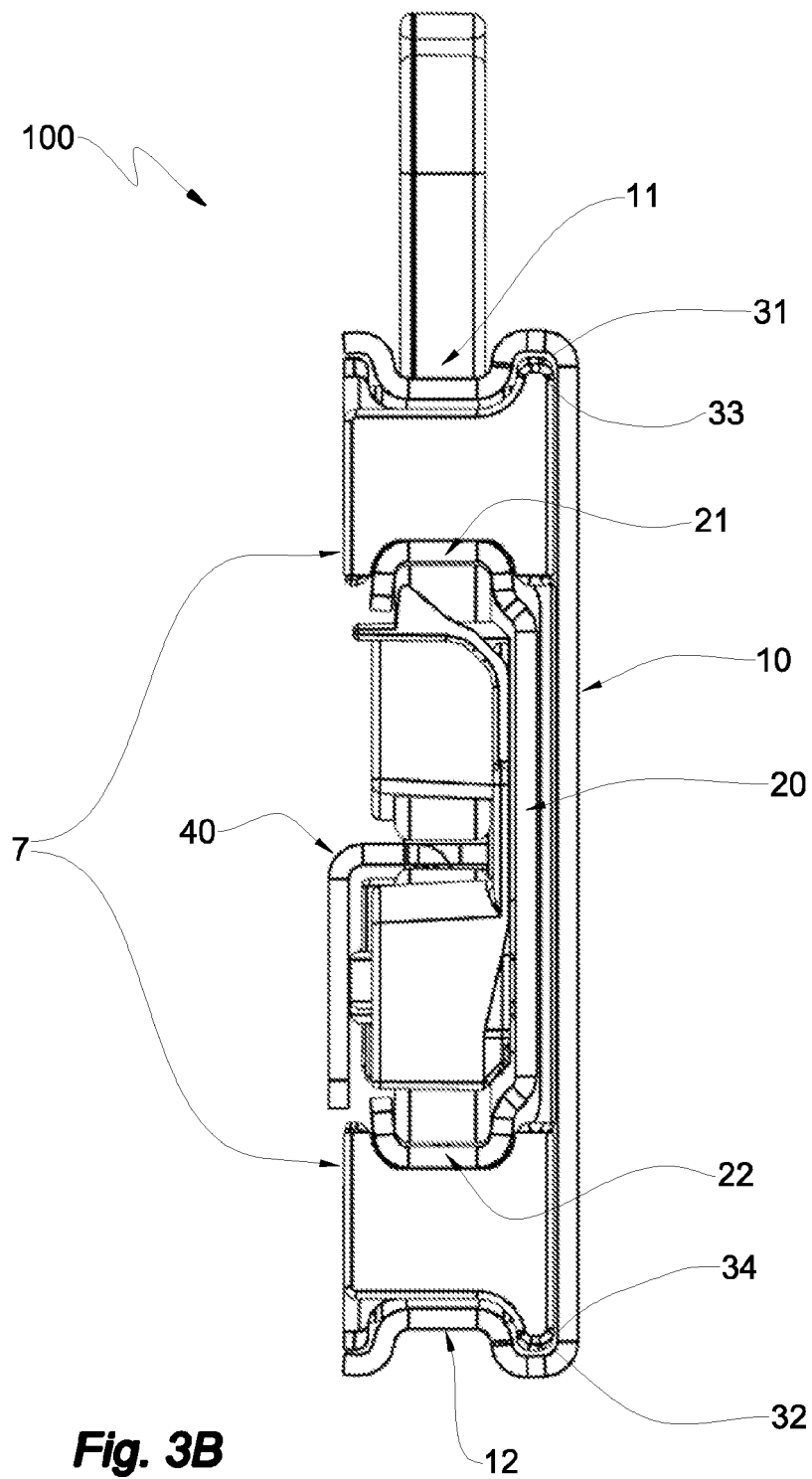


Fig. 3B

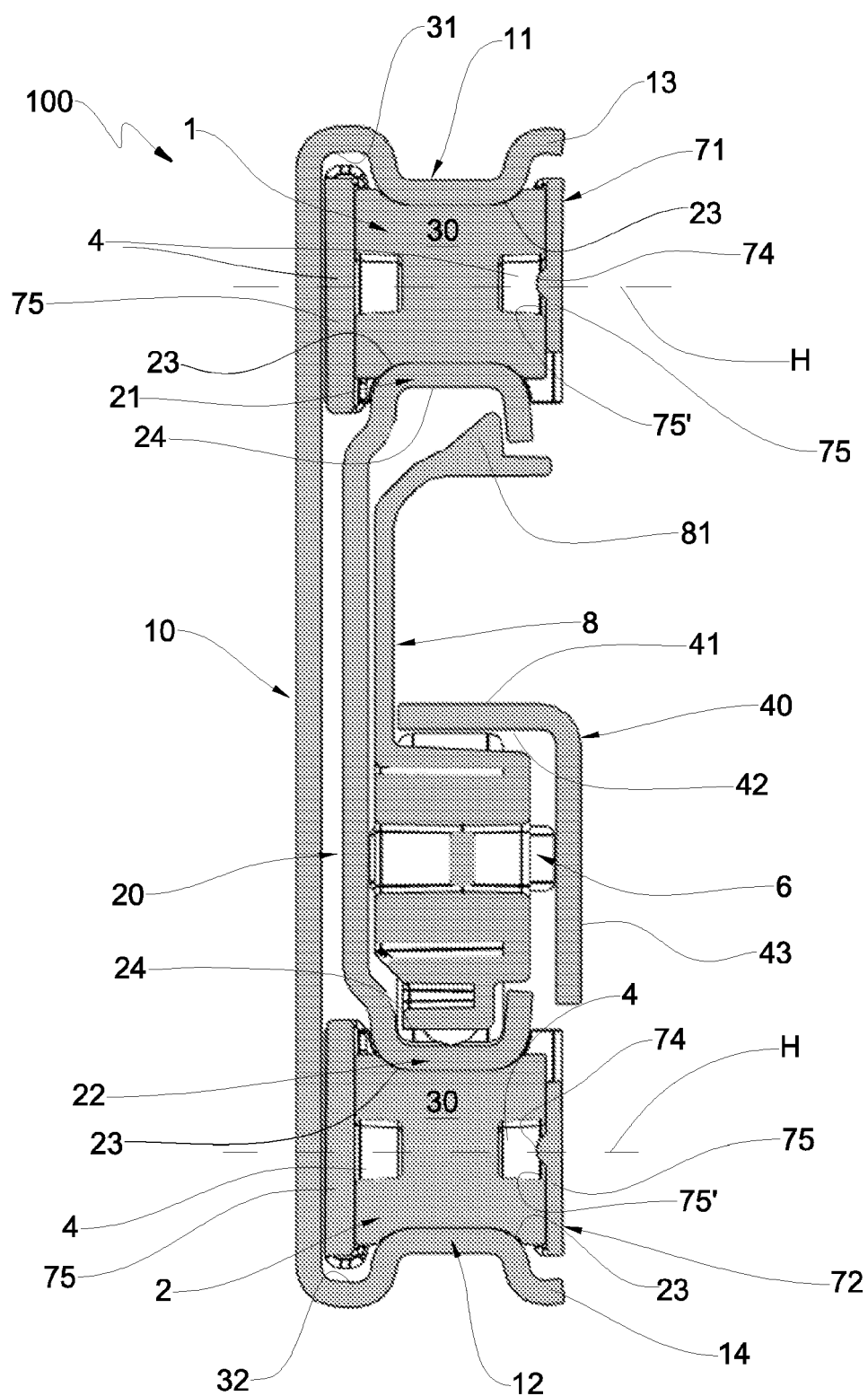


Fig. 4A

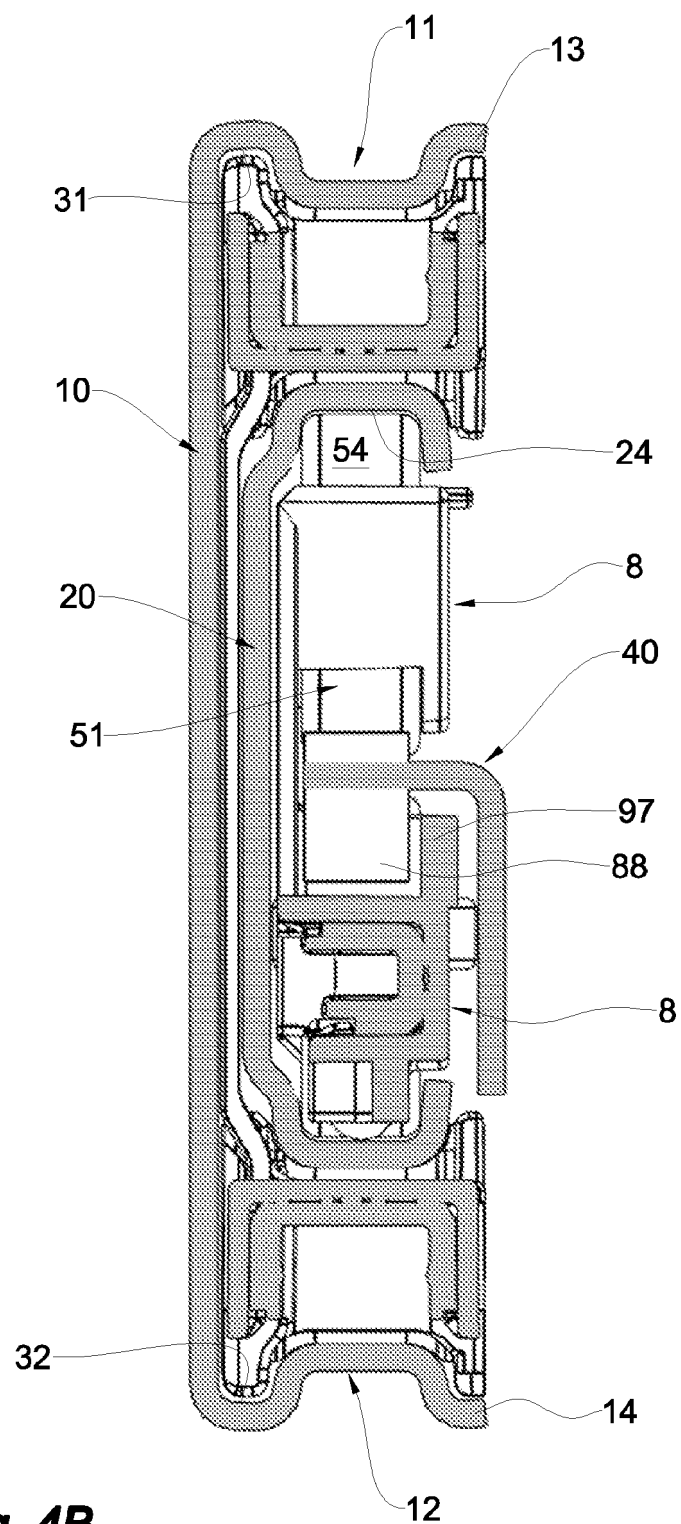


Fig. 4B

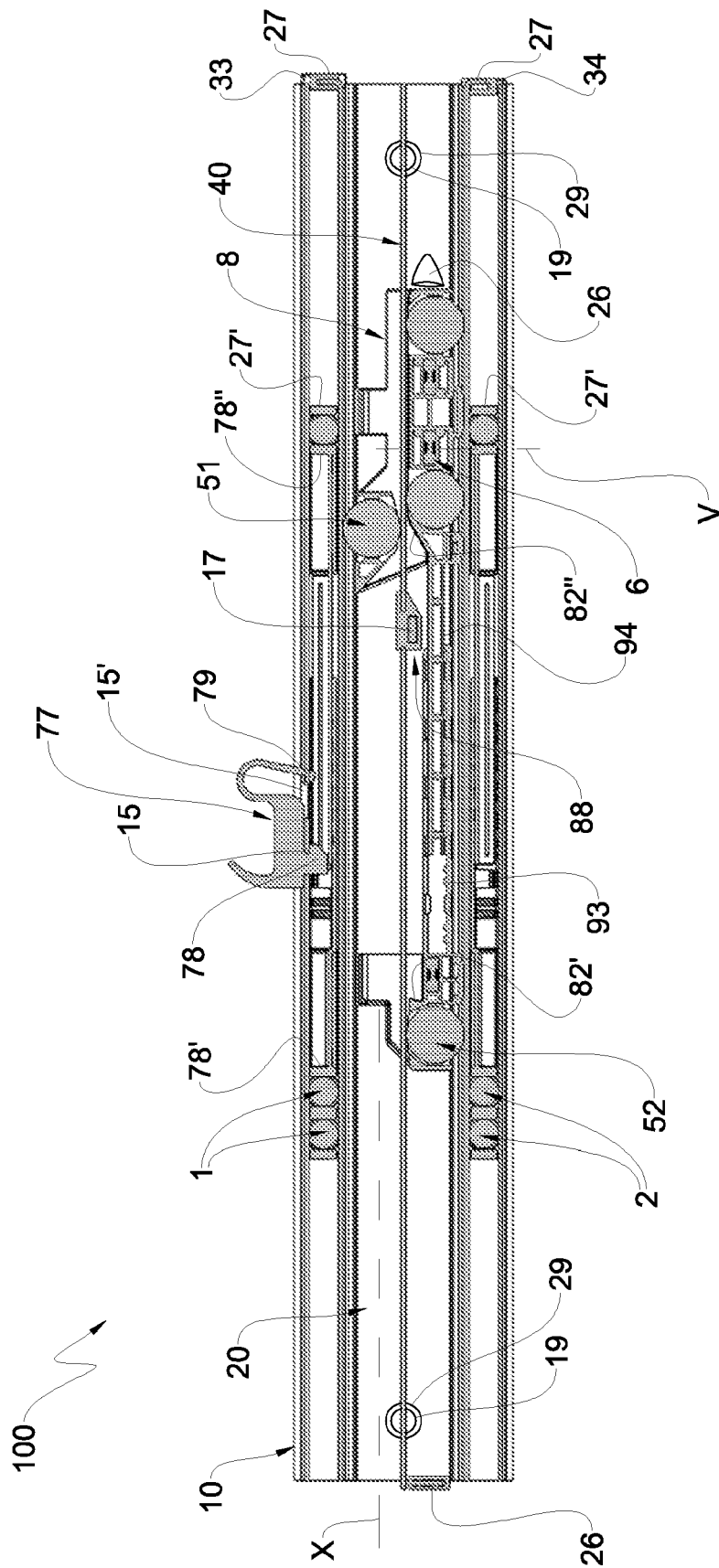


Fig. 5

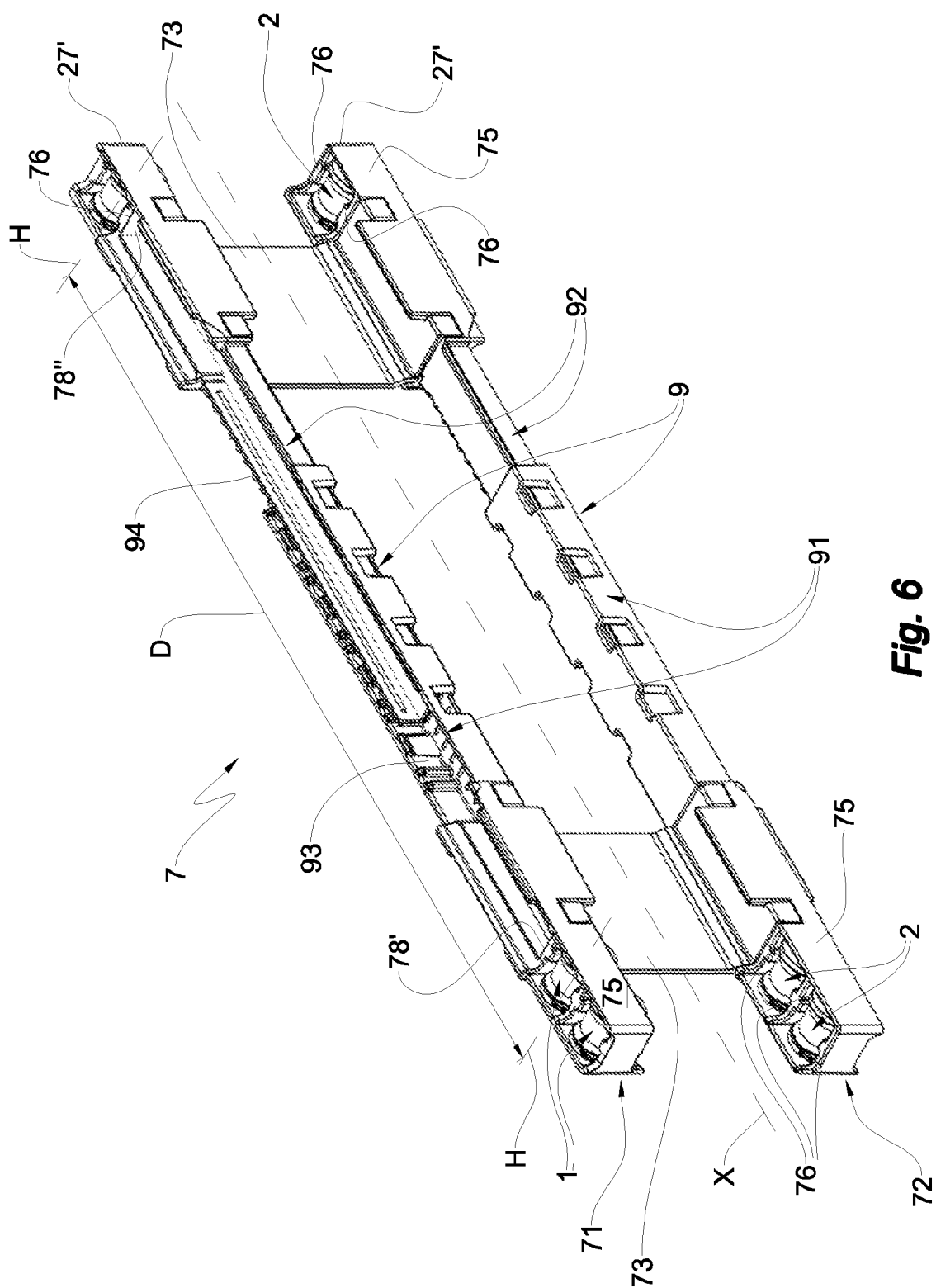


Fig. 6

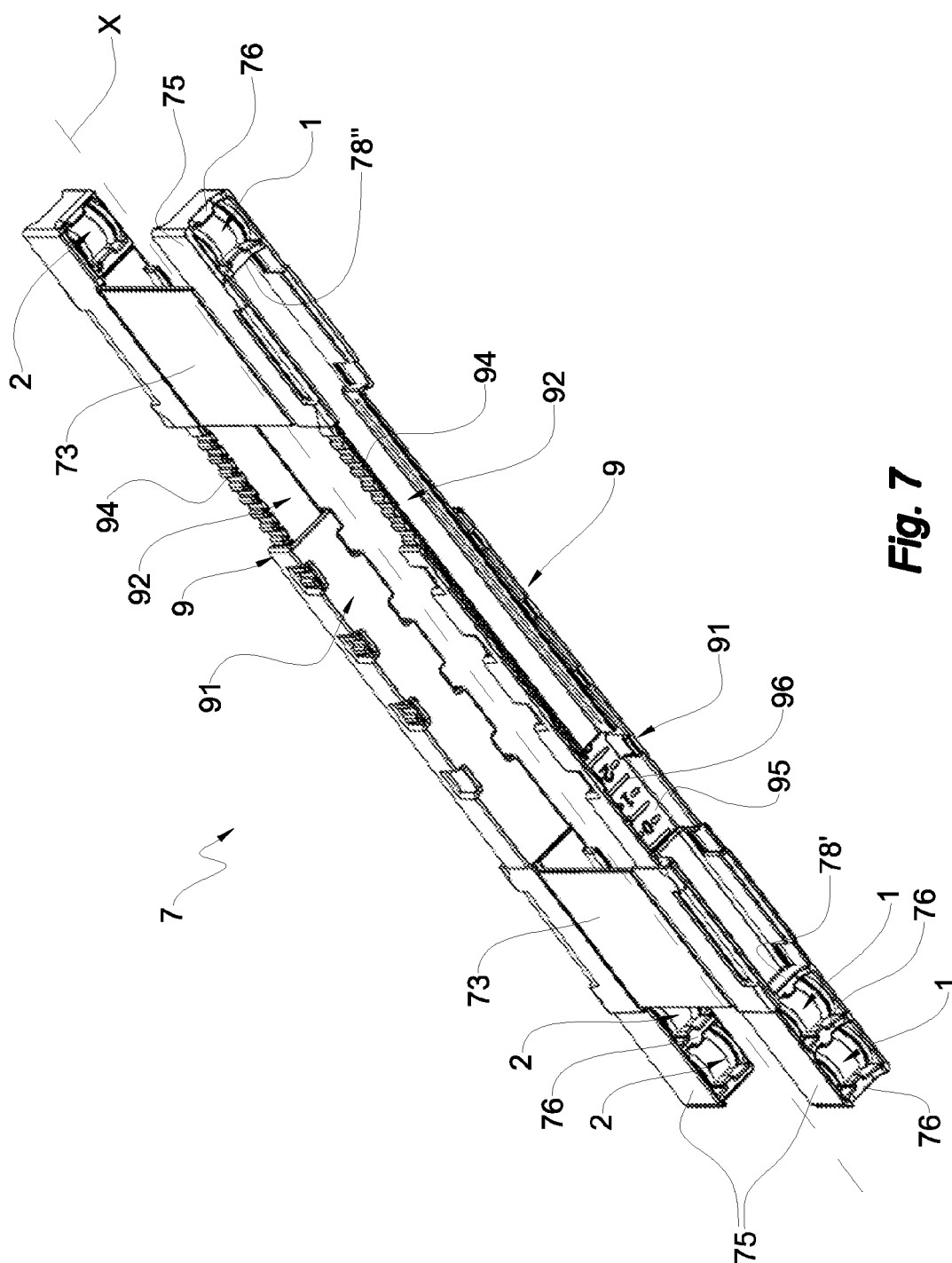


Fig. 7

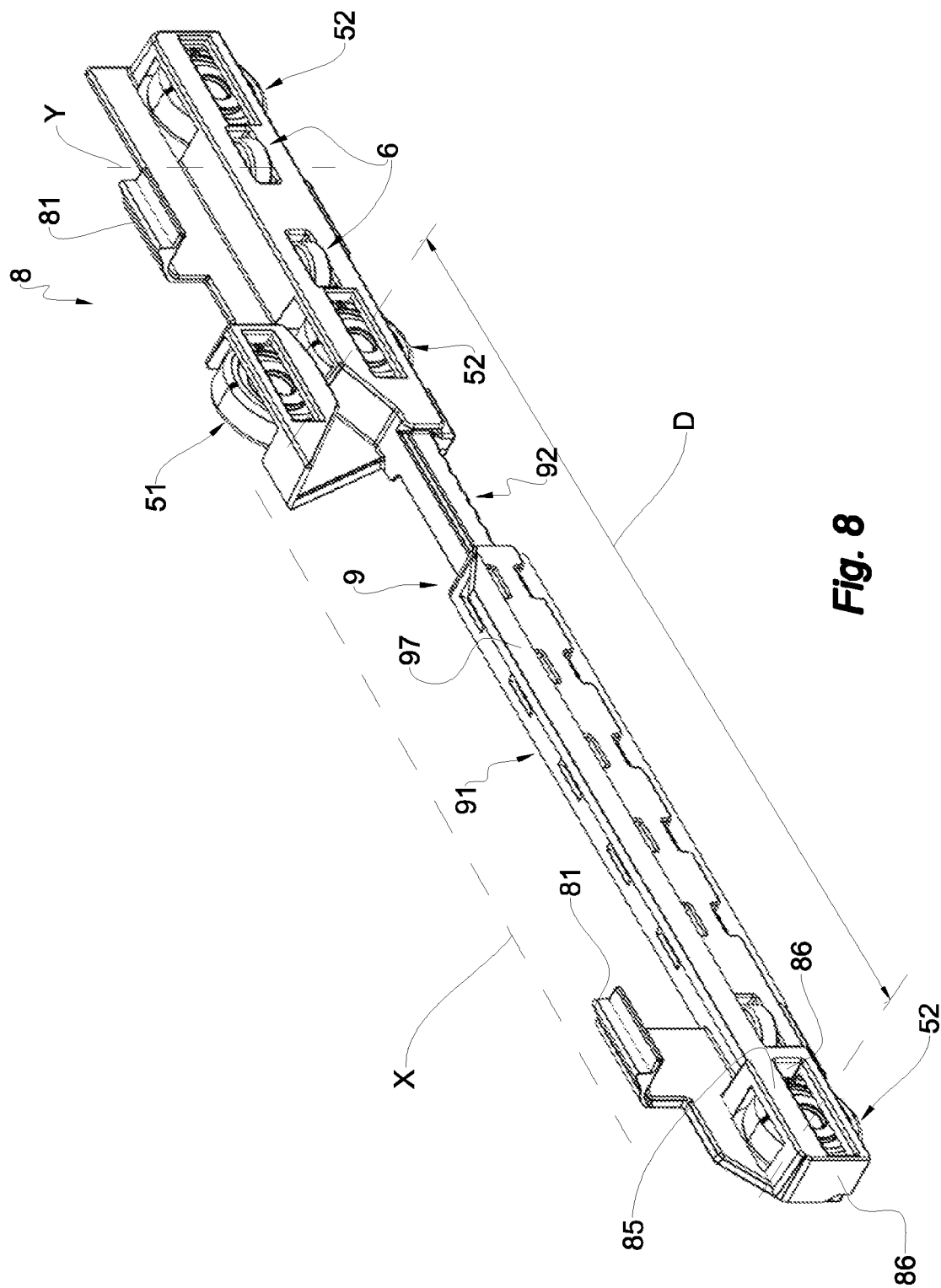


Fig. 8

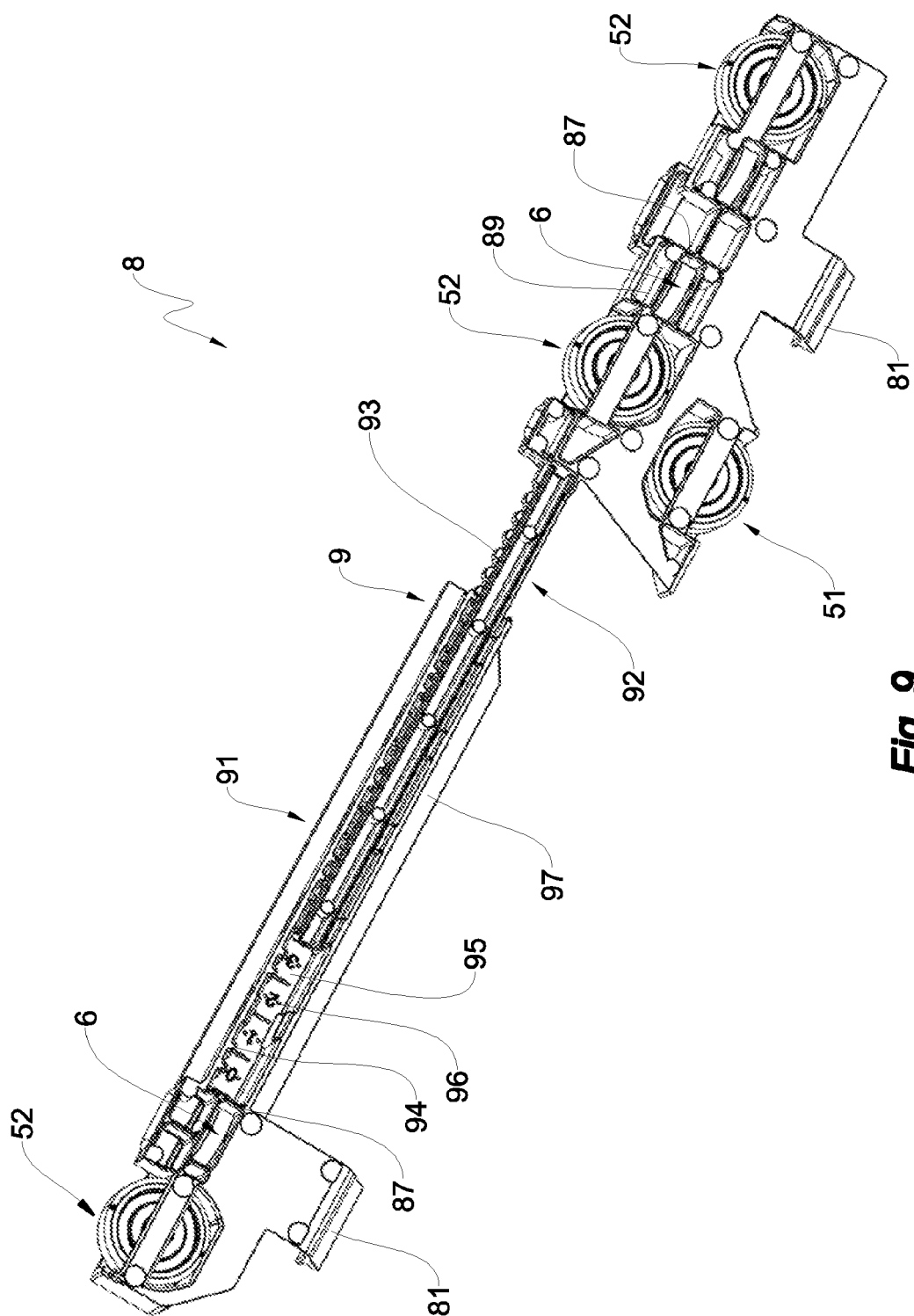


Fig. 9

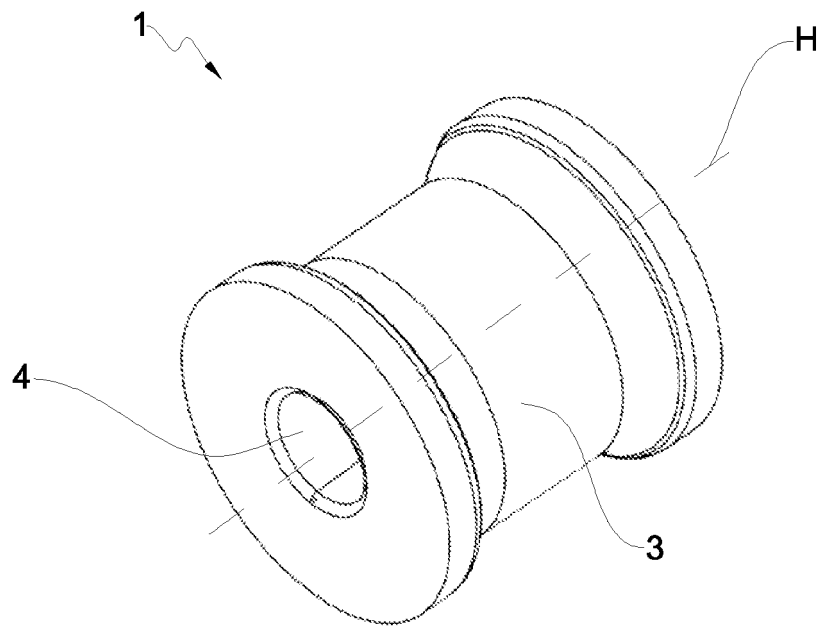


Fig. 10

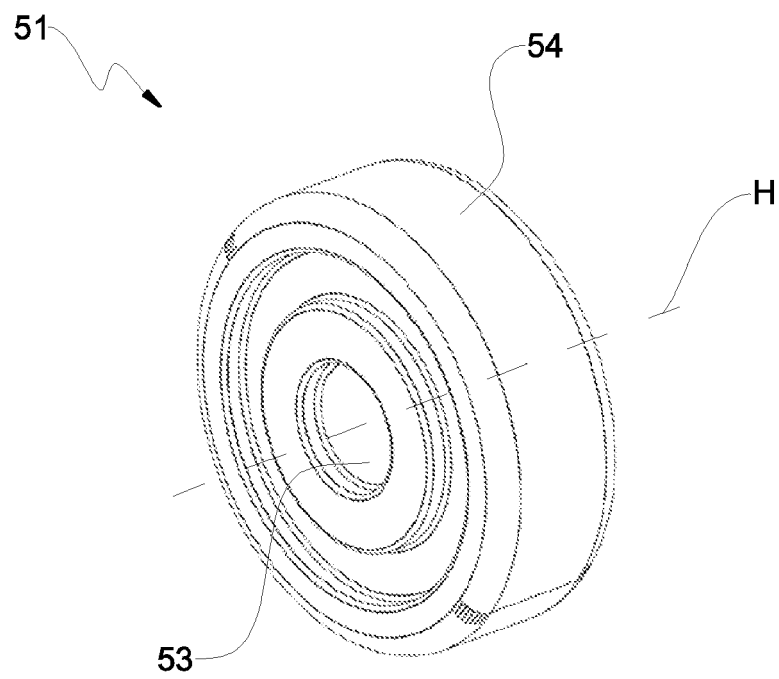


Fig. 11

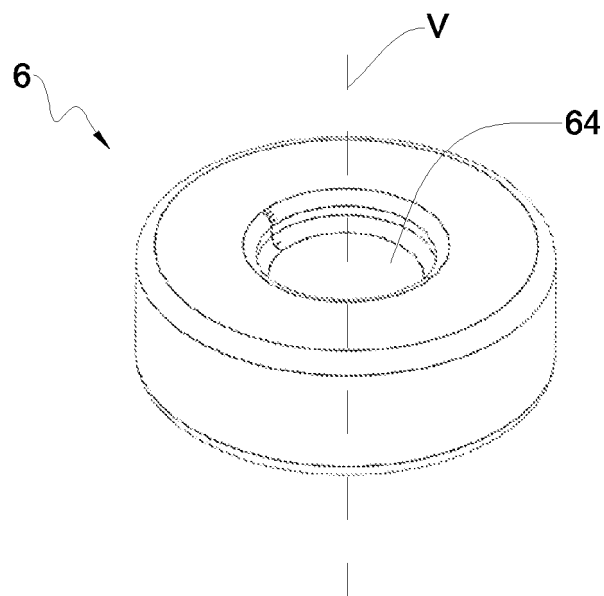
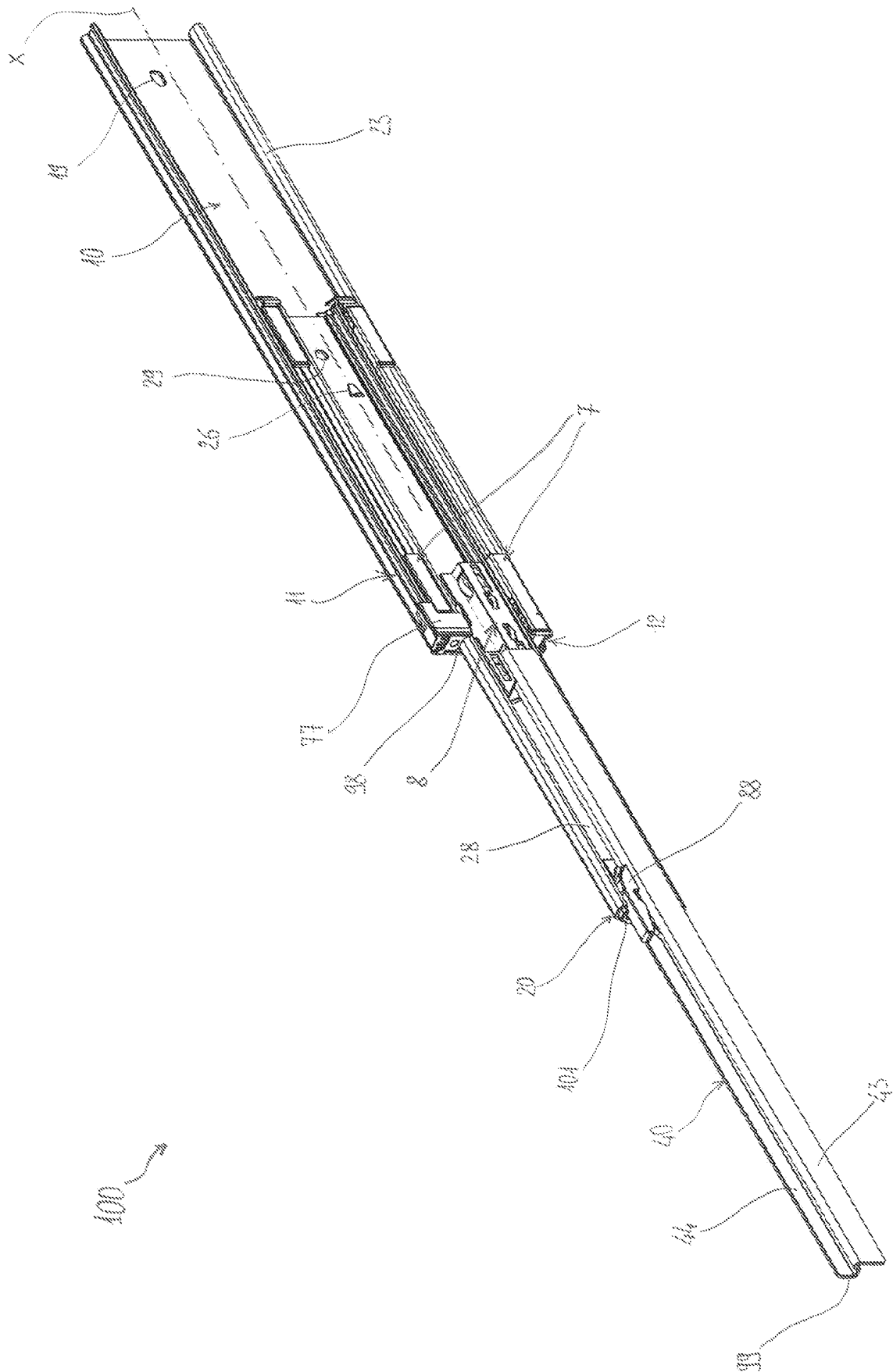


Fig. 12



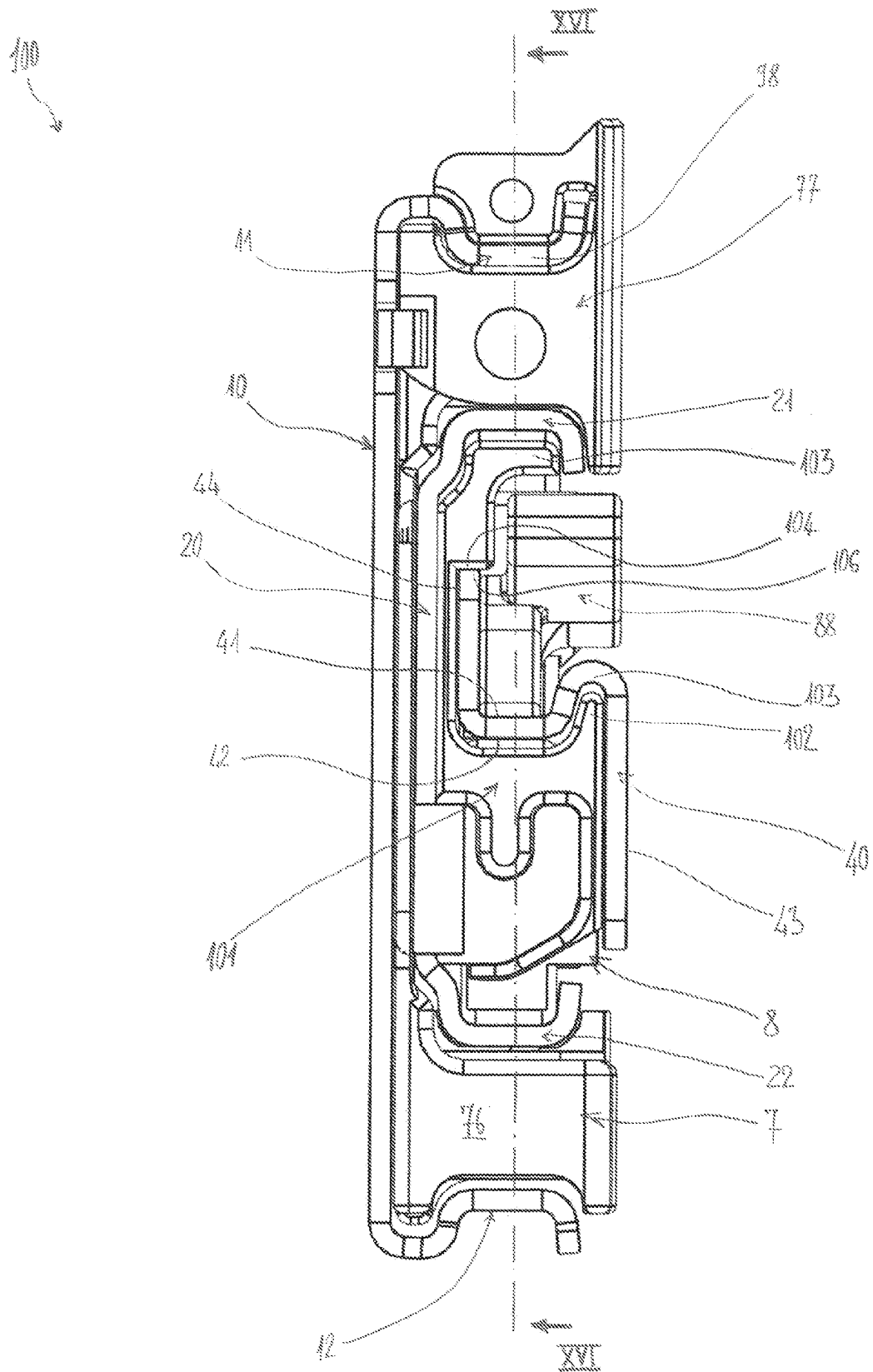


FIG. 14

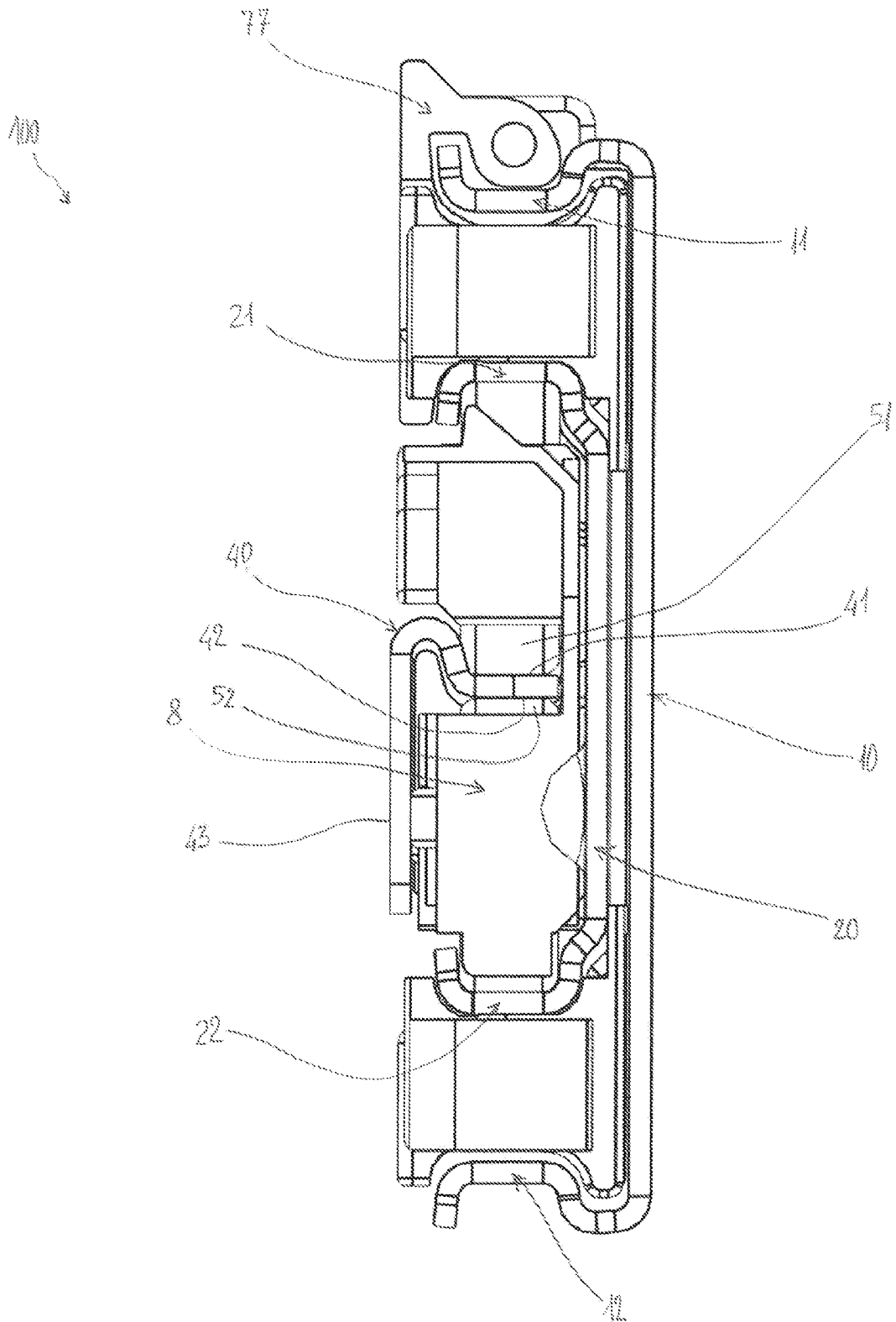
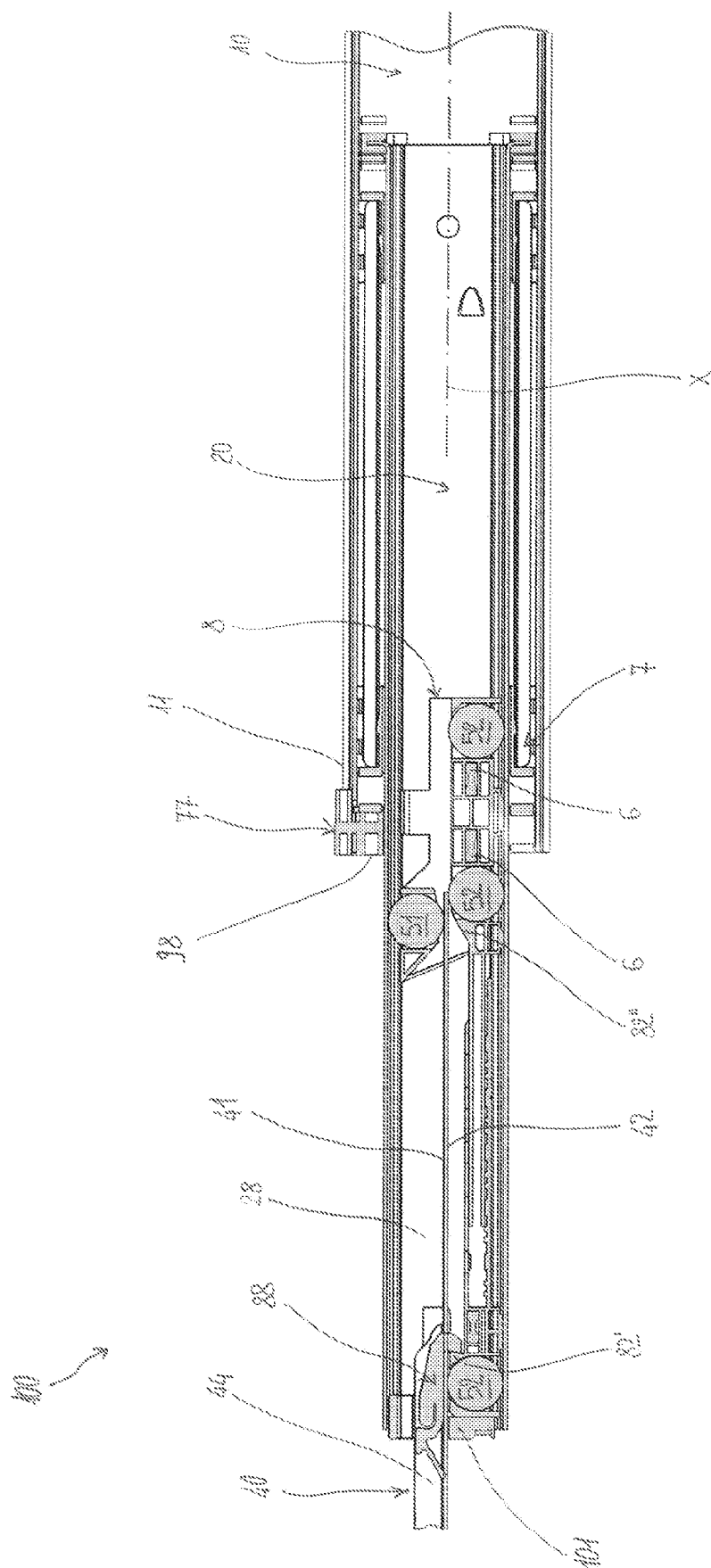


FIG. 15



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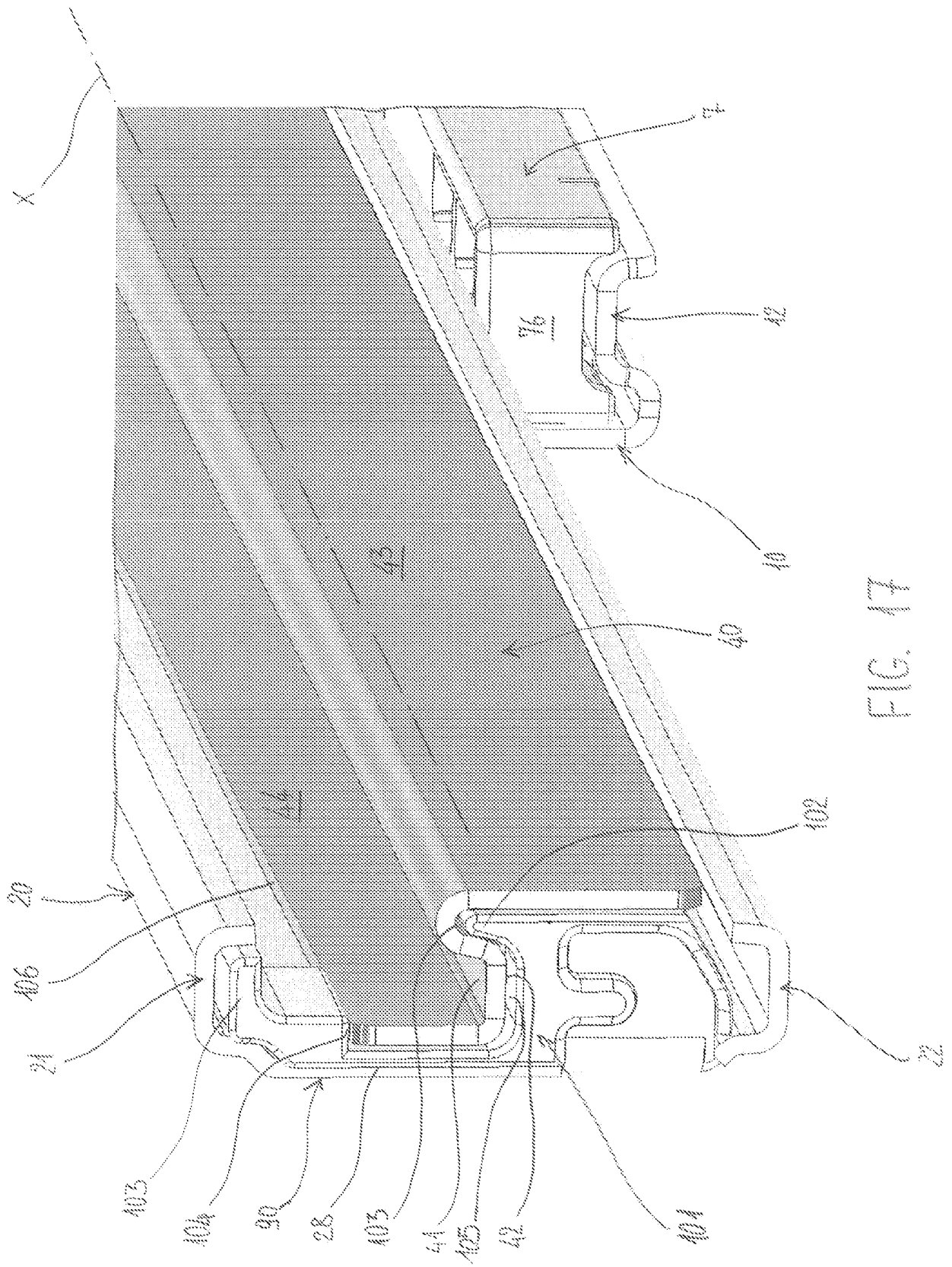


FIG. 17

REFERENCES CITED IN THE DESCRIPTION

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