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(54) **Hybrid checkout station for a retail store, comprising a moving system configured to displace said station between a first position and a second position**

Hybride Registrierstation für ein Einzelhandelsgeschäft mit einem beweglichen System mit Konfiguration zum Verschieben dieser Station zwischen einer ersten und einer zweiten Position

Poste de caisse hybride destiné à un magasin de détail, comprenant un système de déplacement conçu pour déplacer ladite station entre une première position et une seconde position

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(56) References cited:
EP-A1- 2 266 443
US-A1- 2003 115 103
US-B1- 7 866 546

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Description

FIELD OF THE INVENTION

[0001] The invention relates to Point-of-Service (POS), comprising one or a plurality of checkout stations for a retail store, and more particularly, to hybrid checkout stations that may operate both in an employee-assisted mode and a self-service mode, alternatively.

BACKGROUND ART

[0002] A Point-of-Service (POS) is often referred to as a location where operations in support of retail transactions are conducted.

[0003] A POS may be the point where a customer makes a payment to a merchant in exchange for articles. Further, the merchant may, at the POS, calculate an amount owed by the customer and provide options for the customer to make payment. A payment may be made by, for example, cash, a credit card, a debit card, or check. The merchant may also issue a receipt to the customer for the transaction.

[0004] To facilitate such retail transactions, a merchant may deploy one or more checkout stations having in particular payment terminals and scanners.

[0005] In most cases, a checkout station is configured to operate in an employee-assisted mode in which the merchant (or an employee of the merchant) scans each item for a customer and accepts payment for the scanned items from the customer.

[0006] Such employee-assisted checkout stations enable the merchant to personally interact with the customer.

[0007] Alternatively, in some cases, checkout stations are configured to operate in a self-checkout mode. In this mode, the customer has little or no interaction with the merchant, and performs the scanning and payment functions typically performed by the merchant.

[0008] We also know from the European patent application 2 315 166 a hybrid checkout station which is configured to operate both in an employee-assisted mode and a self-service mode, alternatively.

[0009] Such a hybrid checkout station has a desk comprising a sort zone at the entrance of the station, a reception zone configured for receiving the customer and the articles that the customer wish to buy, a control zone having means for controlling the amount owed by the customer, and first and second payment zones having each means for payment.

[0010] The desk delimits a first way configured for guiding a customer from the entrance of the station to the exit of the station along the reception zone, the control zone and the first payment zone; and an alternative second way configured for guiding a customer from the entrance of the station to the exit of the station along the second payment exit, not along the control zone.

[0011] A further hybrid checkout station is known from EP 2266443A.

SUMMARY OF THE INVENTION

[0012] The invention is directed to a hybrid checkout station for a retail store, that may operate both in an employee-assisted mode and a self-service mode, alternatively, and which is configured to be particularly simple and convenient both for the merchants and the customers.

[0013] The invention accordingly provides a hybrid checkout station for a retail store, configured for operating both in an employee-assisted mode and a self-service mode, alternatively, comprising a desk defining a predetermined footprint area and a moving system comprising a first frame to which is fastened said desk and at least one actuating device having a first end fastened to said first frame and a second end opposite to said first end and configured to be fixedly linked to a floor on which is laid said hybrid checkout station; said at least one actuating device being configured for displacing said first frame only in said footprint area between a first position in which said hybrid checkout station is configured to operate in said employee-assisted mode and a second position in which said hybrid checkout station is configured to operate in said self-service mode.

[0014] The at least one actuating device is configured for displacing the first frame from the first position to the second position and also from the second position to the first position; in order to change the configuration of the desk and the operability of the station.

[0015] In the employee-assisted mode, the hybrid checkout station is arranged on a first zone equal to the footprint area of the desk. In the self-service mode, the hybrid checkout station is arranged on a second zone also equal to the footprint area of the desk.

[0016] The first zone and second zone are tilted to each other by virtue of the actuating device which moves the first frame in the footprint area and thus moves the desk fastened to the first frame, but the first zone and the second zone have each a common portion.

[0017] Thanks to the invention, the hybrid checkout station is able to operate in an employee-assisted mode and a self-service mode, alternatively, using a minimum surface on the floor, the surface being less than twice footprint areas of the desk.

[0018] The hybrid checkout station according to the invention is thus convenient for the retail stores, in particular the local stores having small surface.

[0019] According to features preferred as being very simple, convenient and economical for embodying the shelving device according to the invention:

- said moving system comprises at least one second frame configured to be fixedly attached to the floor and disposed inside said first frame, which first frame being moveable relative to said at least one second frame;

- said second end of said at least one actuating device is fastened to said at least one second frame;
- said moving system comprises at least one guiding member sandwiched between said first frame and said at least one second frame;
- said first frame comprises at least one pry bar and said at least one actuating device comprises a first arm which is deployable and retractable and fastened to said first frame, an intermediate arm which is articulated relative to said first arm and fastened to said pry bar, and a second arm which is articulated to said intermediate arm and fastened to said at least one second frame;
- said first frame has a first portion, a second portion remote to said first portion and a linking portion joining said first portion and said second portion, said first portion, second portion and linking portion being configured for forming a receiving space between said first portion and said second portion;
- said moving system comprises two second frames arranged respectively inside said first portion and inside said second portion of said first frame;
- said moving system comprises two actuating devices configured for displacing together respectively one of said two second frames relative to said first portion of said first frame between a first position and a second position, and the other of said two second frames relative to said second portion of said first frame also between a first position and a second position;
- said first frame and said at least one second frame are made from metal;
- said at least one second frame is configured to be screwed to the floor;
- said desk comprises a reception zone located close to a first end of said station, a payment zone located close to a second end of said station opposite to the first end and having a payment system, and a scanning zone located between said reception zone and said payment zone and having a scanning system; and/or
- said payment zone has a support which is rotatable, said payment system is mounted on said support, and said support is configured to place said payment system in a first position when said station is in said employee-assisted mode and in a second position when said station is in said self-service mode.

[0020] The invention further accordingly provides a method for configuring a hybrid checkout station as described above in an employee-assisted mode and a self-service mode, alternatively, comprising the step of controlling at least one actuating device of a moving system of said station for placing a first frame of said moving system, on which a desk of said station is fastened, in a first position located in a predetermined footprint area of said desk, first position in which said station is configured to operate in said employee-assisted mode; and/or the step of controlling said at least one actuating device for placing said first frame in a second position also located in said predetermined footprint area, second position in which said station is configured to operate in said self-service mode.

[0021] The invention further accordingly provides a hybrid checkout system comprising a hybrid checkout station as described above, a first way defined on a first side of a desk of said station when said station is configured to operate in an employee-assisted mode, and a second way defined on a second side, opposite to said first side, of said desk when said station is configured to operate in a self-service mode.

[0022] The hybrid checkout system preferably comprises at least one barrier delimiting a point-of-service block comprising said hybrid checkout station, said first way and said second way.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] The description of the invention now continues with a detailed description of a preferred embodiment given hereinafter by way of non-limiting example and with reference to the appended drawings. In these drawings:

- Figures 1 and 2 are schematic top views illustrating a checkout area comprising a hybrid checkout station according to the invention, respectively in an employee-assisted mode and a self-service mode;
- Figures 3 and 4 are perspective views of the hybrid checkout station shown in Figures 1 and 2;
- Figures 5 and 6 are respectively a perspective view and a top view illustrating a moving system of the hybrid checkout station illustrated in Figures 3 and 4, the moving system being in a first configuration;
- Figures 7 and 8 are similar to Figures 5 and 6, the moving system being in an intermediate configuration;
- Figures 9 and 10 are similar to Figures 5 and 6, the moving system being in a second configuration; and
- Figures 11 and 12 are respectively a perspective view showing the bottom of the moving system and a bottom view of the moving system, in the second configuration.

DETAILED DESCRIPTION OF PREFERED EMBODIMENTS

[0024] Figures 1 and 2 show a hybrid checkout system 1 in a retail store, comprising a first barrier 2 and a second barrier 3 facing the first barrier 2.

[0025] The first and second barriers 2 and 3 delimit a point-of-service block 4 in the retail store.

[0026] The hybrid checkout system 1 comprises a hybrid checkout station 5 having a first side 8 and a second side 9 opposite to the first side 8.

[0027] The hybrid checkout station 5 is here configured to operate both in an employee-assisted mode and a self-

service mode, alternatively.

[0028] In the employee-assisted mode, a merchant (or an employee of the merchant) may scan each item for a customer and accepts payment for the scanned items from the customer. In such employee-assisted mode, the merchant personally interacts with the customer.

[0029] In the self-checkout mode, the customer has little or no interaction with the merchant, and performs the scanning and payment functions typically performed by the merchant.

[0030] The hybrid checkout system 1 comprises a first way 6 defined between the first side 8 and the first barrier 2 when the hybrid checkout station 5 operates in the employee-assisted mode; and a second way 7 defined between the second side 9 and the second barrier 3 when the hybrid checkout station 5 operates in the self-service mode.

[0031] The hybrid checkout station 5, the first way 6 and the second way 7 are each located on the point-of-service block 4.

[0032] Figures 1 and 2 further show a supermarket trolley 10 located at an entrance 13 of the point-of-service block 4, on the first way 6 in Figure 1 and on the second way 7 in Figure 2.

[0033] Figure 1 further shows a seat 11 for the merchant, which seat 11 is located between the second side 9 and the second barrier 3, and also between the entrance 13 of the point-of-service block 4 and an exit 14 of this point-of-service block 4, opposite to the entrance 13.

[0034] Figures 1 and 2 further show a shelving device 12, also named gondola, which is used to display articles (not represented).

[0035] The shelving device 12 is located in front of the entrance 13 of the point-of-service block 4 and faces a first end 15 of the hybrid checkout station 5.

[0036] The hybrid checkout station 5 comprises a desk 16 defining a predetermined footprint area 17.

[0037] In the employee-assisted mode, the hybrid checkout station 5 is arranged on a first zone 18 equal to the footprint area 17 of the desk 16. In the self-service mode, the hybrid checkout station 5 is arranged on a second zone 19 also equal to the footprint area 17 of the desk 16.

[0038] The first zone 18 and thus the desk 16 in Figure 1 is located closest to the second barrier 3 than to the first barrier 2; while the second zone 19 and thus the desk 16 in Figure 2 is located closest to the first barrier 2 than to the second barrier 3.

[0039] The first zone 18 and second zone 19 are tilted to each other by virtue of the displacement of the desk 16, but the first zone 18 and the second zone 19 have here each a common portion 20.

[0040] The hybrid checkout station 5 is able to operate in an employee-assisted mode and a self-service mode, alternatively, using a minimum surface on a floor 21 of the retail store on which is laid the hybrid checkout station 5, the surface being less than twice footprint areas 17 of the desk 16.

[0041] The hybrid checkout station 5 is thus convenient for the retail stores, in particular the local stores having small surface.

[0042] As shown on Figures 3 and 4, the desk 16 of the hybrid checkout station 5 here comprises, successively, a reception zone 22, a control and scanning zone 24, a delivery or dispensing zone 28 and a payment zone 30.

[0043] The reception zone 22 is located close to the first end 15 of the station 5 and comprises a support 23 configured for receiving the articles or items. The support 23 may for instance be formed by a plate or by a conveyor belt.

[0044] The payment zone 30 is located at a second end 37 of the hybrid checkout station 5, opposite to the first end 15, and comprises a payment system 32 and a display device formed for instance by a human machine interface 31 (HMI) which are mounted on a support 33.

[0045] The support 33 is rotatable and configured to place the payment system 32 and the HMI 31 in a first position when the station 5 is in the employee-assisted mode and in a second position when the station 5 is in the self-service mode.

[0046] In the first position, the payment system 32 and the HMI 31 are directed to the first way 6 (Figure 1) or to the second end 37 (Figures 3 and 4); while in the second position, the payment system 32 and the HMI 31 are directed to the second way 7 (Figure 2).

[0047] The payment system 32 and the HMI 31 are configured for proceeding to the payment of the items or articles when the hybrid checkout station 5 operates in the self-service mode, but rather, optionally in the employee-assisted mode.

[0048] The control and scanning zone 24 is located between the reception zone 22 and the payment zone 30 and comprises an optical scanning system 26, a display device 25 also formed for instance by a HMI, and a pay station 27.

[0049] The optical scanning system 26 and display device 25 are configured to scan and control the articles and items and are used by the merchant when the hybrid checkout station 5 operates in the employee-assisted mode, or by the customer when the hybrid checkout station 5 operates in the self-service mode.

[0050] The pay station 27 is configured for proceeding to the payment of the items or articles and can be used when the hybrid checkout station operates in the employee-assisted mode.

[0051] The delivery or dispensing zone 28 is located between the control and scanning zone 24 and the payment zone 30 and comprises a support 29 configured for receiving the articles or items scanned and optionally controlled and also optionally paid. The support 29 may for instance be formed by a plate or by a conveyor belt.

[0052] The desk 16 further comprises a housing 34 formed by a plurality of lateral panels 35 mounted on the first and second side of the desk 16, which correspond

to the first and second sides 8 and 9 of the hybrid checkout station 5.

[0053] Generally, a space is formed in the housing 34 under the control and scanning zone 24 for the legs of the merchant when he sits on the seat 11.

[0054] The hybrid checkout station 5 further comprises a moving system 40 on which the desk 16 is mounted, and which is configured for laterally displacing the desk 16 between the first zone 18 and the second zone 19, in order to change the configuration of the desk 16 and the operability of the station 5.

[0055] Figures 5 to 12 show in detail the moving system 40 of the station 5, in a first configuration (Figures 5 and 6) corresponding to the employee-assisted mode of the station 5, in a second configuration (Figures 9 to 12) corresponding to the self-service mode of the station 5, and in an intermediate configuration (Figures 7 and 8) corresponding to the passage from one to the other of the employee-assisted and self-service modes.

[0056] The moving system 40 comprises a first frame 41 made from metal and which is moveable, two second frames 42 and 43 also made from metal and which are not moveable, and two actuating devices 44 and 45 configured for displacing only in the footprint area 17 the first frame 41 relative to the second frames 42 and 43 between a first position associated to the first configuration of the moving system 40 and a second position associated to the second configuration of the moving system 40.

[0057] The moving system 40 further comprises a plurality of guiding members 46 sandwiched between the first frame 41 and each of the second frames 42 and 43 and configured for guiding the displacement of the first frame 41 relative to the second frames 42 and 43.

[0058] The first frame 41 comprises a first portion 50 having a rectangular shape, a second portion 51 remote to the first portion 50 and having also a rectangular shape, and a linking portion 52 joining the first portion 50 and the second portion 51 (Figures 5 and 6).

[0059] The first portion 50 is bigger than the second portion 51.

[0060] The first portion 50, the second portion 51 and the linking portion 52 are configured for forming a receiving space 53 between the first portion 50 and the second portion 51.

[0061] The moving system 40 is configured so that the receiving space 51 of the first frame 41 is located under the control and scanning zone 24 of the desk 16 for the legs of the merchant.

[0062] Each of the first and second portions 50 and 51 comprises two facing lateral edges 54 and two facing longitudinal edges 55 joining each the respective two facing lateral edges 54 (Figure 6).

[0063] The linking portion 52 extends longitudinally and joins one of the longitudinal edges 55 of each of the first and second portions 50 and 51, and one of the lateral edges 54 of the first portion 50 faces one of the lateral edges 54 of the second portion 51.

[0064] The first frame 41 comprises two pry bars 62 formed respectively on the first and second portions 50 and 51. Each pry bar 62 protrudes vertically, in a plane perpendicular to a general plane in which the first frame 41 extends, from the respective two facing longitudinal edges 55 and further extends horizontally in a plane parallel to the general plane in which the first frame 41 extends. Each pry bar 62 forms a bridge on the respective first and second portions 50 and 51 (Figure 5 and 6).

[0065] The first frame 41 further comprises a first extension 56 which protrudes horizontally (in a same plane that the general plane in which the first frame 41 extends) from one of the two lateral edges 54 of the second portion 51, at the opposite of the other of the two lateral edges 54 and at the opposite of the receiving space 53.

[0066] The first frame 41 further comprises a second extension 57 which protrudes vertically (in a plane perpendicular to the general plane in which the first frame 41 extends) from the first portion 50. The second extension 57 comprises four vertical columns 58, two of which extending from the one of the longitudinal edges 55 and the two other extending from the other of the longitudinal edges 55. The second extension 57 further comprises two horizontal columns 59 which each joins two vertical columns 58 extending from the facing longitudinal edges 55. The second extension 57 further comprises a support plate 60 fastened to the two horizontal columns 59 (Figure 5 and 6).

[0067] The first frame 41 further comprises a plurality of fastening members 61 having a hook shape, which each protrudes from a longitudinal edge 55 or from a lateral edge 54 of the first portion 50 or of the second portion 51.

[0068] The desk 16 is configured to be fastened to the first frame 41 thanks to the fastening member 61.

[0069] In particular, the reception zone 22 is configured to be located both on the second portion 51 and on the first extension 56, the control and scanning zone 24 is configured to be located both on the linking portion 52 and on the receiving space 53, the delivery or dispensing zone 28 is configured to be located on the first portion 50, and the payment zone 30 is configured to be located both on the first portion 50 and on the second extension 57. The rotatable support 33 is configured to be mounted on the support plate 60.

[0070] The two second frames 42 and 43 have each a rectangular shape and are each configured to be fixedly attached to the floor 21 thanks to a plurality of screws 63 (Figures 5 and 11). The second frame 42 is bigger than the second frame 43.

[0071] The two second frames 42 and 43 are configured to be disposed respectively inside the first portion 50 and the second portion 51 of the first frame 41. In other words, the second frame 42 is disposed in the internal space delimited by the facing longitudinal edges 55 and the facing lateral edges 54 of the first portion 50; while the second frame 43 is disposed in the internal space delimited by the facing longitudinal edges 55 and the facing lateral edges 54 of the second portion 51.

[0072] Each of the two second frames 42 and 43 comprises two facing lateral edges 64 and two facing longitudinal edges 65 joining each the respective two facing lateral edges 64 (Figures 7 and 8).

[0073] The moving system 40 further comprises an extension bar 66 of the second frame 42 which faces one of the two lateral edges 64 of the second frame 42, at the opposite of the other of the two lateral edges 64 and at the opposite of the receiving space 53.

[0074] The extension bar 66 is fixedly attached to the floor 21 thanks to two screws 63.

[0075] One of the two facing lateral edges 54 (remote to the receiving space 53) of the first portion 51 of the first frame 41 is interposed between the extension bar 66 and the lateral edge 64 of the second frame 42 facing the extension bar 66.

[0076] One of the guiding members 46 is sandwiched between the extension bar 66 and the lateral edge 54 of the first portion 51 of the first frame 41 interposed between this bar 66 and the lateral edge 64 of the second frame 42 which faces this bar 66.

[0077] The extension bar 66 is thus configured for improving the guiding during the lateral displacement of the first portion 50 of the first frame 41 relative to the second frame 42.

[0078] All the other guiding members 46 are here each sandwiched between one of the lateral edges 64 of one of the second frames 42 and 43 and one of the lateral edges 54 of the first portion 50 or of the second portion 51 of the first frame 41; in order to guide the lateral displacement of the first and second portions 51 and 52 relative respectively to the second frames 42 and 43.

[0079] The actuating device 44 is configured for displacing the first portion 50 of the first frame 41 relative to the second frame 42, while the actuating device 45 is configured for displacing the second portion 51 of the first frame 41 relative to the second frame 43.

[0080] Each of the two actuating devices 44 and 45 has a first end 70 and a second end 71 opposite to the first end 70.

[0081] Each of the actuating devices 44 and 45 comprises a body 72 formed at the respective first end 70, a sheath 73 extending from the body 72, a first arm 74 which is deployable from and retractable in the sheath 73, an intermediate arm 75 which is articulated to the first arm 74, and a second arm 76 which is articulated to the intermediate arm 75 and is formed at the respective second end 71 (Figures 9, 10 and 12).

[0082] The body 72 is fixedly attached to one of the two facing longitudinal edges 55 of the respective first portion 50 or second portion 51 of the first frame 41. The body 72 is thus solidarily linked to the floor 21.

[0083] The body 72 here comprises a chamber and a plunger moveable in the chamber (not represented) and the first arm 74 is connected to the plunger.

[0084] The intermediate arm 75 has a first end 80 articulated to a free end 77 of the first arm 74, and a second end 81 opposite to the first end 80 and articulated to a first end 82 of the second arm 76.

[0085] The intermediate has an elongated shape comprising a bend close to the first end 80.

[0086] The intermediate arm 75 is further articulated to a respective pry bar 62 formed on the first or second portions 50 and 51 of the first frame 41 thanks to a pivot link 78 formed both in the intermediate arm 75 and in the respective pry bar 62.

[0087] The second arm 76 has a second end 83 opposite to the first end 81 and both linked and articulated to one of the two facing longitudinal edges 65 of the respective second frame 42 or 43.

[0088] Here, when the body 72 of the actuating devices 44 and 45 is controlled for deploying or retracting the respective first arm 74, the latter moves the respective intermediate arm 75 which is articulated to the first arm 74 and pivoted relative to the respective pry bar 62, which intermediate arm 75 moves the respective second arm 76 which is articulated to the intermediate arm 75 and which causes the displacement in translation of the first portion 50 and second portion 51 of the first frame 41 relative to the second frames 42 and 43, from the first position (Figures 5 and 6) to the second position (Figures 9 to 12) or from the second position (Figures 9 to 12) to the first position (Figures 5 and 6).

[0089] The actuating devices 44 and 45, the first portion 50 and second portion 51 of the first frame 41 and the second frames 42 and 43 are here configured such that the first frame 41 rests in the footprint area 17 of the desk 16 during its displacement.

[0090] For configuring the hybrid checkout station 5 described above in an employee-assisted mode and in a self-service mode, alternatively, the merchant has to control the actuating device 44 and 45 for placing the first frame 41 in the first position located in the predetermined footprint area 17 of the desk 16, first position in which the station is configured to operate in the employee-assisted mode; and/or has to control the actuating devices 42 and 43 for placing the first frame 41 in the second position also located in the predetermined footprint area 17, second position in which the station 5 is configured to operate in the self-service mode.

[0091] The actuating devices 44 and 45 are thus configured for displacing the first frame 41 from the first position to the second position and also from the second position to the first position; in order to change the configuration of the desk 16 and the operability of the station 5, using a minimal surface on the floor 21, that is particularly convenient for the retail stores, and for instance those having small surface.

[0092] In variants that are not shown:

- the moving system comprises only one actuating device;
- the first frame is formed by a single rectangular portion;
- the first frame may comprise at least one pair of wheels for the displacement of the first frame; and/or

- the actuating device has a body fastened to the first frame and a second arm fixedly attached to a second frame;
- the actuating device has a first arm directly fastened to the first frame;
- the actuating device comprises a rack fastened to the first frame and a pinion cooperating with the rack for displacing the first frame; and/or
- the actuating device is formed by an air cushion pad which is configured to lift the first frame for displacing it.

[0093] It should be noted more generally that the invention is not limited to the examples described and represented.

Claims

1. Hybrid checkout station for a retail store, configured for operating both in an employee-assisted mode and a self-service mode, alternatively, comprising a desk (16) defining a predetermined footprint area (17) and a moving system (40) comprising a first frame (41) to which is fastened said desk (16) and at least one actuating device (44, 45) having a first end (70) fastened to said first frame (41) and a second end (71) opposite to said first end (70) and configured to be fixedly linked to a floor (21) on which is laid said hybrid checkout station (5); said at least one actuating device (44, 45) being configured for displacing said first frame (41) only in said footprint area (17) of said desk fastened to said first frame between a first position in which said hybrid checkout station (5) is arranged on a first zone (18) equal to said footprint area (17) of the desk and configured to operate in said employee-assisted mode, and a second position in which said hybrid checkout station (5) is arranged on a second zone (19) also equal to said footprint area (17) of the desk and configured to operate in said self-service mode; said first zone (18) and second zone (19) being tilted to each other by virtue of said at least one actuating device (44, 45) which moves said first frame (41) in said footprint area (17) and thus moves said desk (16) fastened to said first frame (41), and said first zone (18) and second zone (19) having each a common portion (20).

2. Hybrid checkout station according to claim 1, wherein said moving system (40) comprises at least a second frame (42, 43) configured to be fixedly attached to the floor (21) and disposed inside said first frame (41), which first frame (41) being moveable relative to said at least one second frame (42, 43).

3. Hybrid checkout station according to claim 2, wherein said second end (71) of said at least one actuating device (44, 45) is fastened to said at least one second frame (42, 43).

4. Hybrid checkout station according to one of claims 2 and 3, wherein said moving system (40) comprises at least one guiding member (46) sandwiched between said first frame (41) and said at least one second frame (42, 43).

5. Hybrid checkout station according to any one of claims 2 to 4, wherein said first frame (41) comprises at least one pry bar (58) and said at least one actuating device (44, 45) comprises a first arm (74) which is deployable and retractable and fastened to said first frame (41), an intermediate arm (75) which is articulated relative to said first arm (74) and fastened to said pry bar (58), and a second arm (76) which is articulated to said intermediate arm (75) and fastened to said at least one second frame (42, 43).

6. Hybrid checkout station according to any one of claims 2 to 5, wherein said first frame (41) has a first portion (50), a second portion (51) remote to said first portion (50) and a linking portion (52) joining said first portion (50) and said second portion (51), said first portion (50), second portion (51) and linking portion (52) being configured for forming a receiving space (53) between said first portion (50) and said second portion (51).

7. Hybrid checkout station according to claim 6, wherein said moving system (40) comprises two second frames (42, 43) arranged respectively inside said first portion (50) and inside said second portion (51) of said first frame (41).

8. Hybrid checkout station according to claim 7, wherein said moving system (40) comprises two actuating devices (44, 45) configured for displacing both said first portion (50) of said first frame (41) relative to one of said two second frames between a first position and a second position, and said second portion (51) of said first frame (41) relative to the other of said two second frames also between a first position and a second position.

9. Hybrid checkout station according to any one of claims 2 to 8, wherein said first frame (41) and said at least one second frame (42, 43) are made from metal.

10. Hybrid checkout station according to any one of claims 2 to 9, wherein said at least one second frame (42, 43) is configured to be screwed to the floor (21).

11. Hybrid checkout station according to any one of claims 1 to 10, wherein said desk (16) comprises a reception zone (22) located close to a first end (15)

of said station (5), a payment zone (30) located close to a second end (37) of said station (5), opposite to said first end (15), and having a payment system (32), and a scanning zone (24) located between said reception zone (22) and said payment zone (30) and having a scanning system (26).

12. Hybrid checkout station according to claim 11, wherein said payment zone (30) has a support (33) which is rotatable, said payment system (32) is mounted on said support (33), and said support (33) is configured to place said payment system (32) in a first position when said station is in said employee-assisted mode and in a second position when said station is in said self-service mode.

13. Method for configuring a hybrid checkout station (5) according to any one of claims 1 to 12 in an employee-assisted mode and a self-service mode, alternatively, comprising the step of controlling at least one actuating device (44, 45) of a moving system (40) of said station for placing a first frame (41) of said moving system, on which a desk (16) of said station is fastened, in a first position located in a predetermined footprint area (17) of said desk, first position wherein said station is arranged on a first zone (18) equal to said footprint area (17) of the desk and in which said station is configured to operate in said employee-assisted mode; and/or the step of controlling said at least one actuating device (44, 45) for placing said first frame (41) in a second position also located in said predetermined footprint area (17), second position wherein said station is arranged on a second zone (19) also equal to said footprint area (17) of the desk and in which said station is configured to operate in said self-service mode; said first zone (18) and second zone (19) being tilted to each other by virtue of said at least one actuating device (44, 45) which moves said first frame (41) in said footprint area (17) and thus moves said desk (16) fastened to said first frame (41), and said first zone (18) and second zone (19) having each a common portion (20).

14. Hybrid checkout system comprising a hybrid checkout station (5) according to any one of claims 1 to 12, a first way (6) defined on a first side (8) of a desk (16) of said station when said station is configured to operate in an employee-assisted mode, and a second way (7) defined on a second side (9), opposite to said first side (8), of said desk (16) when said station is configured to operate in a self-service mode.

15. Hybrid checkout system according to claim 14, comprising at least one barrier (2) delimiting a point-of-service block (4) comprising said hybrid checkout station (5), said first way (6) and said second way (7).

Patentansprüche

1. Hybrid-Registrierstation für ein Einzelhandelsgeschäft, ausgebildet zum Betrieb in einem durch einen Angestellten unterstützten Modus beziehungsweise einem Selbstbedienungsmodus, umfassend ein Pult (16), das eine vorbestimmte Grundfläche (17) definiert, und ein Bewegungssystem (40), welches einen ersten an dem Pult (16) befestigten Rahmen (41) und wenigstens eine Ansteuerungsvorrichtung (44, 45) umfasst, die ein erstes an dem ersten Rahmen befestigtes Ende (70) und ein dem ersten gegenüberliegendes zweites Ende (71) umfasst und dazu ausgebildet ist, starr zu einem Boden (21) verbunden zu sein, auf welchem die Hybrid-Registrierstation (5) gelegt ist; wobei die wenigstens eine Ansteuerungsvorrichtung (44, 45) dazu ausgebildet ist, den ersten Rahmen (41) nur in der Grundfläche (17) des an dem ersten Rahmen befestigten Pults zwischen einer ersten Position, in welcher die Hybrid-Registrierstation (5) auf einer ersten der Grundfläche (17) des Pults gleichen Zone (18) angeordnet und dazu ausgebildet ist, in dem Angestellten unterstützten Modus zu arbeiten, und einer zweiten Position zu versetzen, in welcher die Hybrid-Registrierstation (5) auf einer zweiten ebenfalls der Grundfläche (17) des Pults gleichen Zone (19) angeordnet und dazu ausgebildet ist, in dem Selbstbedienungsmodus zu arbeiten; wobei die erste Zone (18) und die zweite Zone (19) durch die wenigstens eine Ansteuerungsvorrichtung (44, 45) zueinander verkippt sind, die den ersten Rahmen (41) in der Grundfläche (17) bewegt und dadurch das an dem ersten Rahmen (41) befestigte Pult (16) bewegt, und wobei die erste Zone (18) und die zweite Zone (19) jeweils einen gemeinsamen Abschnitt aufweisen (20).

2. Hybrid-Registrierstation nach Anspruch 1, wobei das Bewegungssystem (40) wenigstens einen zweiten Rahmen (42, 43) umfasst, der dazu ausgebildet ist, starr zu dem Boden (21) befestigt und innerhalb des ersten Rahmens (41) angeordnet zu sein, wobei der erste Rahmen (41) relativ zu dem wenigstens einen zweiten Rahmen (42, 43) bewegbar ist.

3. Hybrid-Registrierstation nach Anspruch 2, wobei das zweite Ende (71) der wenigstens einen Ansteuerungsvorrichtung (44, 45) zu dem wenigstens einen zweiten Rahmen (42, 43) befestigt ist.

4. Hybrid-Registrierstation nach einem der Ansprüche 2 und 3, wobei das Bewegungssystem (40) wenigstens eine Führungseinheit (46) umfasst, die zwischen dem ersten Rahmen (41) und dem wenigstens einen zweiten Rahmen (42, 43) eingelegt ist.

5. Hybrid-Registrierstation nach einem der Ansprüche 2 bis 4, wobei der erste Rahmen (41) wenigstens

einen Stützbalken (58) umfasst und die wenigstens eine Ansteuerungsvorrichtung (44, 45) einen ersten Arm (74), welcher einsetzbar und ausfahrbar und an dem ersten Rahmen (41) befestigt ist, einen Zwischenarm (75), der relativ zu dem ersten Arm (74) gelenkig und an dem Stützbalken (58) befestigt ist, und einen zweiten Arm (76) umfasst, der zu dem Zwischenarm (75) gelenkig und an dem wenigstens einen zweiten Rahmen (42, 43) befestigt ist.

6. Hybrid-Registrierstation nach einem der Ansprüche 2 bis 5, wobei der erste Rahmen (41) einen ersten Abschnitt (50), einen von dem ersten Abschnitt (50) entfernten zweiten Abschnitt (51) und einen Verbindungsabschnitt (52) aufweist, der den ersten Abschnitt (50) und den zweiten Abschnitt (51) verbindet, wobei der erste Abschnitt (50), der zweite Abschnitt (51) und der Verbindungsabschnitt (52) zum Bilden eines Empfangsbereichs (53) zwischen dem ersten Abschnitt (50) und dem zweiten Abschnitt (51) ausgebildet sind.

7. Hybrid-Registrierstation nach Anspruch 6, wobei das Bewegungssystem (40) zwei zweite Rahmen (42, 43) umfasst, die jeweils innerhalb des ersten Abschnitts (50) und innerhalb des zweiten Bereichs (51) des ersten Rahmens (41) angeordnet sind.

8. Hybrid-Registrierstation nach Anspruch 7, wobei das Bewegungssystem (40) zwei Ansteuerungsvorrichtungen (44, 45) umfasst, die zum Versetzen des ersten Abschnitts (50) des ersten Rahmens (41) relativ zu einem der zwei zweiten Rahmen zwischen einer ersten Position und einer zweiten Position, als auch des zweiten Abschnitts (51) des ersten Rahmens (41) relativ zu dem anderen der zwei zweiten Rahmen ebenfalls zwischen einer ersten Position und einer zweiten Position ausgebildet sind.

9. Hybrid-Registrierstation nach einem der Ansprüche 2 bis 8, wobei der erste Rahmen (41) und der wenigstens eine zweite Rahmen (42, 43) aus Metall gemacht sind.

10. Hybrid-Registrierstation nach einem der Ansprüche 2 bis 9, wobei der wenigstens eine zweite Rahmen (42, 43) dazu ausgebildet ist, auf den Boden (21) geschraubt zu sein.

11. Hybrid-Registrierstation nach einem der Ansprüche 1 bis 10, wobei das Pult (16) eine Empfangszone (22), die nahe zu einem ersten Ende (15) der Station (5) befindlich ist, eine Bezahlungszone (30), die nahe zu einem zweiten Ende (37) der Station (5) befindlich und gegenüber zu dem ersten Ende (15) ist, und die ein Bezahlungssystem (32) aufweist, und eine Scannerzone (24) umfasst, die zwischen der Empfangszone (22) und der Bezahlungszone (30) befindlich ist und ein Scansystem (26) aufweist.

12. Hybrid-Registrierstation nach Anspruch 11, wobei die Bezahlungszone (30) eine Stütze (33) aufweist, die drehbar ist, wobei das Bezahlungssystem (32) auf der Stütze (33) montiert ist und die Stütze (33) dazu ausgebildet ist, das Bezahlungssystem (32) in einer ersten Position, wenn die Station in dem Angestellten unterstützten Modus ist, und in einer zweiten Position zu platzieren, wenn die Station in dem Selbstbedienungsmodus ist.

13. Verfahren zum Einrichten einer Hybrid-Registrierstation (5) nach einem der Ansprüche 1 bis 12 in einem Angestellten unterstützten Modus beziehungsweise einem Selbstbedienungsmodus, umfassend den Schritt des Steuerns wenigstens einer Ansteuerungsvorrichtung (44, 45) eines Bewegungssystems (40) der Station zum Platzieren eines ersten Rahmens (41) des Bewegungssystems, an welchem ein Pult (16) der Station befestigt ist, in einer ersten Position, die in einer vorbestimmten Grundfläche (17) des Pults gelegen ist, wobei in der ersten Position die Station auf einer der Grundfläche (17) des Pults gleichen ersten Zone (18) angeordnet ist und die Station dazu ausgebildet ist, in dem angestelltenunterstützten Modus zu arbeiten; und/oder den Schritt des Steuerns der wenigstens einen Ansteuerungsvorrichtung (44, 45) zum Platzieren des ersten Rahmens (41) in einer zweiten Position, die ebenfalls in der vorbestimmten Grundfläche (17) befindlich ist, wobei in der zweiten Position die Station auf einer zu der Grundfläche (17) ebenfalls gleichen zweiten Zone (19) angeordnet ist und die Station dazu ausgebildet ist, in dem Selbstbedienungsmodus zu arbeiten; wobei die erste Zone (18) und die zweite Zone (19) durch die wenigstens eine Ansteuerungsvorrichtung (44, 45) zueinander verkippt sind, die den ersten Rahmen (41) in der Grundfläche (17) bewegt und dadurch das an dem ersten Rahmen (41) befestigte Pult (16) bewegt, und wobei die erste Zone (18) und die zweite Zone (19) jeweils einen gemeinsamen Abschnitt aufweisen (20).

14. Hybrid-Registriersystem, umfassend eine Hybrid-Registrierstation (5) nach einem der Ansprüche 1 bis 12, einen ersten Weg (6), der auf einer ersten Seite (8) eines Pults (16) der Station definiert ist, wenn die Station dazu ausgebildet ist, in einem Angestellten unterstützten Modus zu arbeiten, und einen zweiten Weg (7), der auf einer zweiten Seite (9) des Pults (16) definiert und gegenüberliegend zu der ersten Seite (8) ist, wenn die Station dazu ausgebildet ist, in einem Selbstbedienungsmodus zu arbeiten.

15. Hybrid-Registriersystem nach Anspruch 14, umfassend wenigstens eine Sperre (2), die einen Dienst-

leistungsortsblock (4) abgrenzt, der die Hybrid-Registrierstation (5), den ersten Weg (6) und den zweiten Weg (7) umfasst.

Revendications

1. Poste de caisse hybride pour un magasin de détail, configuré pour fonctionner à la fois dans un mode assisté par employé et dans un mode libre-service, de manière alternée, comprenant un pupitre (16) définissant une zone d'encombrement (17) prédéterminée et un système de déplacement (40) comprenant un premier bâti (41) auquel est fixé ledit pupitre (16) et au moins un dispositif d'actionnement (44, 45) ayant une première extrémité (70) fixée sur ledit premier bâti (41) et une seconde extrémité (71) opposée à ladite première extrémité (70) et configurée pour être reliée de manière fixe à un plancher (21) sur lequel est posé ledit poste de caisse hybride (5) ; ledit au moins un dispositif d'actionnement (44, 45) étant configuré pour déplacer ledit premier bâti (41) uniquement dans ladite zone d'encombrement (17) dudit pupitre fixé sur ledit premier bâti entre une première position dans laquelle ledit poste de caisse hybride (5) est agencé sur une première zone (18) égale à ladite zone d'encombrement (17) du pupitre et configuré pour fonctionner dans ledit mode assisté par employé, et une seconde position dans laquelle ledit poste de caisse hybride (5) est agencé sur une seconde zone (19) également égale à ladite zone d'encombrement (17) du pupitre et configuré pour fonctionner dans ledit mode libre-service ; ladite première zone (18) et la seconde zone (19) étant inclinées l'une par rapport à l'autre en vertu dudit au moins un dispositif d'actionnement (44, 45) qui déplace ledit premier bâti (41) dans ladite zone d'encombrement (17) et déplace ainsi ledit pupitre (16) fixé audit premier bâti (41), et lesdites première zone (18) et seconde zone (19) ayant chacune une partie commune (20).

2. Poste de caisse hybride selon la revendication 1, dans lequel ledit système de déplacement (40) comprend au moins un second bâti (42, 43) configuré pour être fixé de manière fixe au sol (21) et disposé à l'intérieur dudit premier bâti (41), ledit premier bâti (41) étant mobile par rapport audit au moins un second bâti (42, 43).

3. Poste de caisse hybride selon la revendication 2, dans lequel ladite seconde extrémité (71) dudit au moins un dispositif d'actionnement (44, 45) est fixée sur ledit au moins un second bâti (42, 43).

4. Poste de caisse hybride selon l'une des revendications 2 et 3, dans lequel ledit système de déplacement (40) comprend au moins un élément de guidage (46) pris en sandwich entre ledit premier bâti (41) et ledit au moins un second bâti (42, 43).

5. Poste de caisse hybride selon l'une quelconque des revendications 2 à 4, dans lequel ledit premier bâti (41) comprend au moins une barre d'appui (58) et ledit au moins un dispositif d'actionnement (44, 45) comprend un premier bras (74) qui peut être déployé et rétracté et est fixé audit premier bâti (41), un bras intermédiaire (75) qui est articulé par rapport audit premier bras (74) et fixé à ladite barre d'appui (58), et un second bras (76) qui est articulé audit bras intermédiaire (75) et fixé audit au moins un second bâti (42, 43).

6. Poste de caisse hybride selon l'une quelconque des revendications 2 à 5, dans lequel ledit premier bâti (41) a une première partie (50), une seconde partie (51) à distance de ladite première partie (50) et une partie de liaison (52) assemblant ladite première partie (50) et ladite seconde partie (51), ladite première partie (50), la seconde partie (51) et la partie de liaison (52) étant configurées pour former un espace de réception (53) entre ladite première partie (50) et ladite seconde partie (51).

7. Poste de caisse hybride selon la revendication 6, dans lequel ledit système de déplacement (40) comprend deux seconds bâtis (42, 43) agencés respectivement à l'intérieur de ladite première partie (50) et à l'intérieur de ladite seconde partie (51) dudit premier bâti (41).

8. Poste de caisse hybride selon la revendication 7, dans lequel ledit système de déplacement (40) comprend deux dispositifs d'actionnement (44, 45) configurés pour déplacer à la fois ladite première partie (50) dudit premier bâti (41) par rapport à l'un desdits deux seconds bâtis entre une première position et une seconde position, et ladite seconde partie (51) dudit premier bâti (41) par rapport à l'autre desdits deux seconds bâtis également entre une première position et une seconde position.

9. Poste de caisse hybride selon l'une quelconque des revendications 2 à 8, dans lequel ledit premier bâti (41) et ledit au moins un second bâti (42, 43) sont réalisés à partir de métal.

10. Poste de caisse hybride selon l'une quelconque des revendications 2 à 9, dans lequel ledit au moins un second bâti (42, 43) est configuré pour être vissé au sol (21) .

11. Poste de caisse hybride selon l'une quelconque des revendications 1 à 10, dans lequel ledit pupitre (16) comprend une zone de réception (22) positionnée à proximité d'une première extrémité (15) dudit poste

(5), une zone de paiement (30) positionnée à proximité d'une seconde extrémité (37) dudit poste (5), opposée à ladite première extrémité (15), et ayant un système de paiement (32), et une zone de scanner (24) positionnée entre ladite zone de réception (22) et ladite zone de paiement (30) et ayant un système de scanner (26).

12. Poste de caisse hybride selon la revendication 11, dans lequel ladite zone de paiement (30) a un support (33) qui peut tourner, ledit système de paiement (32) est monté sur ledit support (33) et ledit support (33) est configuré pour placer ledit système de paiement (32) dans une première position lorsque ledit poste est dans ledit mode assisté par employé et dans une seconde position lorsque ledit poste est dans ledit mode libre-service.

13. Procédé pour configurer un poste de caisse hybride (5) selon l'une quelconque des revendications 1 à 12 dans un mode assisté par employé et dans un mode libre-service, de manière alternée, comprenant l'étape de commande d'au moins un dispositif d'actionnement (44, 45) d'un système de déplacement (40) dudit poste pour placer un premier bâti (41) dudit système de déplacement, sur lequel un pupitre (16) dudit poste est fixé, dans une première position positionnée dans une zone d'encombrement (17) prédéterminée dudit pupitre, la première position dans laquelle ledit poste est agencé sur une première zone (18) étant égale à ladite zone d'encombrement (17) du pupitre et dans laquelle ledit poste est configuré pour fonctionner dans ledit mode assisté par employé ; et/ou l'étape de commande dudit au moins un dispositif d'actionnement (44, 45) pour placer ledit premier bâti (41) dans une seconde position également positionnée dans ladite zone d'encombrement (17) prédéterminée, la seconde position dans laquelle ledit poste est agencé sur une seconde zone (19) étant également égale à ladite zone d'encombrement (17) sur le pupitre et dans laquelle ledit poste est configuré pour fonctionner dans ledit mode libre-service ; ladite première zone (18) et ladite seconde zone (19) étant inclinées l'une par rapport à l'autre en vertu dudit au moins un dispositif d'actionnement (44, 45) qui déplace ledit premier bâti (41) dans ladite zone d'encombrement (17) et déplace ainsi ledit pupitre (16) fixé audit premier bâti (41), et lesdites première zone (18) et seconde zone (19) ayant chacune une partie commune (20).

14. Système de caisse hybride comprenant un poste de caisse hybride (5) selon l'une quelconque des revendications 1 à 12, une première voie (6) définie sur un premier côté (8) d'un pupitre (16) dudit poste lorsque ledit poste est configuré pour fonctionner dans un mode assisté par employé, et une seconde voie (7) définie sur un second côté (9), opposé au premier côté (8), dudit pupitre (16) lorsque ledit poste est configuré pour fonctionner dans un mode libre-service.

15. Système de caisse hybride selon la revendication 14, comprenant au moins une barrière (2) délimitant un bloc de point de service (4) comprenant ledit poste de caisse hybride (5), ladite première voie (6) et ladite seconde voie (7).

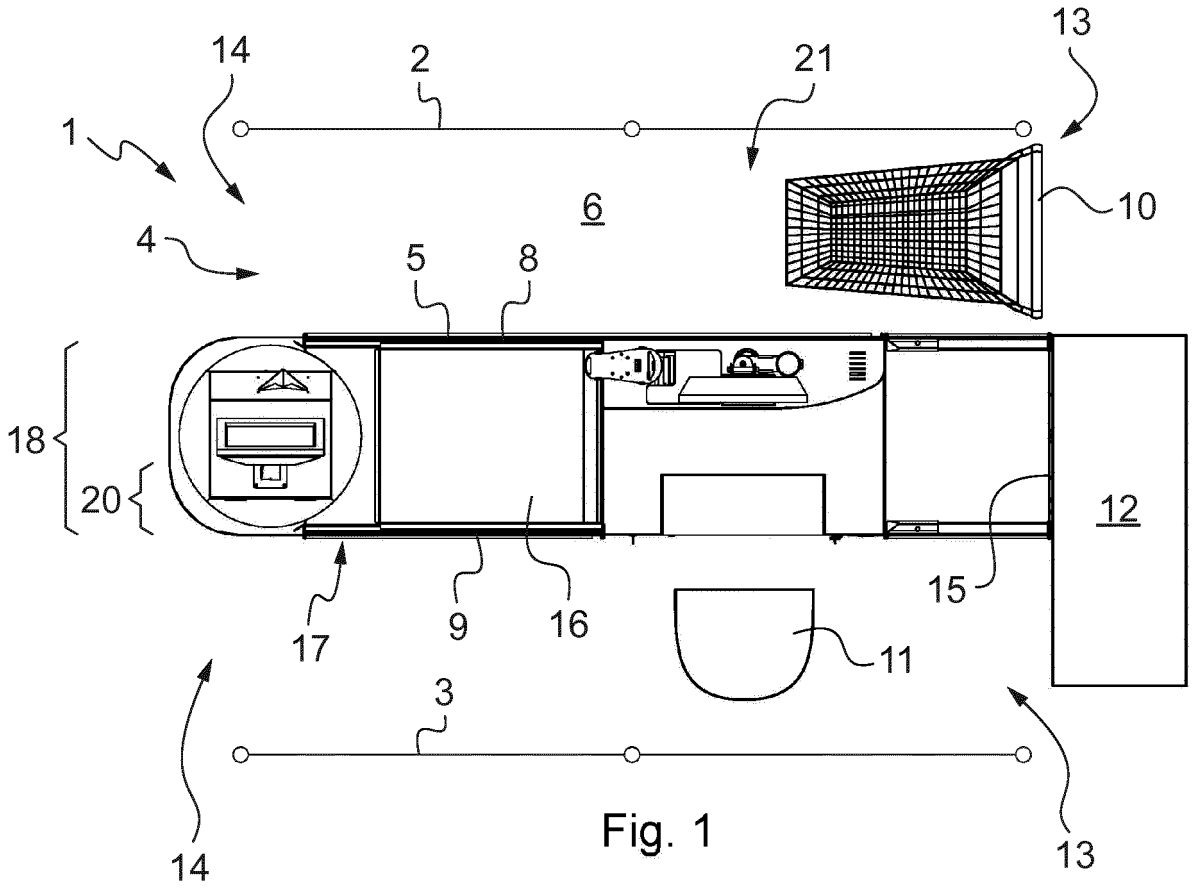

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Fig. 1

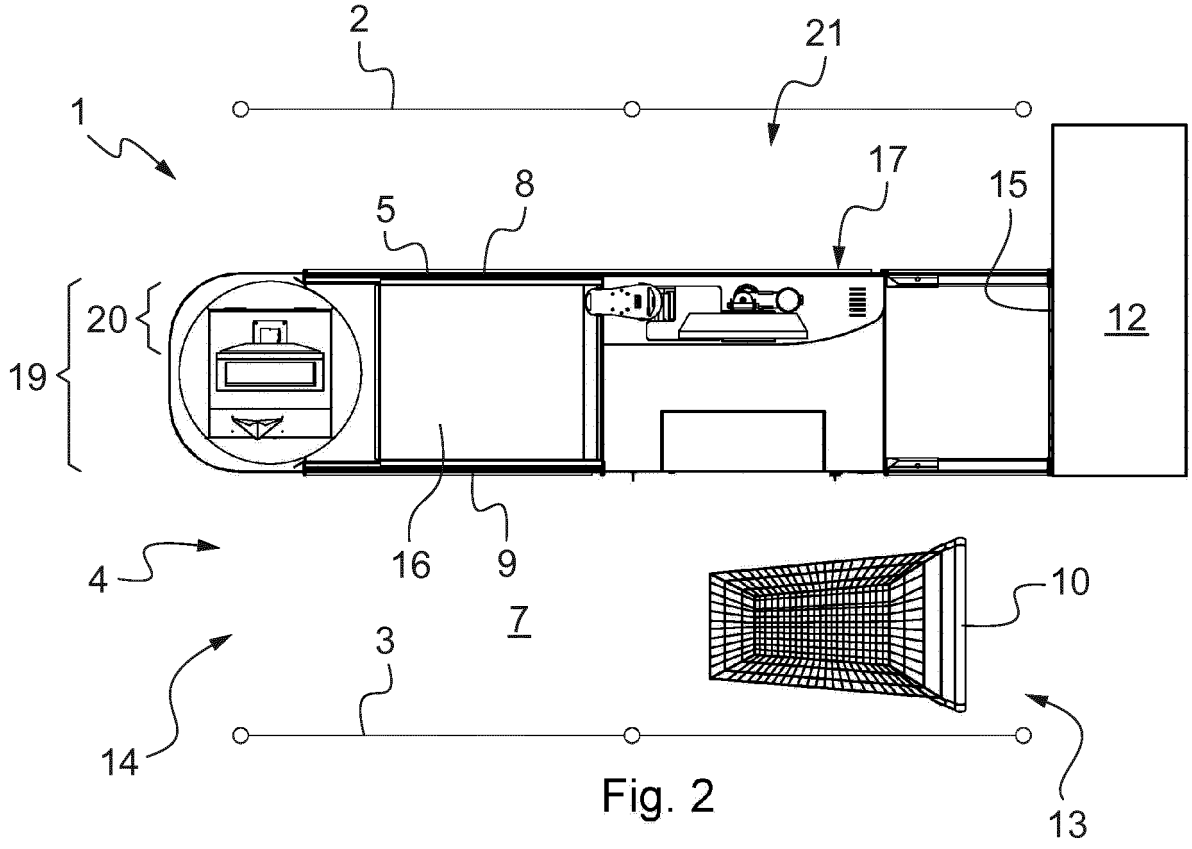

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Fig. 2

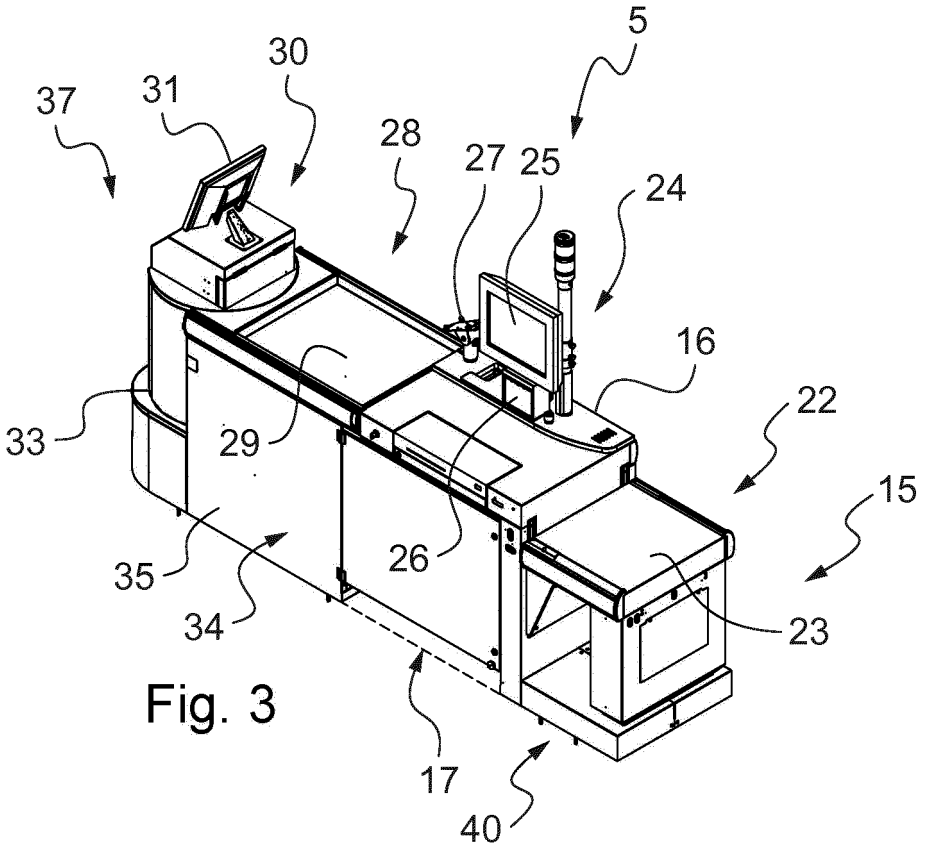

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Fig. 3

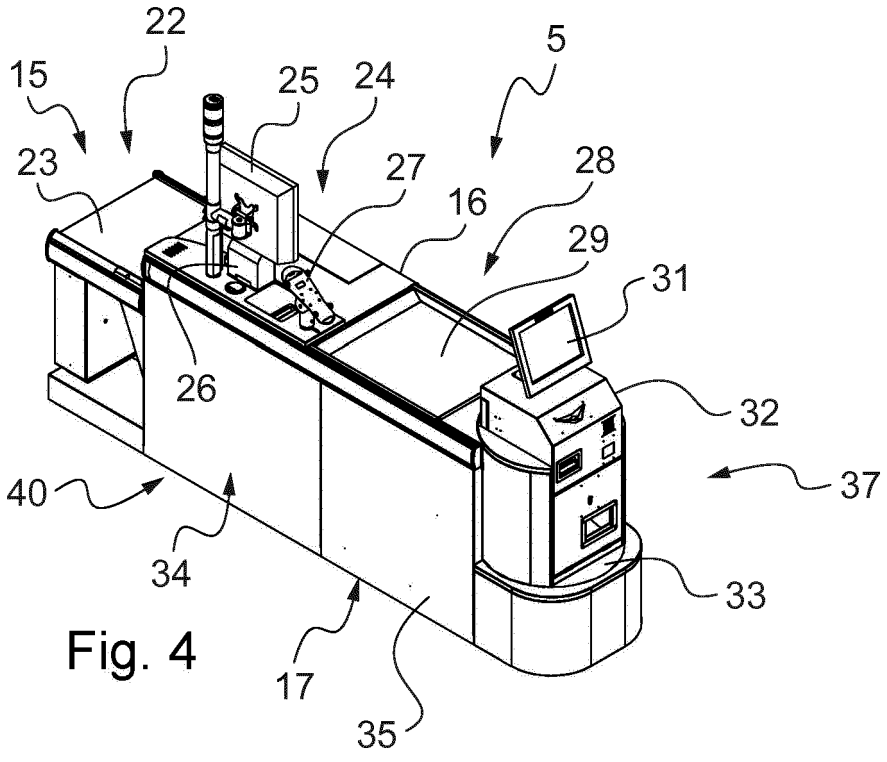

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Fig. 4

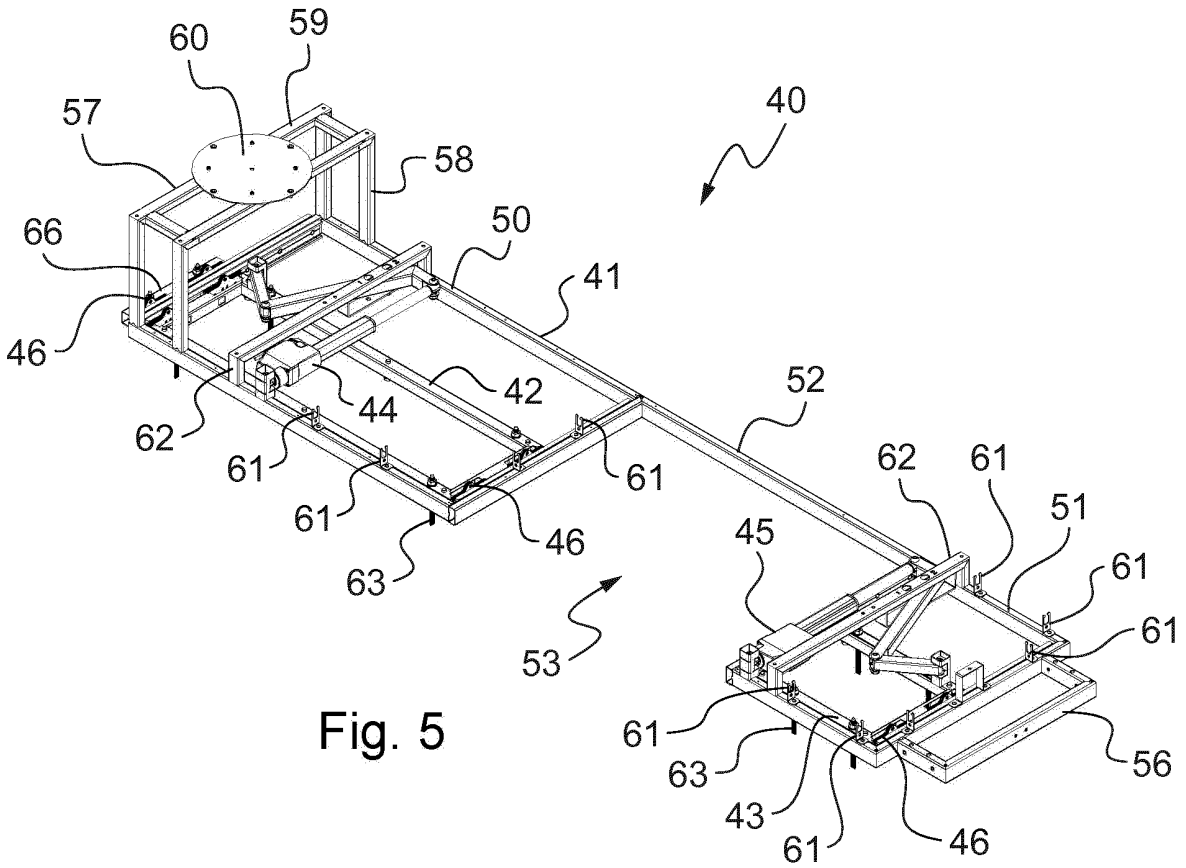

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Fig. 5

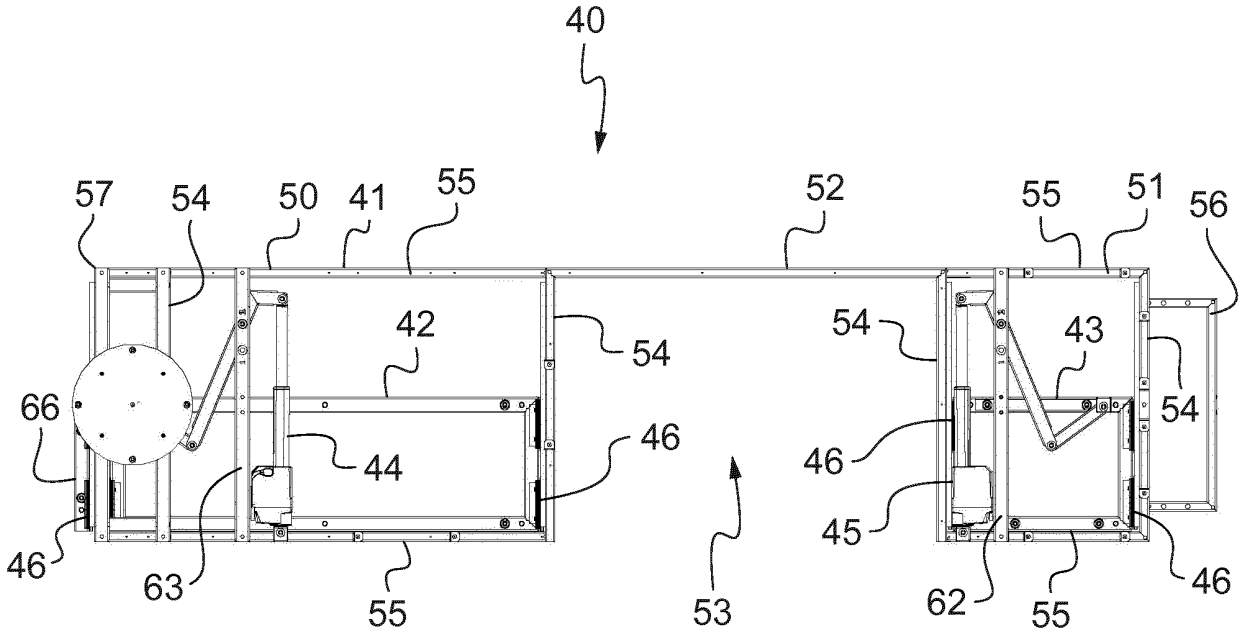

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Fig. 6

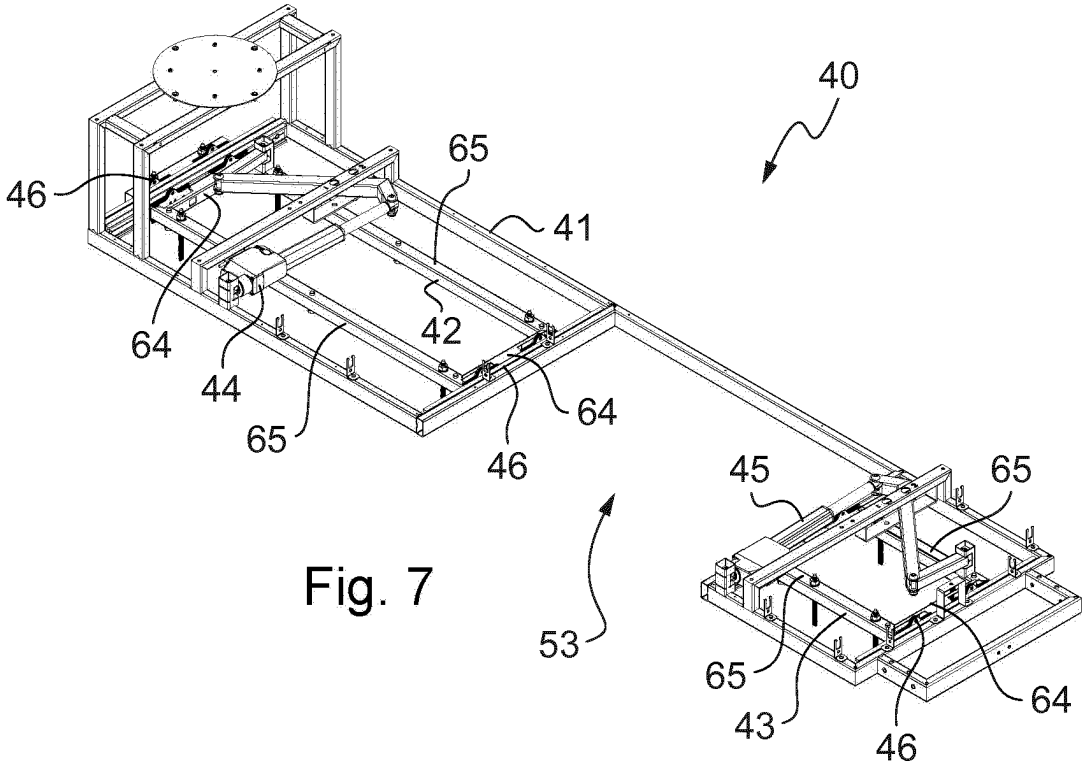

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Fig. 7

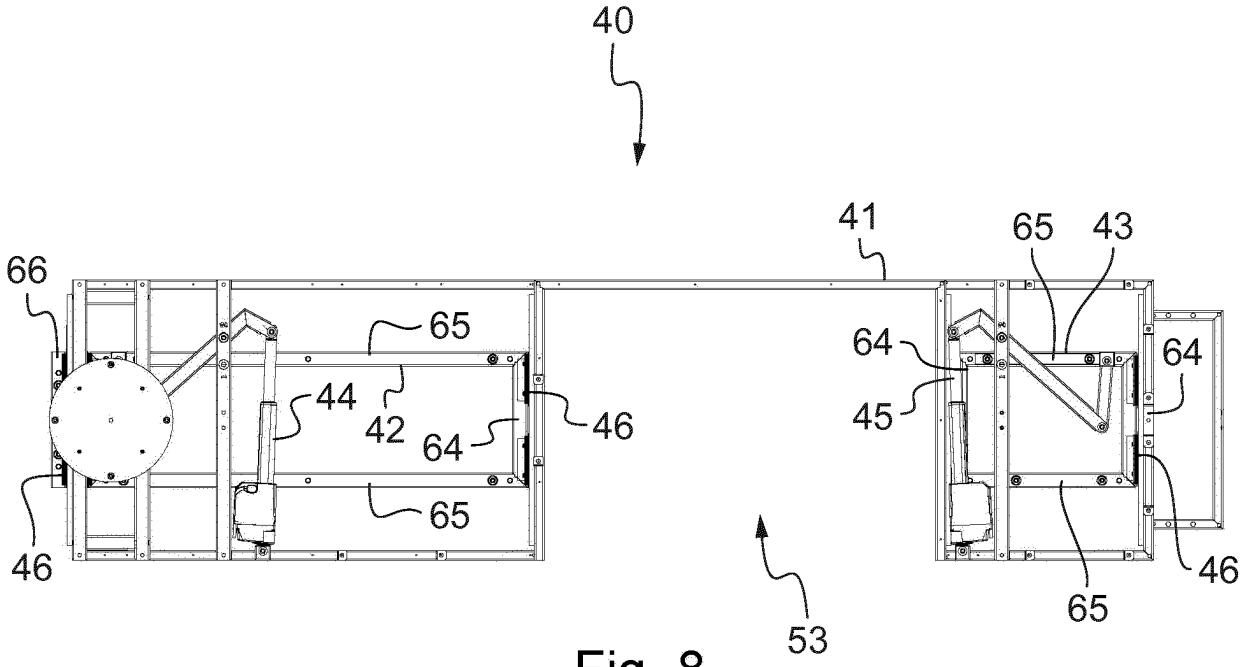

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Fig. 8

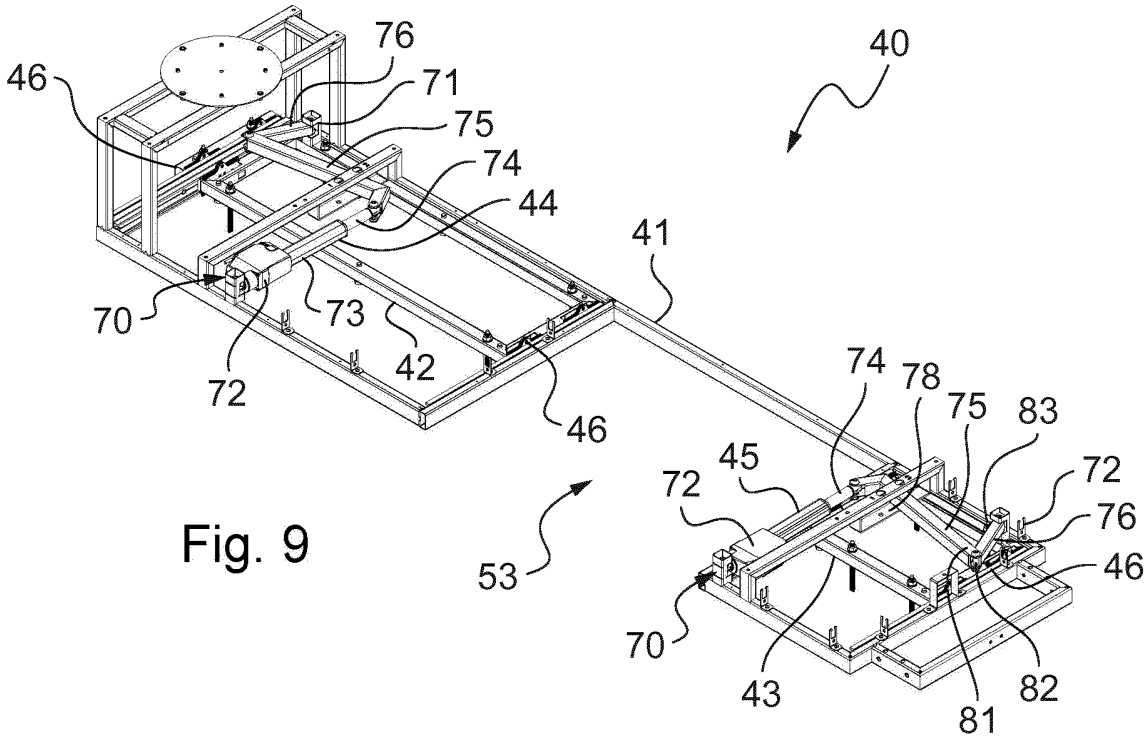

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Fig. 9

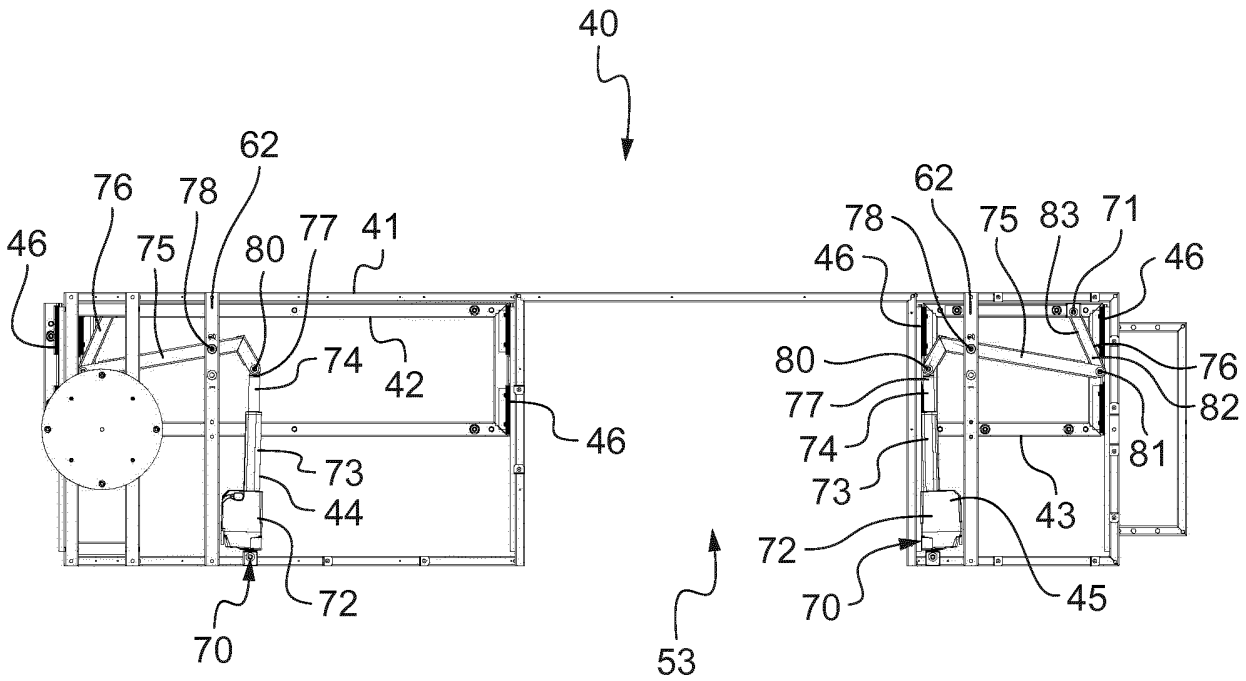

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Fig. 10

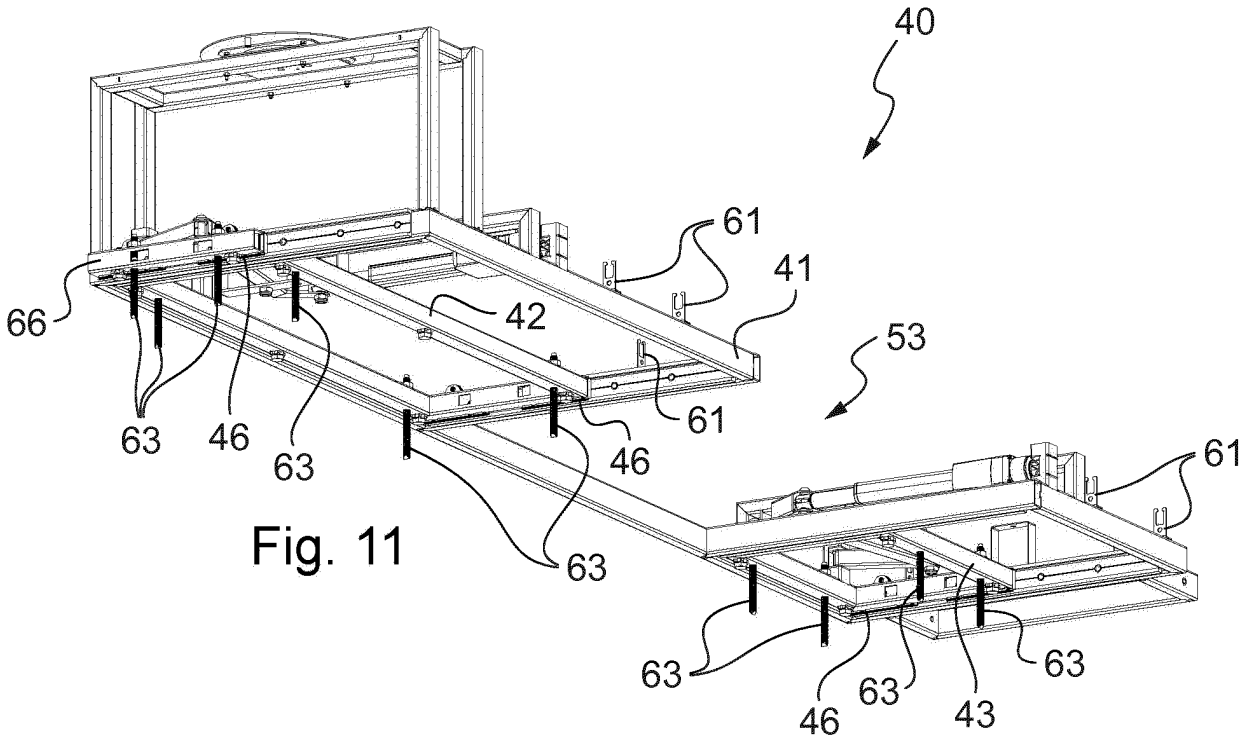

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Fig. 11

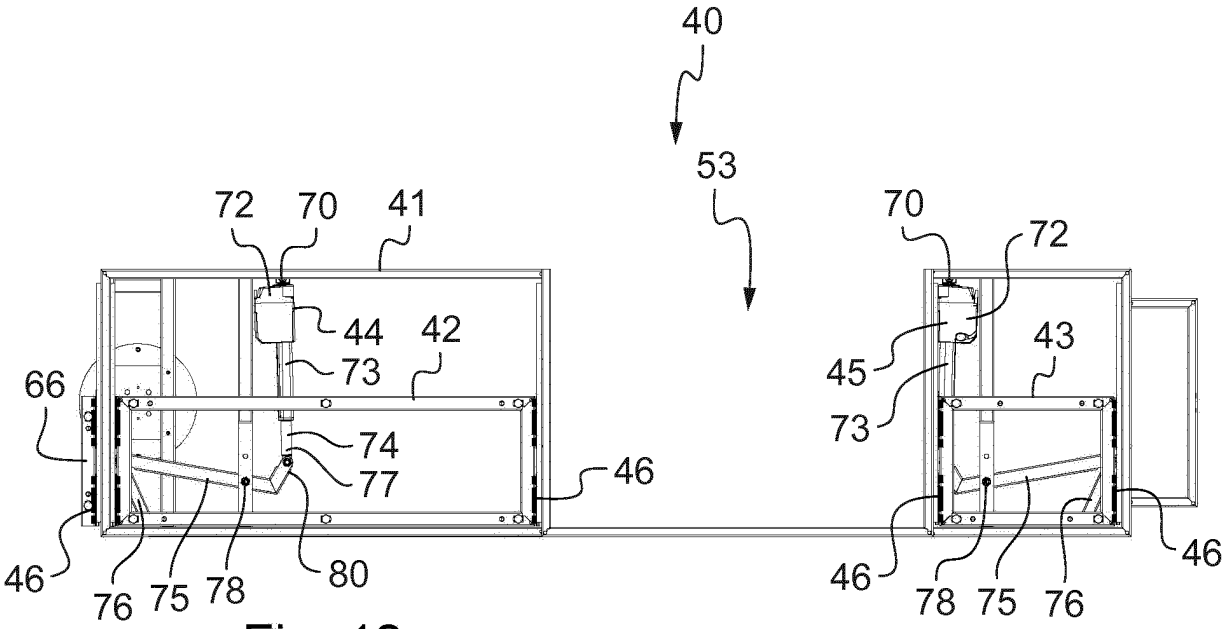

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Fig. 12

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 2315166 A **[0008]**
- EP 2266443 A **[0011]**