

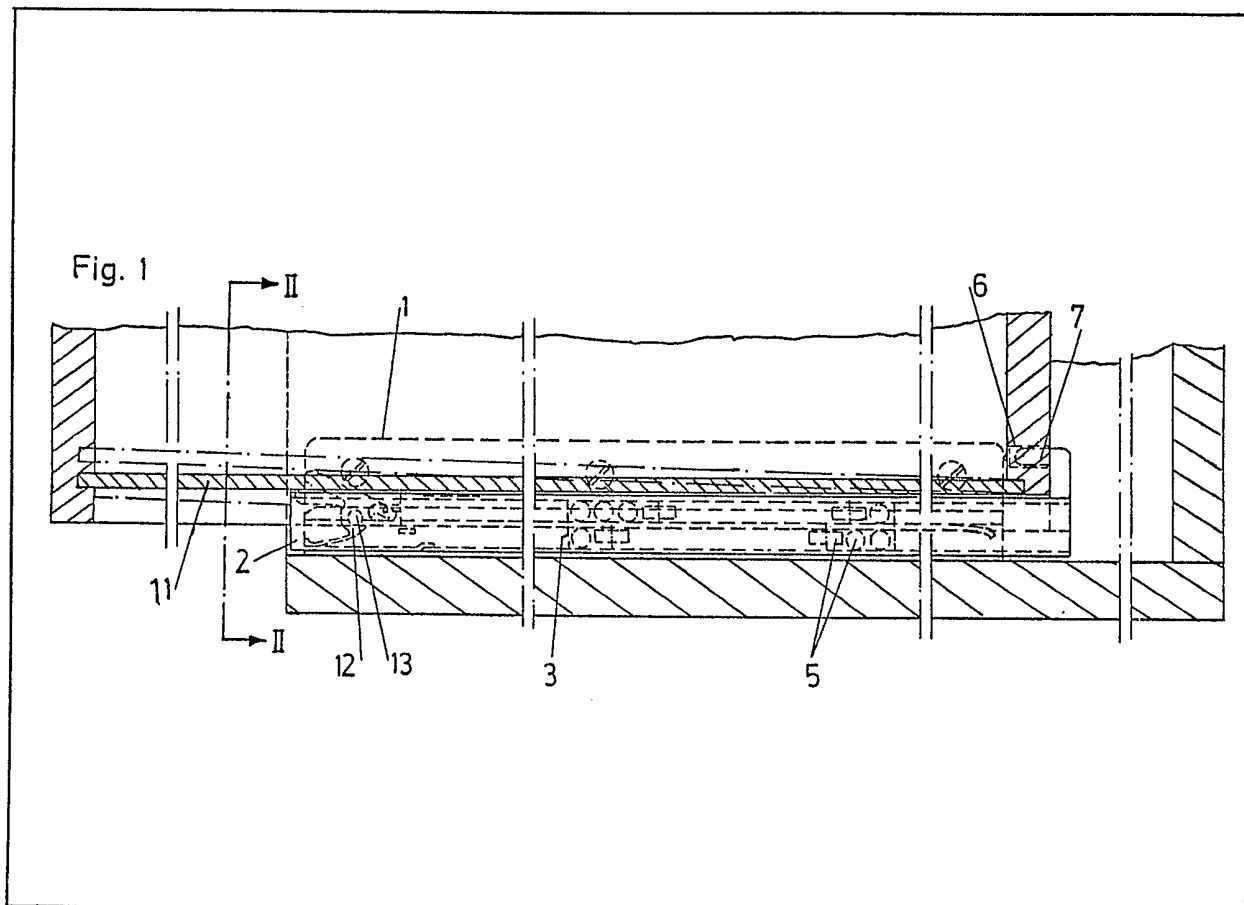
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(54) Pull-out guide assembly for drawers or the like

(57) A pull-out guide assembly for drawers with a support rail (1) and a pull-out rail (2) on each side. The support rails (1) are fastened to the walls (8) of the cabinet and the drawer is detachable from the pull-out rails (2). Each pull-out rail (2) is provided with a latch member (12) with which the pull-out rails (2) can be arrested on the support rails (1) in the inserted position in order to facilitate the mounting and detaching of the drawer on or from the pull-out rails (2).



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Fig. 1

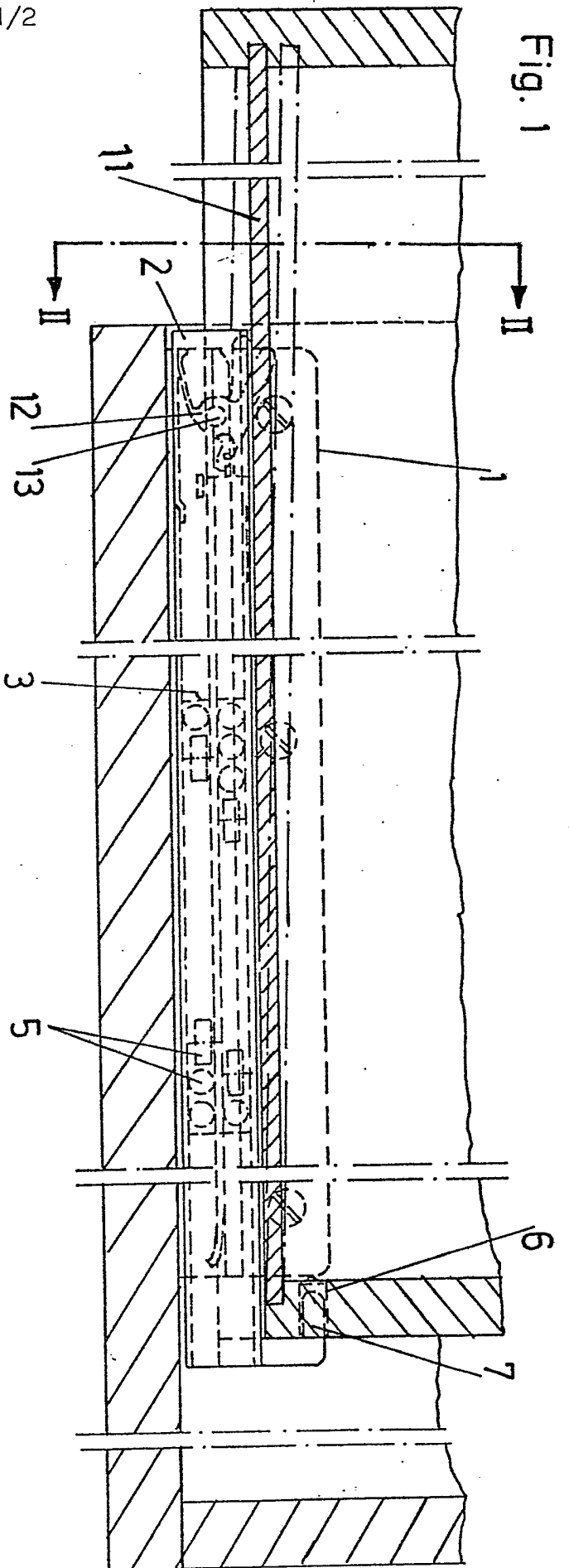


Fig. 2

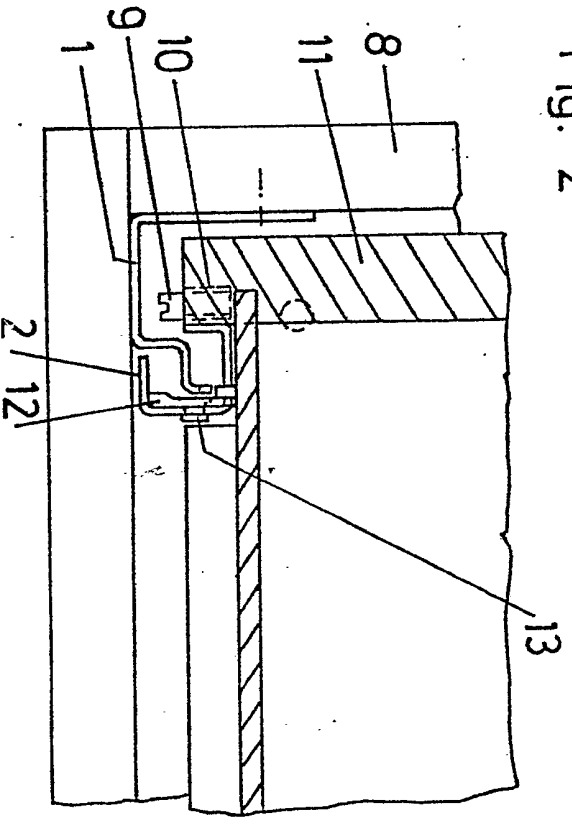


Fig. 3

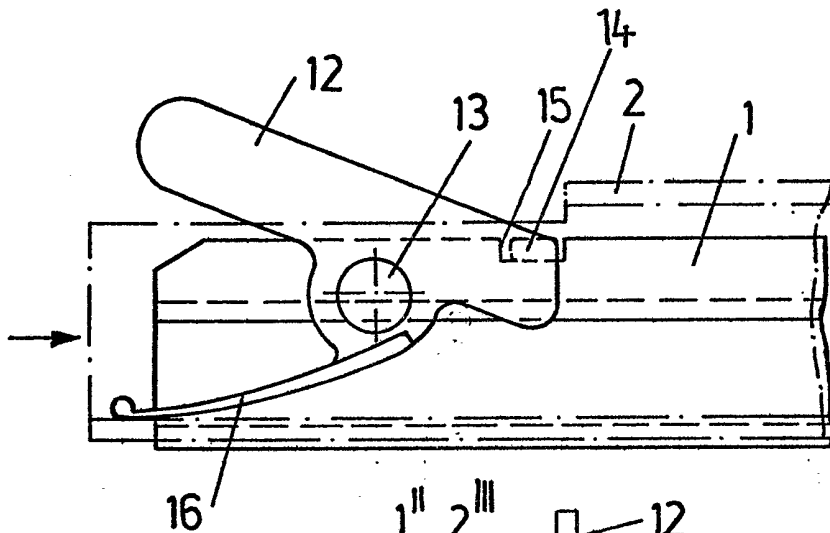


Fig. 5

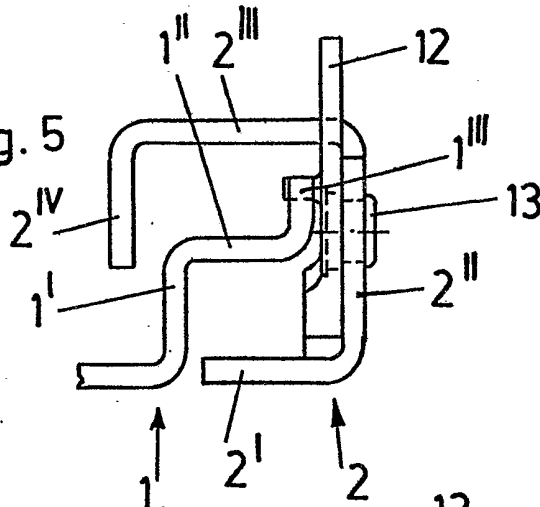
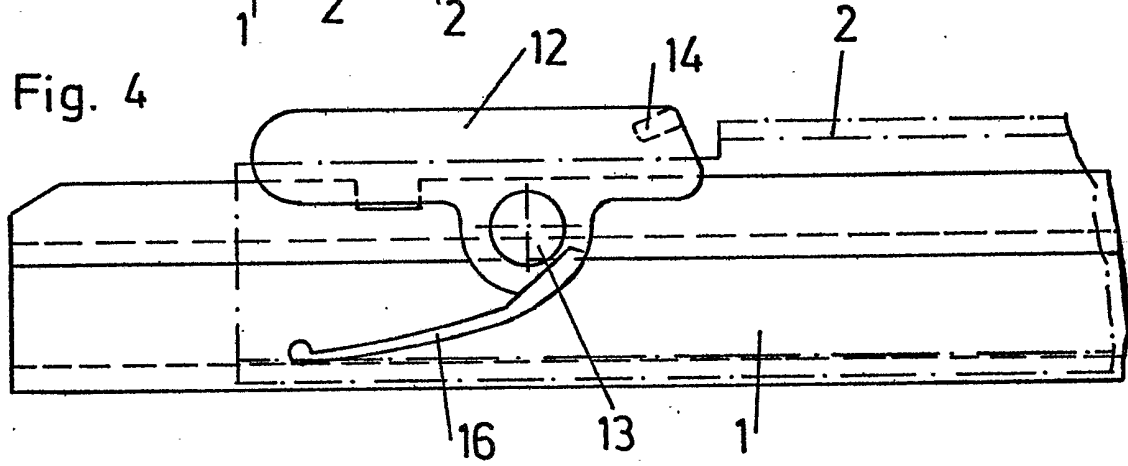


Fig. 4



SPECIFICATION

Pull-out guide assembly for drawers or the like

The invention relates to a pull-out guide assembly for drawers or the like, comprising on
 5 each side a pull-out rail on the side of the drawer and a supporting rail on the side of the body and intermediately arranged carriages in which load-transmitting rollers or the like are arranged, the drawer being engagable into and disengagable
 10 from the pull-out rails of the pull-out guide assembly mounted in the body of the piece of furniture.

The state of the art knows two kinds of pull-out guide assemblies in which the rollers are not
 15 fastened directly to one of the rails but arranged in separate carriages. Ball-roller pull-out devices are the most common ones, in which the transmission of the load is effected between the rails by means of steel balls which are held in a
 20 carriage in the form of a ball cage.

The other kind of pull-out guide assemblies has been on the market for a short time only and has cylindrical rollers of the same kind as those which are normally directly mounted at the rails. Said
 25 rollers are like the balls held in a carriage, which itself does not transmit any forces, but their axes of rotation are definitely aligned in the carriages by mounting means.

Drawers and pull-out guide assemblies are now
 30 known in which it is possible to mount the pull-out guide assembly in its entity, i.e. with the pull-out rail or pull-out rails, in the body of the piece of furniture and to engage the drawer subsequently.

Pull-out guide assemblies of this kind also
 35 facilitate the taking out of the drawer, such as for cleaning.

It is the object of the invention to provide a pull-out guide assembly of this kind in which mounting and dismounting of the drawer on the pull-out
 40 rails is facilitated.

According to the invention this is achieved by a locking means on each side of the drawer by means of which the pull-out rails are lockable on the supporting rails in the inserted position.

The embodiment according to the invention of
 45 the pull-out guide assembly further has the advantage that, when the drawer has been taken off, the piece of furniture may be transported and displaced without the pull-out rails rolling freely and without control.
 50

The locking means according to the invention may not only be used for fixing the pull-out rails, when the drawer has been taken off, but also when the drawer is in the body of the piece of
 55 furniture, for fixing the drawers when the piece of furniture is to be moved.

An embodiment of the invention provides that the locking means is formed by a latch member or the like tiltably mounted on a rail which engages
 60 in a recess of the other rail for locking the pull-out rail. The latch member being preferably mounted on the pull-out rail on the side of the drawer and the recess being arranged in the supporting rail.

To hold the latch member safely in the

65 unlocked and locked positions, said member is in a further embodiment advantageously provided with a resilient flap abutting on the lower running flange of the pull-out rail. The latch member and the flap may advantageously be one piece of
 70 injection moulded plastics material.

To prevent that the resilient flap presses the latch member unintentionally from the locking position into the open position or, vice versa, from the open position into the locking position, the
 75 latch member is advantageously self-locking.

Another embodiment of the invention provides that the supporting rails have Z-profiles in the region of the pull-out rails, the central flange being horizontally aligned, and that the recess is a notch
 80 in the upper edge of the upper vertical flange.

An embodiment of the invention will now be described in more detail by means of the figures of the drawing, in which

Figure 1 shows a side view of a pull-out guide assembly according to the invention mounted in the body of the piece of furniture, with the drawer being engaged,

Figure 2 shows section II—II of Fig. 1,

Figure 3 shows a side view of the front ends of
 90 the rails, with the latch member being in the locked position,

Figure 4 shows the same view with the latch member in the open position, and

Figure 5 shows a view from the direction of the
 95 arrow of Fig. 3.

In the figures of the drawings only one half of the pull-out guide assembly is shown. It is obvious that the other half is its mirror image. For the sake of simplicity, only one side will be referred to in the following description.

The pull-out guide assembly according to the invention has on each side a supporting rail 1 on the side of the body and a pull-out rail 2 on the side of the drawer, a carriage 3 being mounted between the rails 1, 2. Rollers 5, some of which having a horizontal axis of rotation, are arranged in the carriage 3. Said rollers 5 serve for the actual load-transmission.

Other rollers 5 have a vertical axis of rotation, and said rollers 5 are provided for the lateral stabilization of the pull-out guide assembly and of the drawer.

As can be seen from Fig. 1, the rollers 5 are arranged or combined in the carriage 3 in a front group and in a rear group. As can particularly be seen in Figs. 2 and 5, the pull-out rail 2 has a portion of rectangular cross-section, said portion receiving the carriage 3. Said rectangular portion is formed by the flanges 2', 2'', 2''' and 2^{IV} of the
 115 pull-out rail 2.

A portion of the supporting rail 1 having a Z-profile projects into said portion and into the carriage 3. Said portion is formed by flanges 1', 1'' and 1''' of the supporting rail 1. The central flange 1' of said portion is a horizontal flange and forms the actual running flange of the supporting rail 1. The slide rollers 5 of the carriage 3 are arranged below as well as above said flange 1'', i.e. rollers 5 with vertical axes of rotation as well as such with

horizontal axes of rotation.

To obtain particularly good lateral guiding of the pull-out assembly, rollers 5 with vertical axes of rotation are arranged above the horizontal flange 1" between the external vertical flange 1''' of the supporting rail 1 and the vertical flange 2'' of the pull-out rail 2, and rollers 5 with vertical axes of rotation are arranged below the horizontal flange 1" between the vertical flange 1' of the supporting rail 1 and the vertical flange 2'' of the pull-out rail 2. The rails 1, 2 are guided towards all sides in a compact manner together with the rollers 5 with horizontal axes of rotation which are arranged between the horizontal flange 2''' of the pull-out rail 2 and the running flange 1" of the supporting rail 1 as well as together with those which are arranged below the running flange 1" and above the horizontal flange 2' of the pull-out rail 2. Each half of the pull-out guide assembly forms a unit which is closed in itself and supported on all sides.

The pull-out guide assembly according to the invention is advantageously arranged below the drawer bottom 11. While the supporting rail 1 is screwed to the side wall 8 of the cabinet in a conventional manner. The pull-out rail 2 has a hook member at the rear side by means of which it can be inserted into a hole 6 in the rear wall of the drawer. At the front, the pull-out rail 2 has a threaded pin 9 which projects into a hole 10 in the drawer side wall 11.

When being mounted, the drawer is first engaged at the rear with the hook member 7, then it is placed on the threaded pin 9 at the front, thus being locked on the pull-out rail 2. By turning the threaded pin 9 the drawer can be adjusted in the height and, hence, the joint gaps of the drawer can be precisely adjusted.

To facilitate engaging and disengaging of the drawer, the pull-out rail 2 is provided with a latch member 12 which is mounted on an axle 13 on the vertical flange 2'' of the pull-out rail 2.

The latch member 12 has a nose 14 which engages in a recess 15 in the flange 1''' for locking the pull-out rail 2.

As can be seen in Figs. 3 and 4, the latch member 12 is provided with a resilient flap 16. As

already mentioned, the latch member 12 may together with the resilient flap 16 be one piece of injection moulded plastics material.

In the position of the latch member 12 illustrated in Fig. 3 and indicated in Fig. 1 with dotted lines, the pull-out rail 2 and the supporting rail 1 are locked, and the drawer can in an easy manner be disengaged from the pull-out guide assembly.

When the drawer has been engaged again, the latch member 12 can by hand be pressed into the open position, as illustrated in Fig. 4, so that the pull-out guide assembly is again full functioning.

CLAIMS

1. A pull-out guide assembly for drawers or the like, comprising on each side a pull-out rail on the side of the drawer and a supporting rail on the side of the body and intermediately arranged carriages in which load-transmitting rollers or the like are arranged, the drawer being engagable into and disengagable from the pull-out rails of the pull-out guide assembly mounted in the body of the piece of furniture, wherein locking means are provided on each side of the drawer for locking said pull-out rails on said supporting rails in the inserted position.

2. A pull-out guide assembly as claimed in claim 1, wherein said locking means is in a manner known per se formed by a latch member or the like tiltably mounted on one of said rails, said latch member engaging in a recess in the other one of said rails for locking said pull-out rail.

3. A pull-out guide assembly as claimed in claim 2, wherein said latch member mounted on said pull-out rail on the side of the drawer is provided with a resilient flap abutting on the lower running flange of said pull-out rail.

4. A pull-out guide assembly as claimed in claim 3, wherein said supporting rails have Z-profiles in the region of said pull-out rails, the central flange being horizontally aligned, and said recess is a notch in the upper edge of the upper vertical flange.

5. A pull-out guide assembly substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.