



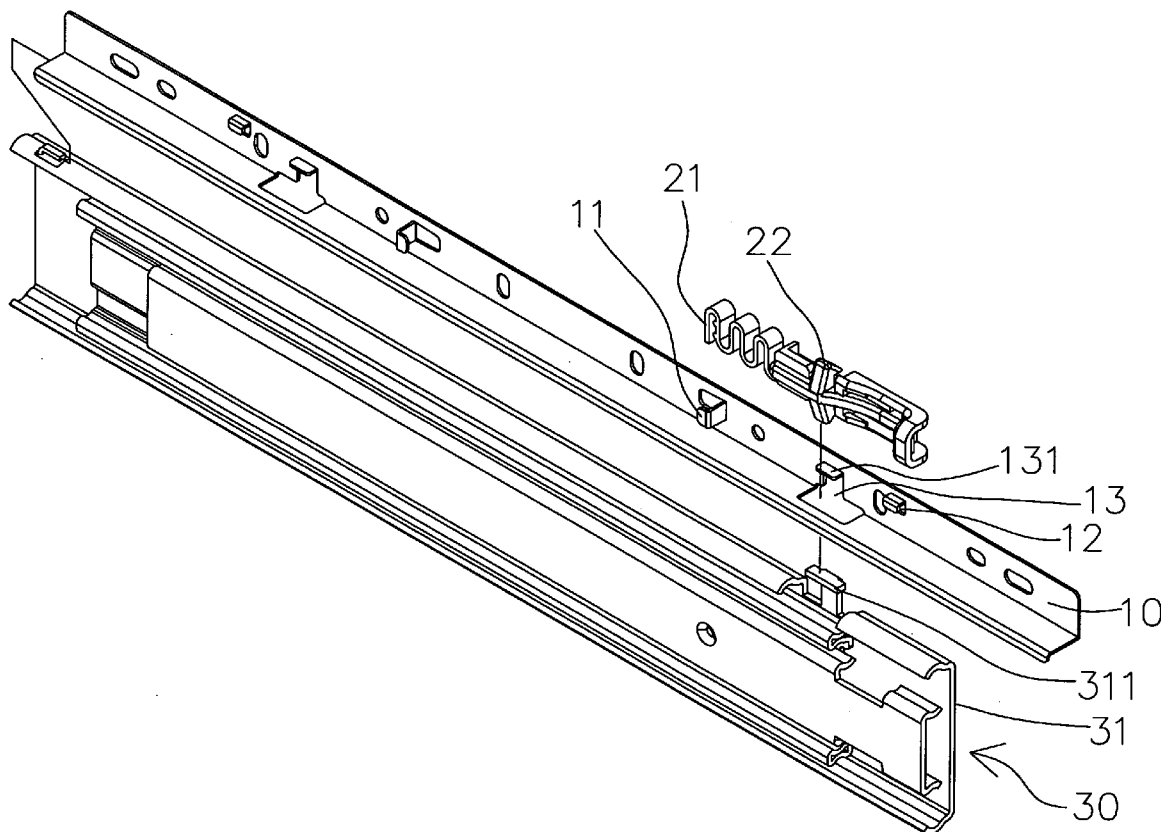
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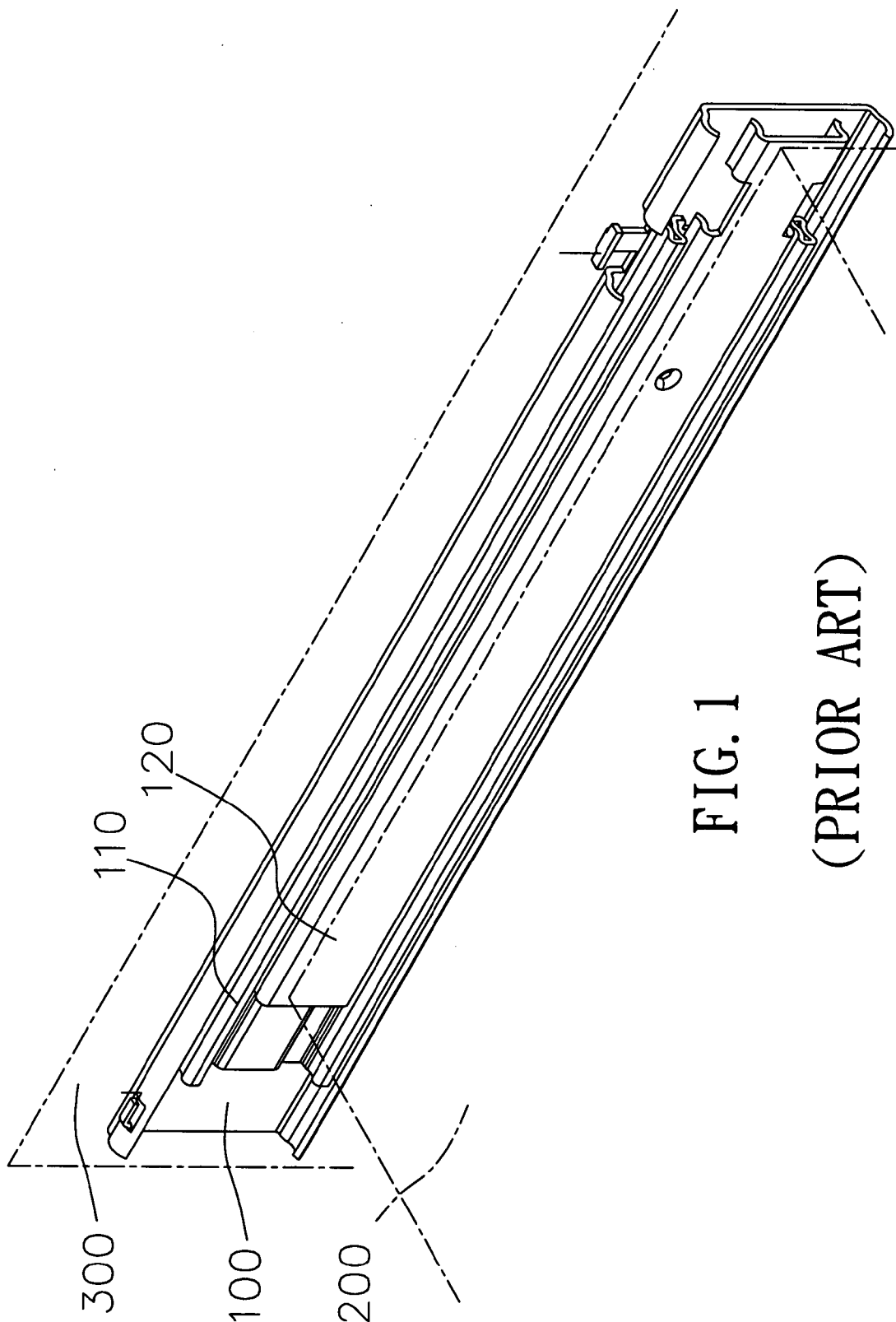
(19) **United States**(12) **Patent Application Publication****Huang**(10) **Pub. No.: US 2008/0265730 A1**(43) **Pub. Date: Oct. 30, 2008**(54) **FIXING APPARATUS WITH DRAWER RAILS  
FOR QUICK EXTERNAL INSTALLATION  
AND DISASSEMBLY**(75) Inventor: **Kuo-Sheng Huang**, Taipei County  
(TW)

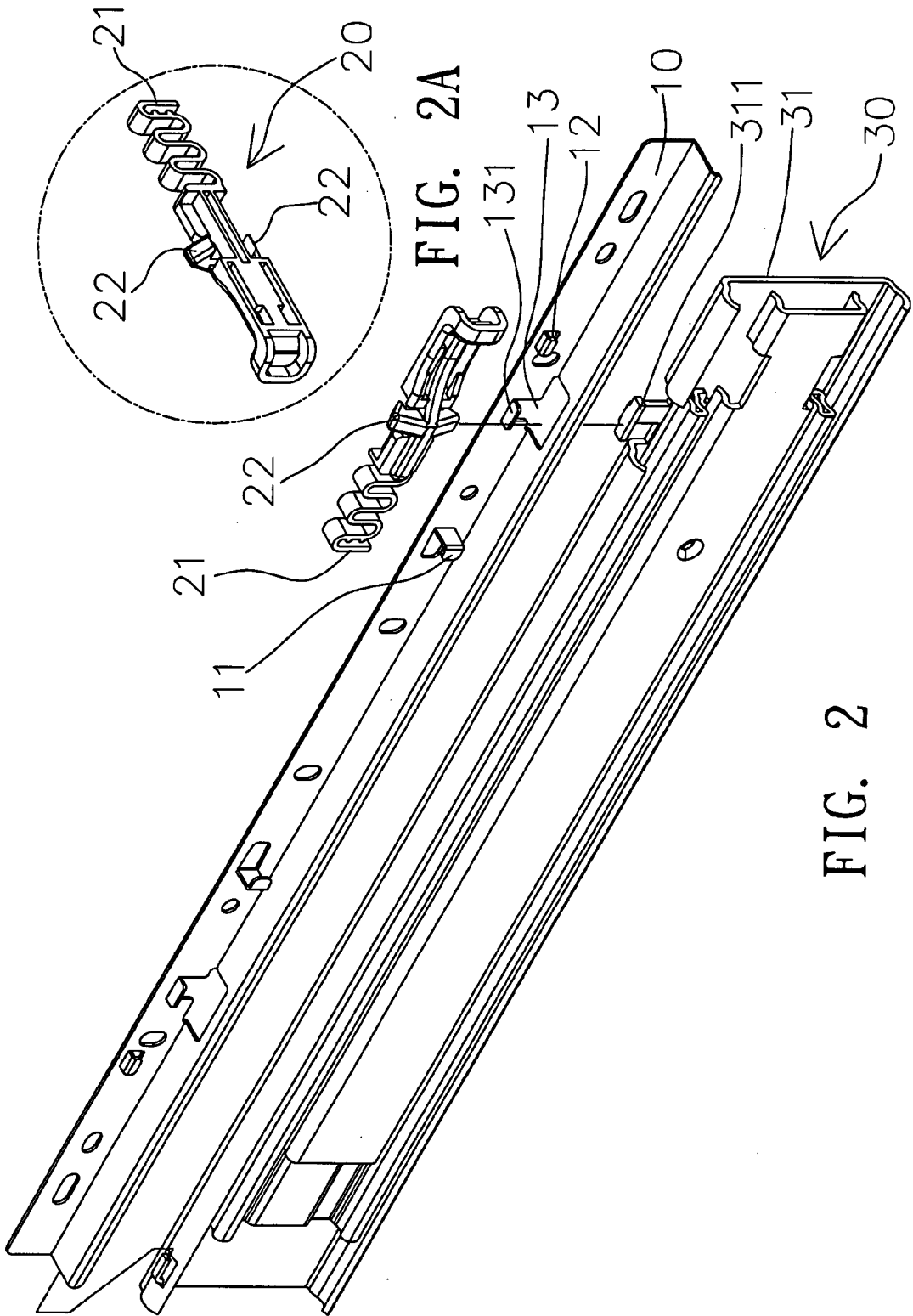
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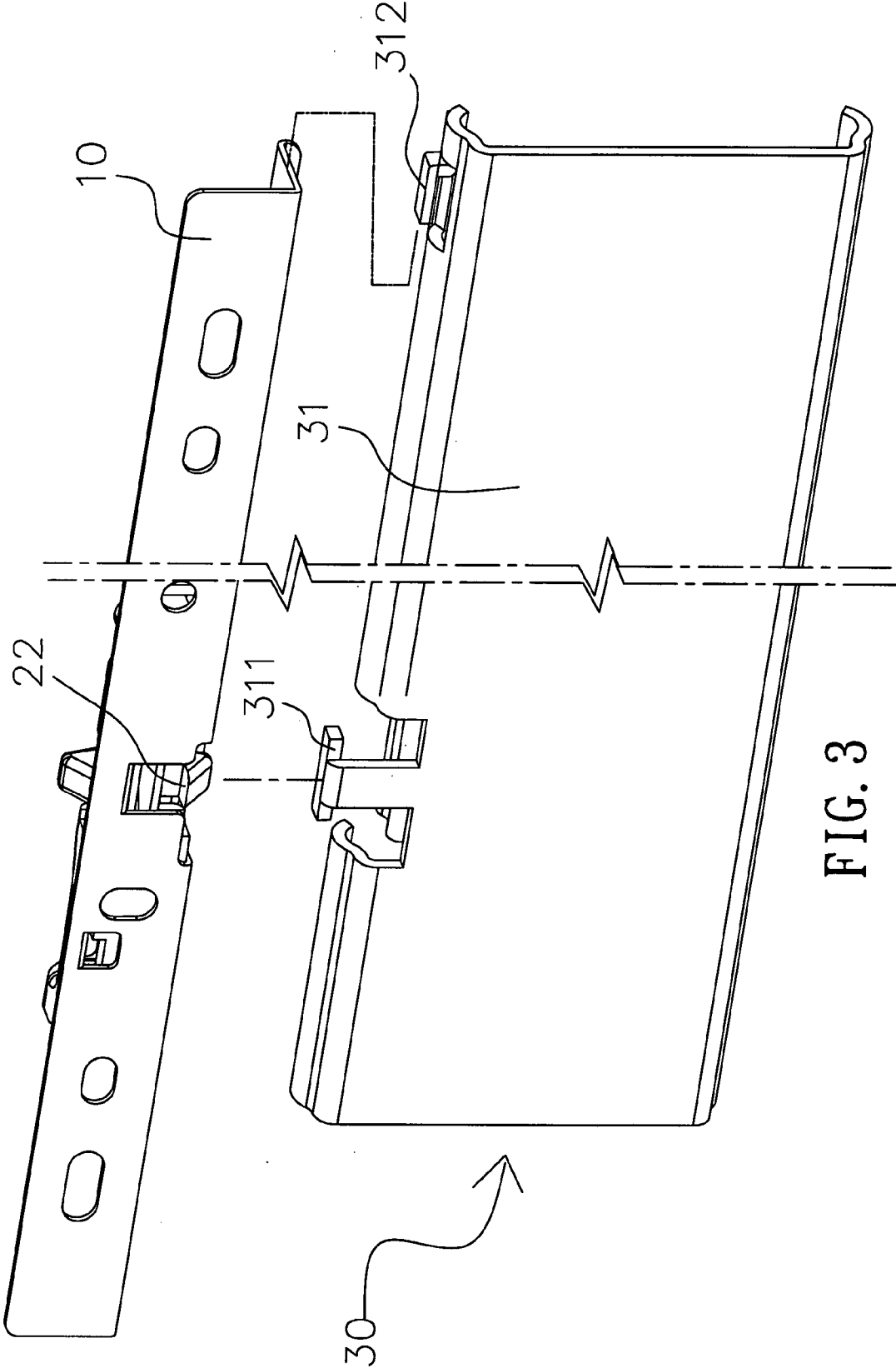
**BACON & THOMAS, PLLC****625 SLATERS LANE, FOURTH FLOOR  
ALEXANDRIA, VA 22314-1176 (US)**(73) Assignee: **NAN JUEN INTERNATIONAL  
CO., LTD.**, TAIPEI COUNTY  
(TW)(21) Appl. No.: **11/790,519**(22) Filed: **Apr. 26, 2007****Publication Classification**(51) **Int. Cl.**  
**A47B 88/04** (2006.01)(52) **U.S. Cl.** ..... **312/333; 312/334.46**(57) **ABSTRACT**

The present invention discloses a fixing apparatus with drawer rails for quick external installation and disassembly whereby the apparatus has a fixing element on both lateral sides of the cabinet and the fixing element has a latch element; one end of the latch element is an elastic end with successive bends and a corresponding embedded hook; further, the fixing element is latched with a rail assembly and said rail assembly has a protruded latch on the corresponding position of the embedded hook; henceforth, during assembly the fixing element would be fixed onto the lateral inner side of the drawer cabinet, and through mutual embedding and coupling of the embedded hook of the latch element and the protruded latch of the rail assembly, the rail assembly can be easily installed onto to a lateral inner side of the drawer to facilitate assembly and disassembly.









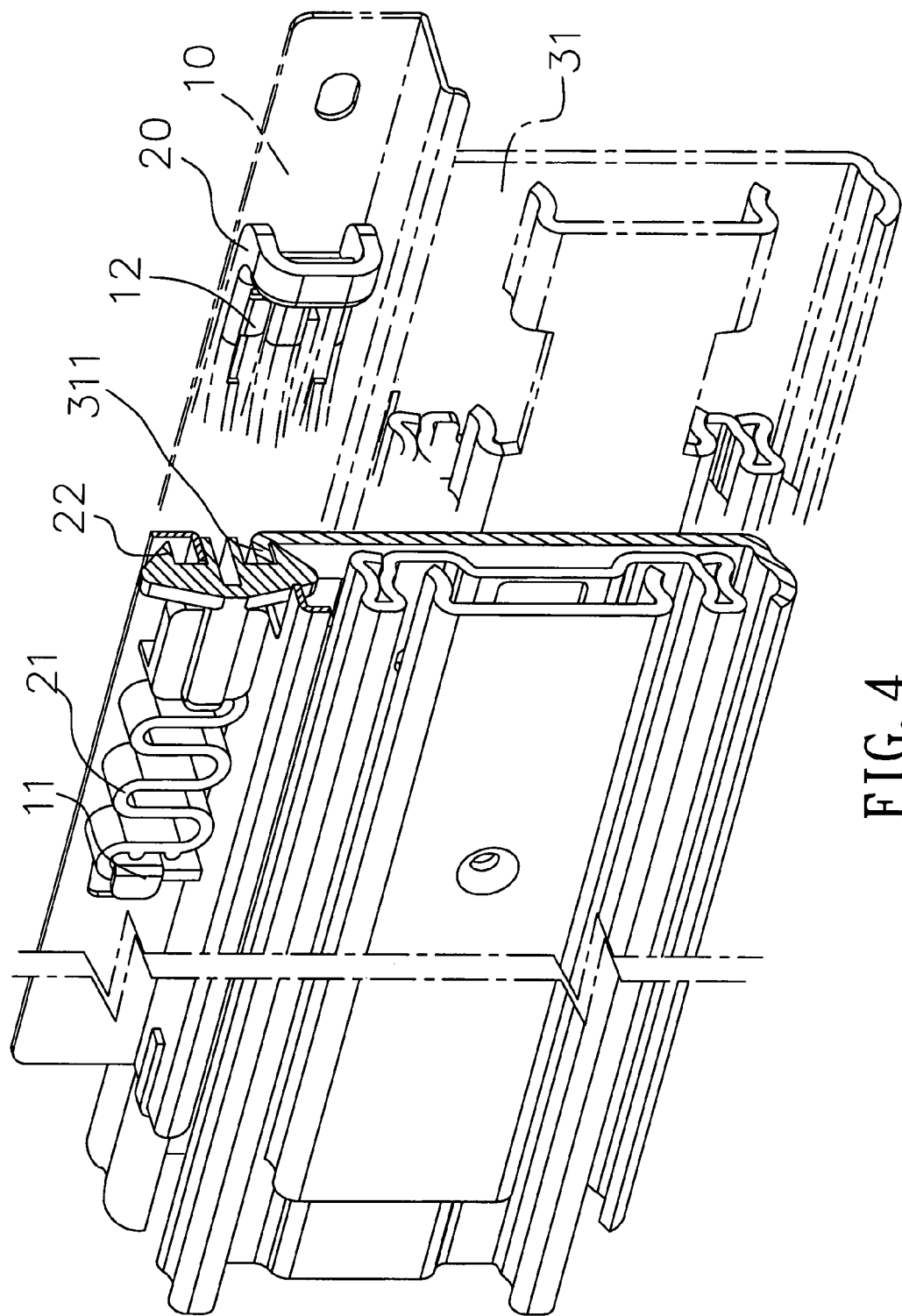


FIG. 4

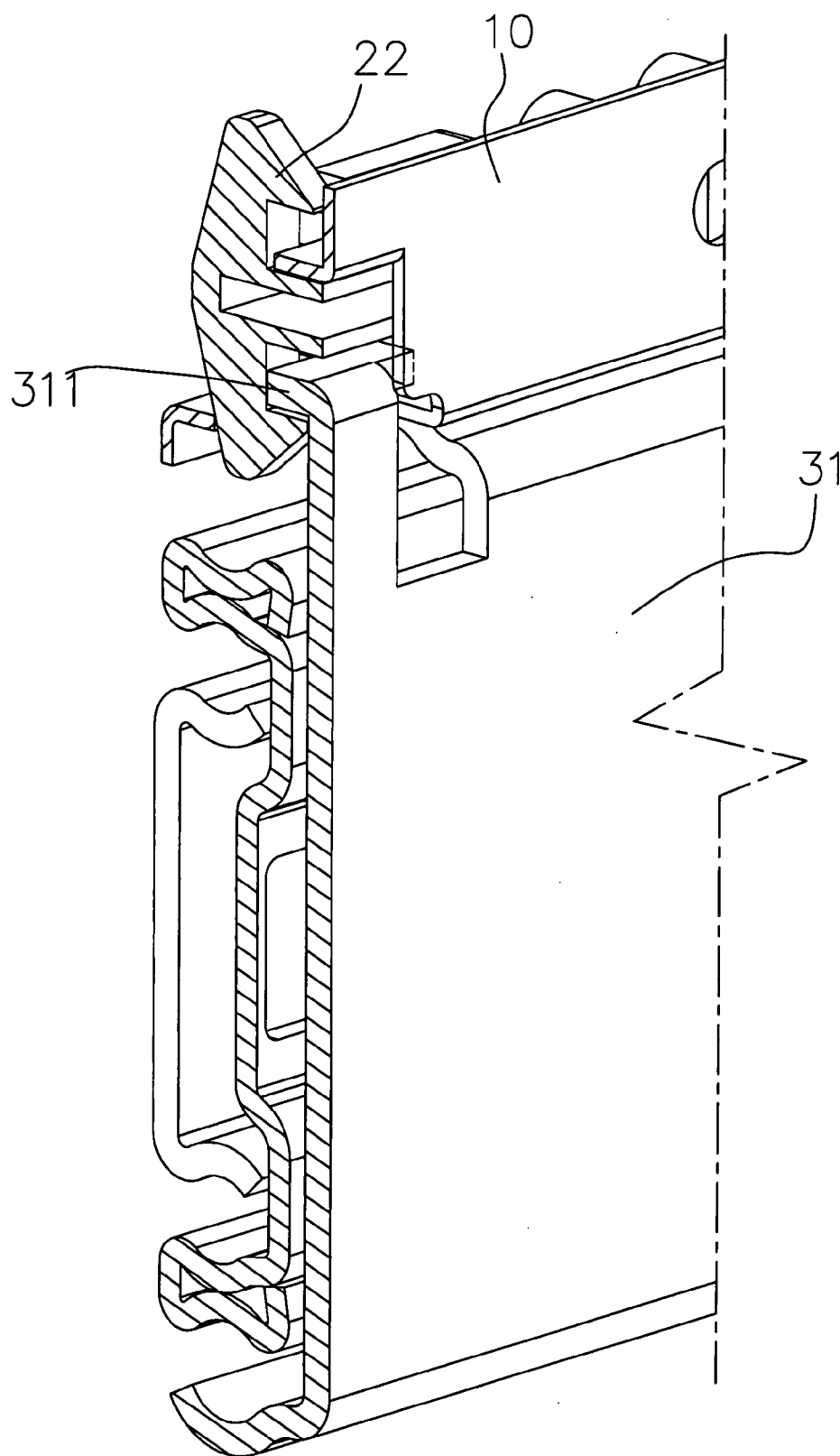


FIG. 5

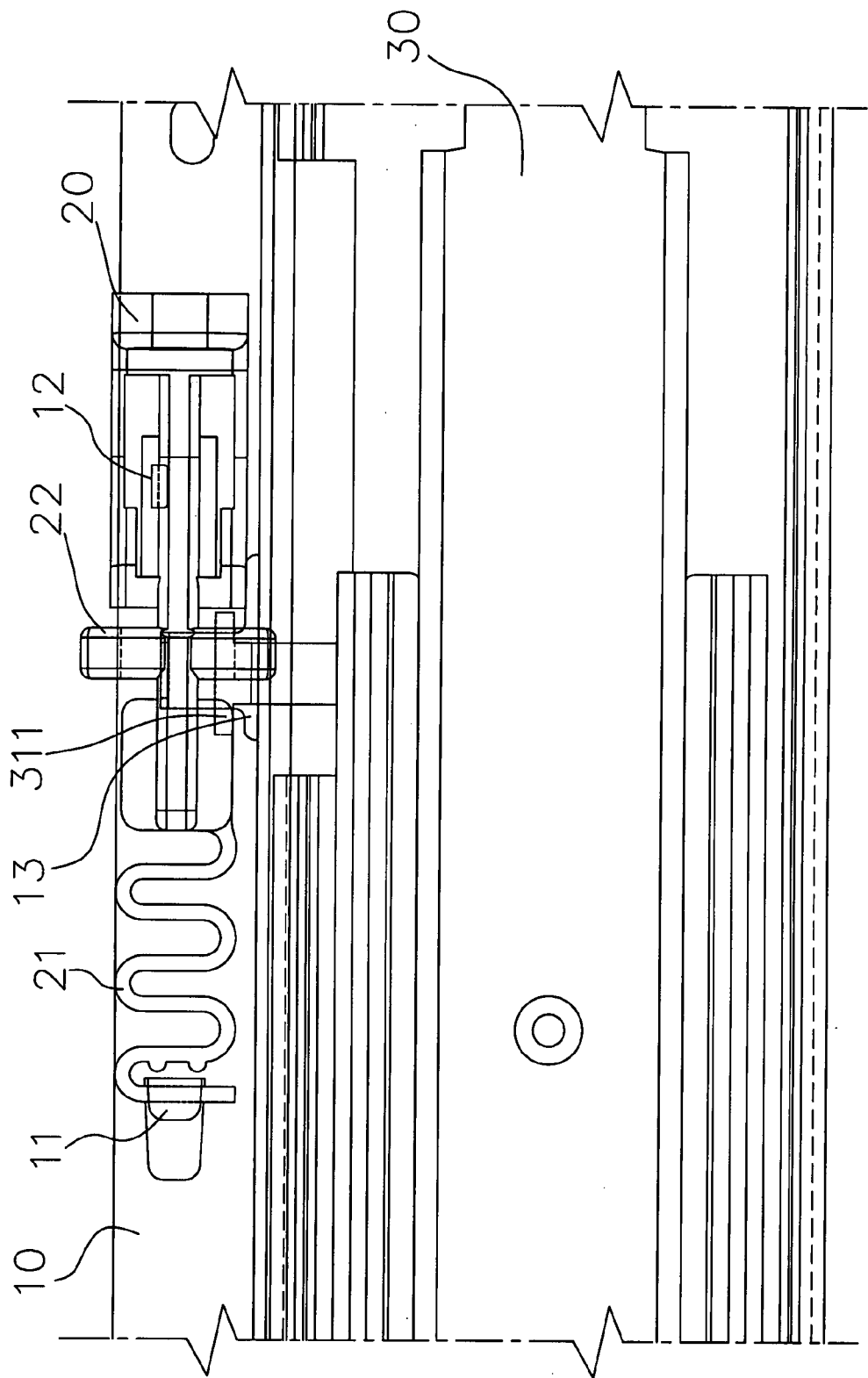


FIG. 6

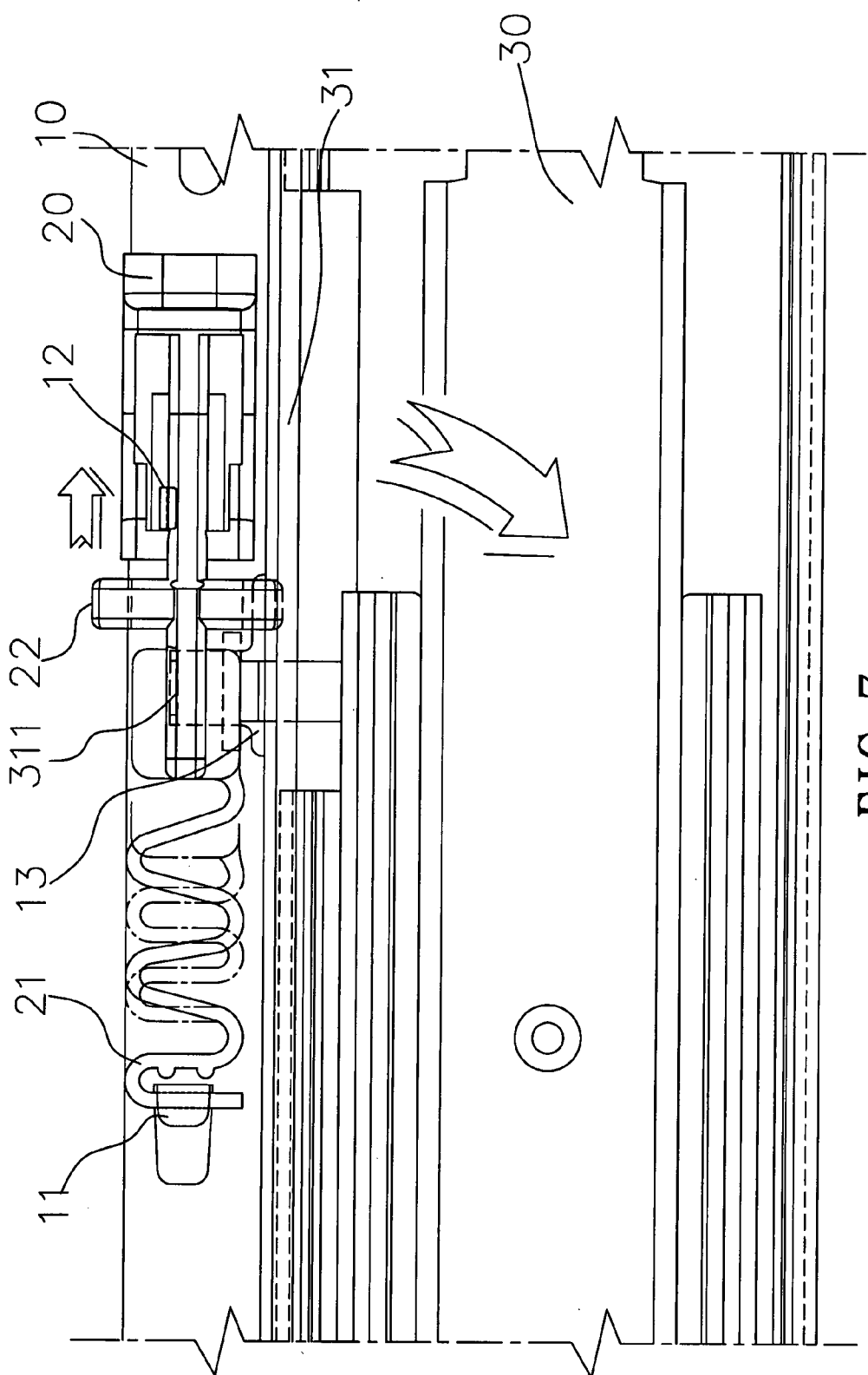


FIG. 7



# FIXING APPARATUS WITH DRAWER RAILS FOR QUICK EXTERNAL INSTALLATION AND DISASSEMBLY

## BACKGROUND OF THE INVENTION

### [0001] 1. Field of the Invention

[0002] The present invention relates to a fixing apparatus with drawer rails for quick external installation and disassembly, and more particularly to a fixing element for latching a rail assembly to the lateral inner side of the drawer cabinet to give more convenience to its assembly.

### [0003] 2. Description of the Prior Art

[0004] Generally, a plurality of corresponding rail assemblies are installed on the lateral inner sides of a drawer cabinet (refer to FIG. 1), and there is a bottom frame 100 disposed on the rail assemblies and a bottom frame 100 is fixed on the corresponding positions of the drawer cabinet 300; a sliding center rail 110 which is used for extending its length is being embedded on the bottom frame 100, and an inner rail 120 is being embedded on the center rail 110 and coupled with a drawer 200 so that when the drawer 200 is being pulled outward the center rail 110 would also move outward thereby enabling the drawer 200 to protrude outside the cabinet; inversely, to place the center rail 110 and the inner rail 120 onto the bottom frame 100; in assembling the apparatus you need to first fix the bottom frame 100 on the corresponding positions of lateral sides of the drawer cabinet 300 and then pull out the inner rail 120 while fixing the drawer 200 on the inner rail 120; however, since the center rail 110 and inner rail 120 are embedded on the bottom frame 100, in fixing the bottom frame 100 first on the lateral side of the drawer cabinet, the center rail 110 and the inner rail 120 would move back and forth during the assembly process, making it difficult to assemble, and also because of the limited space in the lateral inner side of the drawer cabinet it is very difficult to fix the bottom frame 100 onto the lateral inner side of the drawer cabinet 300, thereby making it very difficult to use also.

## SUMMARY OF THE INVENTION

[0005] In view of the shortcomings of the conventional apparatus and structure, the inventor of the present invention based on years of experience in the related industry to conduct extensive researches and experiments, and finally developed a fixing apparatus with drawer rails for quick external installation and disassembly.

[0006] Therefore, it is a primary objective of the present invention to provide a fixing apparatus with drawer rails for quick external installation and disassembly, whereby the fixing apparatus has a fixing element on the lateral inner side of the drawer cabinet, and the fixing element has a latch element for latching with a corresponding embedded hook; further, the fixing element has latched a rail assembly whereby the rail assembly and the embedded hook has a protruded latch on a corresponding position, therefore, during assembly the fixing element can be first fixed onto the lateral inner side of the drawer cabinet, and through mutual embedding and coupling of the embedded hook of the latch element and the protruding latch of the rail assembly, the rail assembly can easily be installed onto the lateral inner side of the drawer cabinet to facilitate assembly and disassembly.

[0007] Another objective of the present invention is to provide a fixing apparatus with drawer rails for quick external installation and disassembly, and one end of the latch element

has an elastic end with successive bends to give more convenience to assembly through elasticity of the latch element.

[0008] To make it easier for our examiner to understand the present invention, the following embodiment accompanied with the related drawings are described in details.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a schematic view of a conventional structure;

[0010] FIG. 2 is an exploded view of the fixing apparatus in accordance with the present invention;

[0011] FIG. 2A is a schematic view of another side of the fixing apparatus in accordance with the present invention;

[0012] FIG. 3 is an exploded view of another side of the fixing apparatus of the present invention;

[0013] FIG. 4 is the cross-section view of the assembly of the fixing apparatus in accordance with the present invention;

[0014] FIG. 5 is a cross-section view in another angle of assembly of the preferred embodiment in accordance with the present invention;

[0015] FIG. 6 is a schematic view of the assembly of the present invention;

[0016] FIG. 7 is a schematic view of the disassembly of the present invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] Referring to FIGS. 2 to 5 for a fixing apparatus with drawer rails for quick external installation and disassembly, the apparatus includes a fixing element 10 which is an L-shaped frame in this preferred embodiment, and in a certain position the fixing element 10 at least includes a first latch 11 and a second latch 12 maintained at an appropriate distance, and in between the first latch 11 and the second latch 12 on the fixing element an open slot 13 is installed with a protruded stopper slab 131 at one end of the open slot 13.

[0018] Further, at least one latch element 20 is installed on the fixing apparatus 10; one end of the latch element 20 has an elastic end 21 with successive bends where the extreme end of the elastic end 21 rightly latches onto the first latch 11; a corresponding embedded hook 22 (refer to FIG. 2A) is disposed perpendicularly on the middle section of the latch element 20 and the embedded hook 22 fits right into the open slot 13 but stopped by the stopper slab 131 and fixed the position while the other end of the latch element 20 is being latched by the second latch 12, thereby the latch element is being fixed on the surface of the fixing element 10.

[0019] Further, a rail assembly 30 is installed onto the latch element 20; the rail assembly 30 is embedded and coupled with a plurality of rails and a bottom rail 31 is installed on the rail assembly 30 and the bottom rail 31 has a protruded latch 311 on its lateral side where the protruded latch 311 fits right into the open slot 13 but latched by the embedded hook 22, thereby enable the rail assembly to be installed onto the fixing element 10 (refer to FIGS. 3, 4 and 5).

[0020] Moreover, the bottom rail 31 has a limit element 312 on its lateral side whereby the limit element 312 is embedded and hooked onto the rim of the fixing element 10 so as to further fasten the rail assembly 30 (refer to FIG. 3).

[0021] Referring to FIG. 6, during assembly the elastic end 21 would hook up with the first latch 11 and at the same time the embedded hook 22 would fit into the open slot 13 while the other end of the latch element 20 would hook up with the

second latch **12**, thereby enable the latch element to fasten onto the fixing element **10**; in the meantime, the protruding latch **311** of the rail assembly **30** passes through the open slot **13**; the latch element **20** exerts force externally to extend the elastic end **21**, so the protruded latch **311** fits into the embedded hook **22**, and through the recoiling force of the elastic end **21**, the protruded latch **311** latches onto the embedded hook **22**, thereby successfully installing the rail assembly **30** onto the fixing element **10**.

[0022] Referring to FIG. 7 for disassembling the fixing apparatus, first pull the elastic element **21** outward, so the protruded latch **311** slides away from the embedded hook **22** and then removes the protruded latch from the open slot **13**, thereby separating the rail assembly from the fixing element **10**.

[0023] While the invention has been described by way of example and in terms of a preferred embodiment, it is to be understood that the invention is not limited thereto. To the contrary, it is intended to cover various modifications and similar arrangements and procedures, and the scope of the appended claims therefore should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements and procedures.

[0024] In summation, the present invention enhances the performance than the conventional structure and further complies with the patent application requirements and is duly filed for the patent application.

What is claimed is:

1. Fixing apparatus with drawer rails for quick external installation and disassembly, whereby the apparatus is being fixed onto a lateral inner side of a drawer cabinet, and the apparatus comprises:

a fixing element for fixing onto the lateral inner side of the drawer cabinet and the fixing element has an open slot;  
a latch element for fixing onto a fixing element where both ends of the latch element would latch perpendicularly in the middle section with corresponding embedded hooks; and

a rail assembly for installing onto the fixing element; the rail assembly is formed by a plurality of embedded and coupled rails with a bottom rail; the bottom rail has a protruded latch on its lateral side for passing through the open slot and latch onto the embedded hook, thereby installing the rail assembly onto the fixing element;

2. The fixing apparatus with drawer rails for quick external installation and disassembly of claim 1, wherein said fixing apparatus has first and second latches for hooking up with the latch element.

3. The fixing apparatus with drawer rails for quick external installation and disassembly of claim 1, wherein one end of the latch element is an elastic end with successive bends.

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