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(54) Device for dispensing products

(57) A device for dispensing products, comprising a prismatic flattened body comprised by two parts faced through their mouths defining inner cavities for a pair of rollers engaged to a continuous belt provided, along its full length, with perpendicular equidistant blades having perforations at their rounded minor bottom edges opposite to the annular surface of a rod contained into a longitudinal axis with respect to the prismatic body, said belt having, between two consecutive blades, perforations allowing fitting of a first tooth of a double cranked command rod the free end of which has a knob, said tooth being thus separated from a second tooth integrated to the inner portion of the body side wall defining a stop for the belt return, said belt being directed laterally through respective resilient lugs, an end portion of a cranked region of the command rod being faced to a head forming part of a second rod carrying an expansion spring the free end of which is communicated to a sensor system.

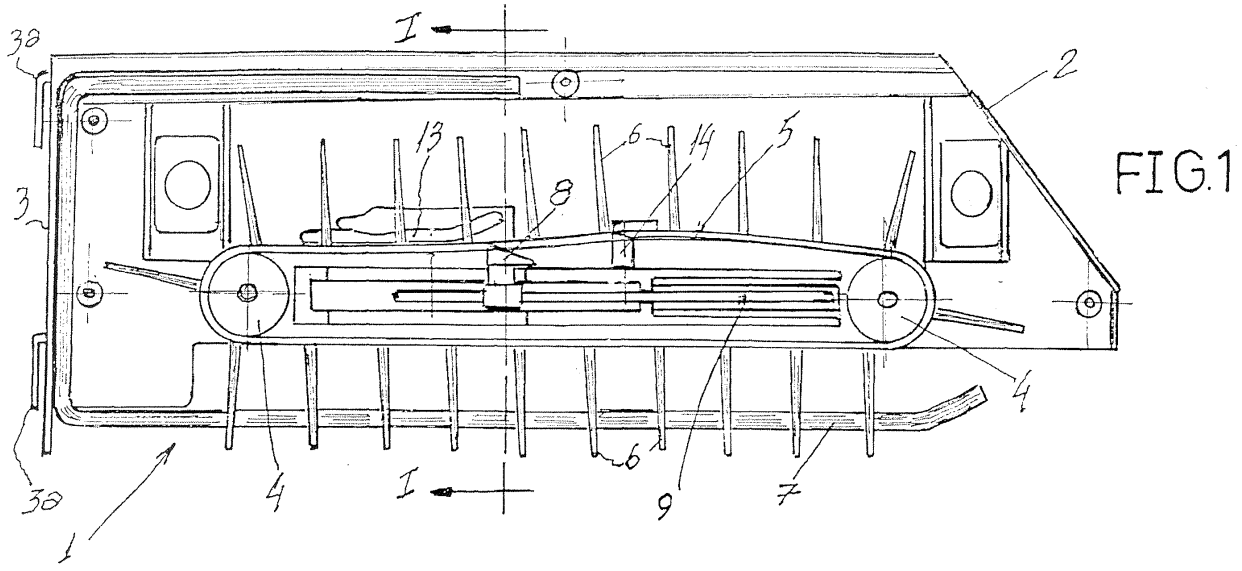


FIG.1

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Description

[0001] The instant invention relates to A DEVICE FOR DISPENSING PRODUCTS, particularly to a dispenser incorporating various products of the same kind, which are released individually by the simple displacement of a command rod actuated by the customer.

[0002] The main object of the invention is a device fixed to a cabinet having a bin for releasing the product, which, after being paid, may be taken by the consumer.

[0003] Another object of the invention is a device facilitating, due to its versatile character, the assembly of displays with a single horizontal row, with more than one row, or of the mixed type, in which a portion whether at the left, or the right, or at the center, has a number of rows different from the rest.

[0004] A further object of the invention is a device incorporating a rod supporting the products separated by respective blades forming part of a rotary belt driven, sequentially and horizontally, by the command rod.

[0005] An additional object of the invention is a device including an extension of the command rod having an expansion spring returning the system to the initial portion and allowing actuation over a sensor system which triggers an electronic circuit included in the dispenser, thus warning that the system is operating and, also, forming a blocking means for the device when the dispenser is not operating.

[0006] Lastly, another object of the invention is a device comprised by a support housing two rollers facing longitudinally and aligned therebetween, which carry a continuous belt which, at its outer face has a series of perpendicularly positioned blades, in the form of fingers, which have transversal perforations allowing its longitudinal displacement over a rod supporting the products, the belt having perforations equally spaced for fitting of a pair of teeth, one of these teeth being longitudinally displaceable and integrated to a command rod which is manually actuated to exert traction on the belt. Said command rod is counteracted by an expansion spring which allows, in each displacement, advancing one step, while the other tooth constitutes a fixed means blocking the belt return.

PRIOR ART

[0007] Different displays and dispensers of products are known, in which the articles are positioned within a cabinet provided with a closing curtain. In these cases, the cashier, to remove the product chosen by the client, should release the curtain and take manually the selected product.

[0008] Further, it is already known that, specially in supermarkets or hypermarkets, there are products packed in individual boxes or blisters having perforations for insertion into respective rods forming part of a support, thus allowing removal thereof by the client and adding it to the rest of the products to be checked by the cashier for payment. This kind of dispenser or display, in most of the cases, complicates the job of the cashier since the products, particularly those of small size, may be unnoticed by the cashier and, consequently, the corresponding amount not collected.

[0009] Other types of product displays and dispensers comprised by complex machines are known. These dispensers require, for releasing a product, the introduction of at least one coin through an opening included in a bin unloading the product. These machines do not allow control of the product, except at the time of replacement thereof.

[0010] At present, product displays and dispensers are located inside the premises for checking purposes, these machines being expensive and requiring large areas and, in most of the cases they provide identical products which are sold inside the markets. The object of the invention is to provide a device replacing these machines with the same yield and at a significantly lower price.

SUMMARY OF THE INVENTION

[0011] In order to overcome the disadvantages of devices of the prior art, the invention relates to a novel product dispenser and display device permitting, through the mere manual displacement of a command rod by the user in need of one or more products, rotating the belt allowing release of one or various products through a bin, the products being removed by the cashier of the premise, who will charge the amount of the products in the corresponding bill.

[0012] Different from devices known in the art, the device of the invention stores products in a horizontal order and they may placed on a back panel oriented through its length from the back to the front, supported by hook means or another fixing system, horizontally aligned side by side and/or in a vertical way, forming a second row.

[0013] In case of more than one row, the upper front portion has a small inclined plane so that upon unloading a product of the upper row, the product is not allowed to remain on the roof of the lower row, but the article slips and falls along the front on the cabinet inclined bottom.

[0014] The device comprise a structure housing transversal shafts carrying respective rollers, a continuous belt being positioned on said rollers, the belt having perpendicular blades provided with perforations permitting the passage of a rod located below such structure, said blades forming spaces at said rod for hanging different products packed into bags or blisters, the belt with perforations permitting fitting of a pair of teeth, one of which is fixed to the cabinet and the other to a command rod permitting manual actuation thereof, counteracting a spring for displacing the belt step by step, releasing a product each time said rod slips. Said belt is directed at the sides on respective resilient lugs and, in turn, said command rod displaces a second longitudinally aligned rod, which actuates a sensor system.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Figure 1 is a side cross elevation view of the product dispenser device of the invention.
Figure 2 is another side cross elevation view of the side of the product dispenser device opposed to that shown in figure 1.
Figure 3 is an enlarged side elevation detail of the product dispenser device in two operating positions.
Figure 4 is a cross section of the product dispenser device taken along line I-I of figure 1.
Figures 5 and 6 are upper plan cross sections of the product dispenser device in two operative positions, and
Figure 7 is a side perspective view of the product dispenser device of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

[0016] Considering the attached drawings, representing the product dispenser device of the invention, the device is comprised by a hollow prismatic body 1, horizontally positioned, limited by two portions, 1a and 1b, faced through their mouths to form in said body 1 a front end 2, truncated at the upper part and a rear end 3 provided with cranked blades 3a located adjacent to their apexes for fixing said body 1 on a rear panel.

[0017] Inside said body 1 there is a pair of rollers 4 longitudinally aligned, around which a continuous belt 5 is positioned, said belt having a series of perpendicular blades 6, mutually equidistant, defining consecutive spaces of equal width, each blade 6 having, at the free edge 6a, semi-oblong perforations 8b for sliding on the annular surface of a rod 7 carrying the products to be dispensed.

[0018] Said belt 5 has, at each consecutive space defined by each pair of adjacent blades 6, rectangular perforations 5a for fitting of a tooth 8 forming part of a double cranked command rod 9 located at the side face 1b of body 1, said rod 9 having, at its free end, a knob 9a, an end portion of one of the cranked regions of said rod 9 facing the head of a second rod 10 extending longitudinally to said face 1b, the free end 10a of which is in contact with a sensor system 11, said second rod 10 having an expansion spring 12, pushed by said head 10b of rod 10 and a division 1c of face 1b, which allows the return of rod 7 once it is displaced in the direction of arrow f.

[0019] Said belt 5 is partially pushed by respective resilient lugs 13 located at both sides of body f, thus retaining the belt 5 in a proper position so that said belt may be tensioned by tooth 8 of rod 9.

[0020] Inside said body 1 there is a second tooth 14, fixed at a side of body 1 whose purpose is to avoid that belt 5 be retracted once the corresponding step is reached.

Claims

1. A device for dispensing products, **characterized by** comprising a prismatic flattened body comprised by two parts faced through their mouths defining inner cavities for a pair of rollers engaged to a continuous belt provided, along its full length, with perpendicular equidistant blades having perforations at their rounded minor bottom edges opposite to the annular surface of a rod contained into a longitudinal axis with respect to the prismatic body, said belt having, between two consecutive blades, perforations allowing fitting of a first tooth of a double cranked command rod the free end of which has a knob, said tooth being thus separated from a second tooth integrated to the inner portion of the body side wall defining a stop for the belt return, said belt being directed laterally through respective resilient lugs, an end portion of a cranked region of the command rod being faced to a head forming part of a second rod carrying an expansion spring the free end of which is communicated to a sensor system.

2. A device for dispensing products according to claim 1, **characterized in that** said command rod allows belt tensioning, this action producing a one step advance during each displacement.

3. A device for dispensing products according to claim 1, **characterized in that** said device is engaged to a bin for dispensing the product.

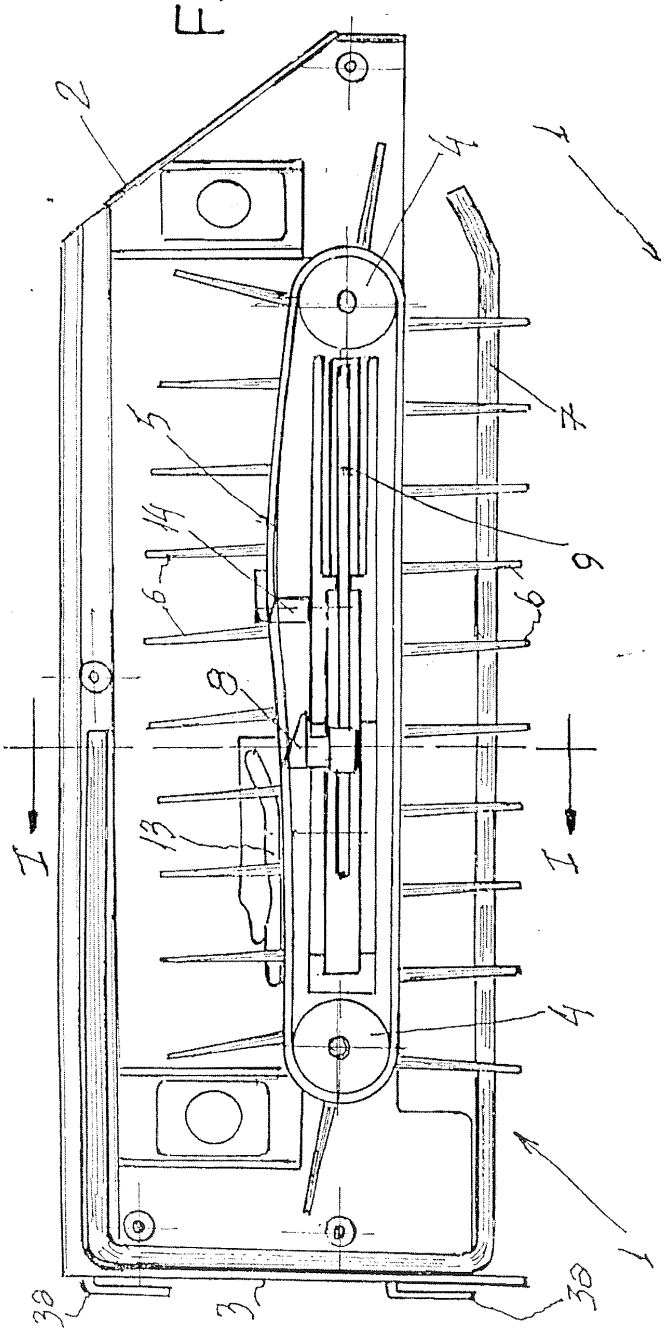


FIG.1

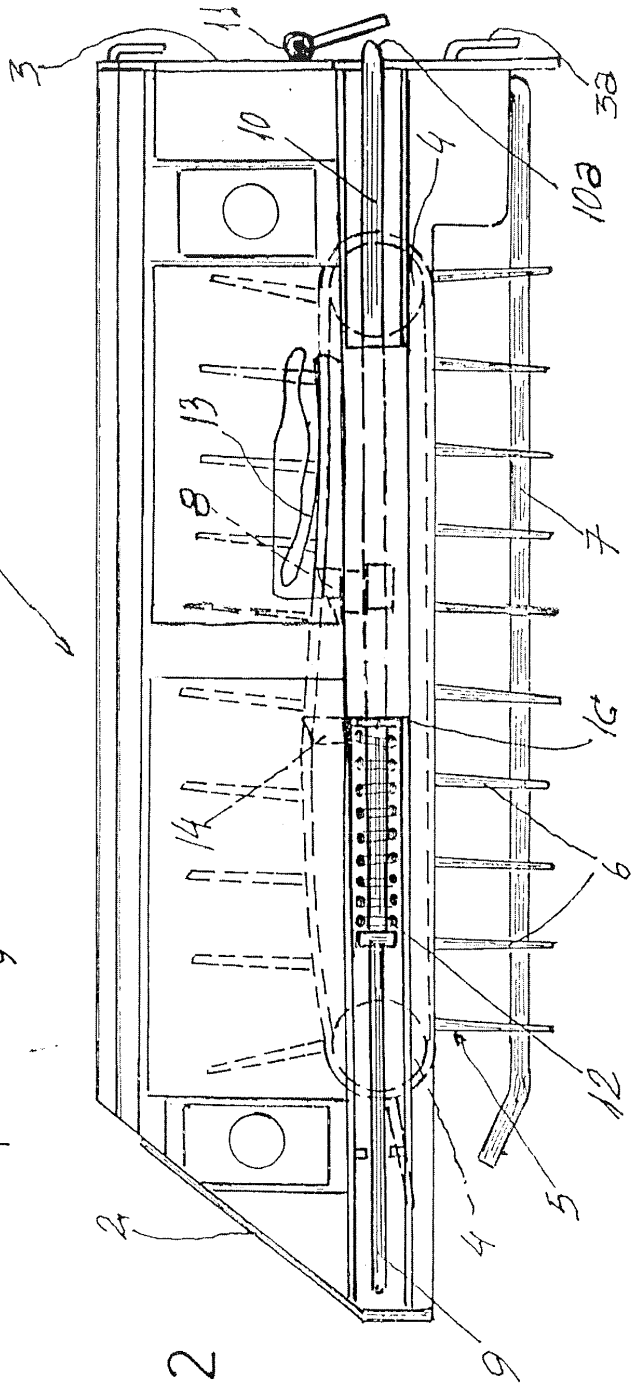


FIG.2

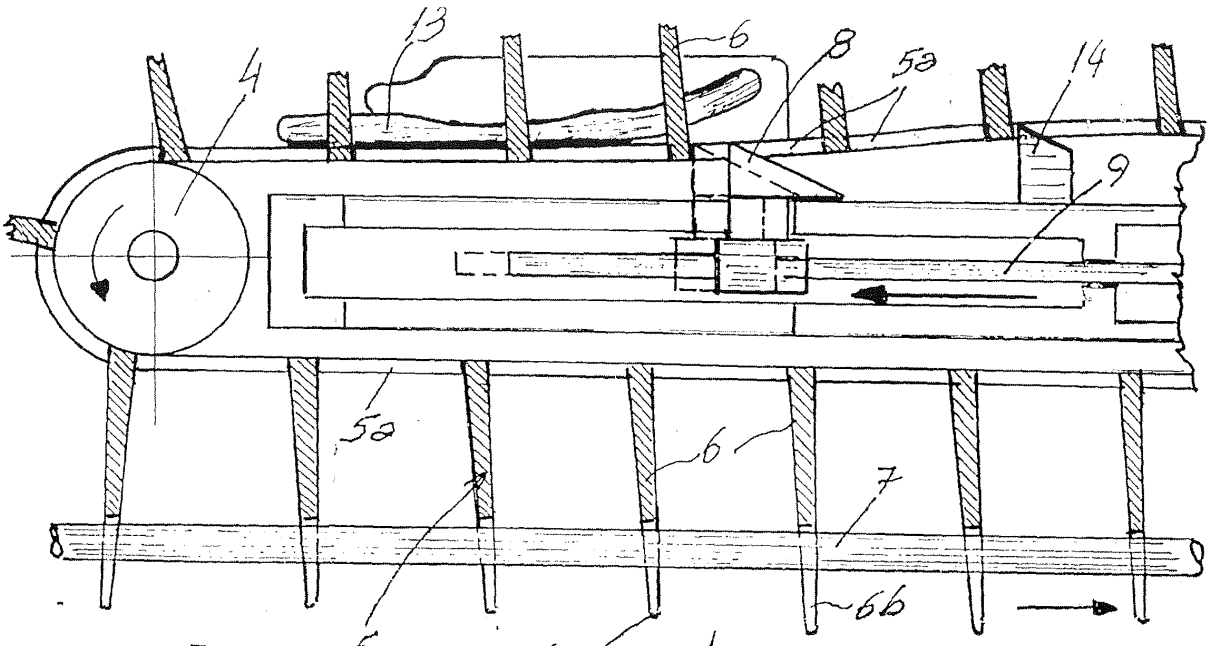


FIG.3

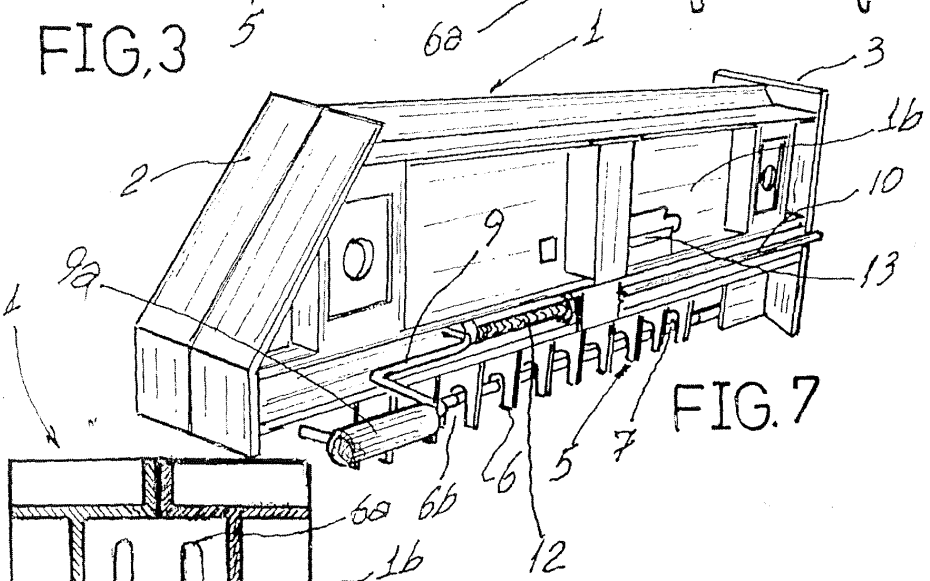


FIG.7

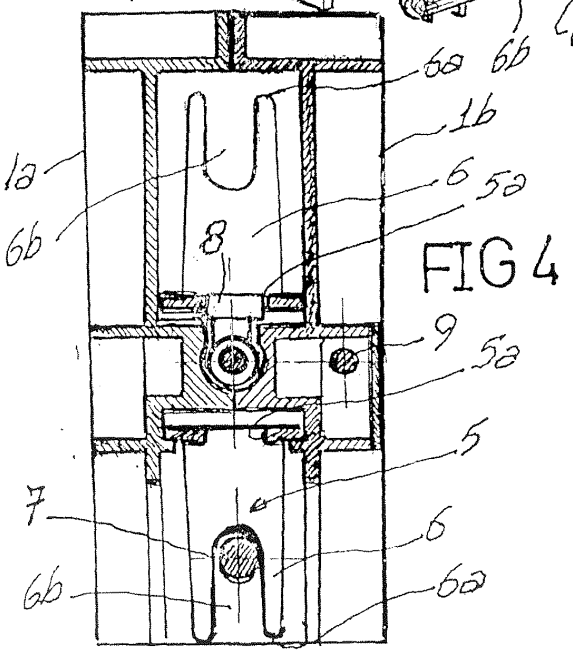


FIG 4

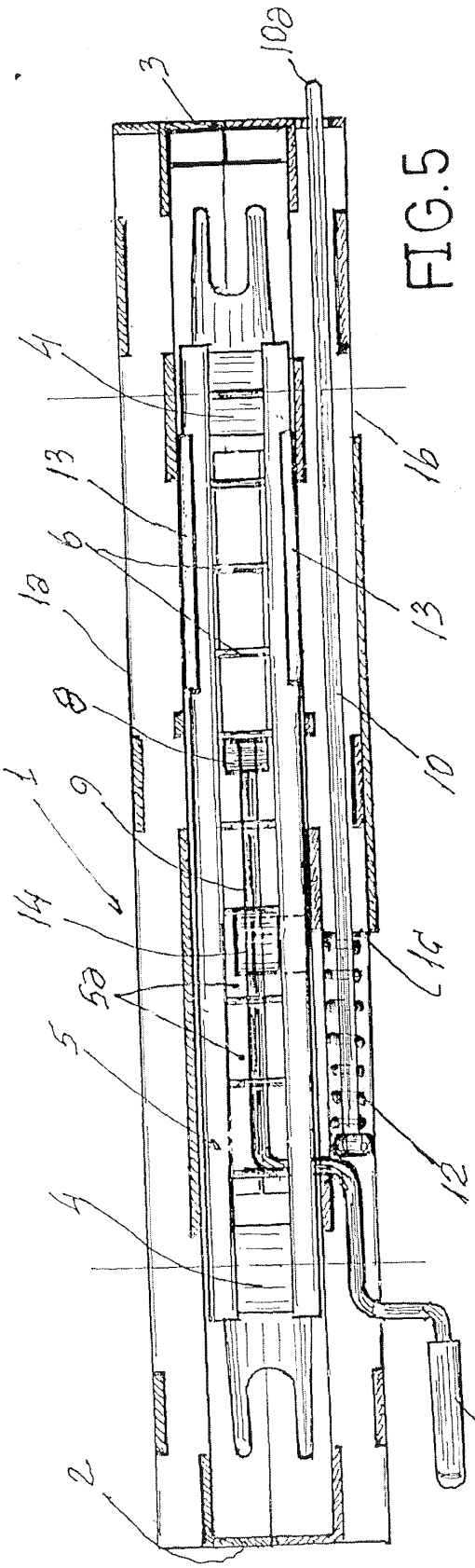

10a
3
4
16
13
6
10
8
1
9
14
1C
5a
5
12
4
9a
2

FIG.5

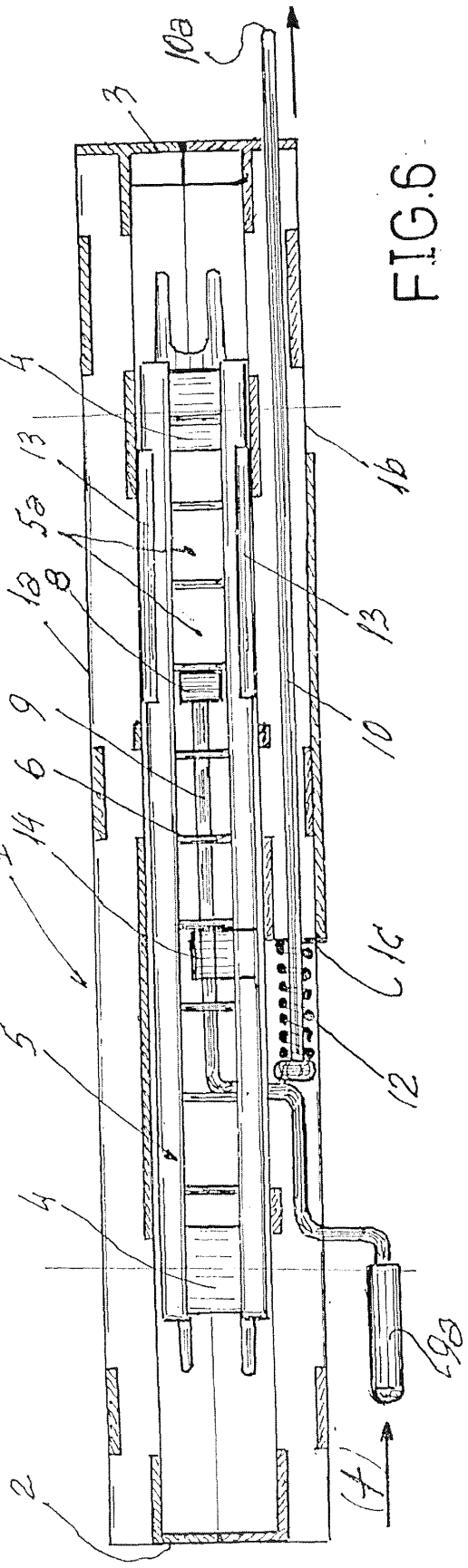

10a
3
4
16
13
5a
8
10
9
6
14
1
1C
5
12
4
9a
(F)
2

FIG.6