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(72) Inventor: **Ibanez, Palomeque, Francisco**
31008 Pamplona (Navarra) (ES)

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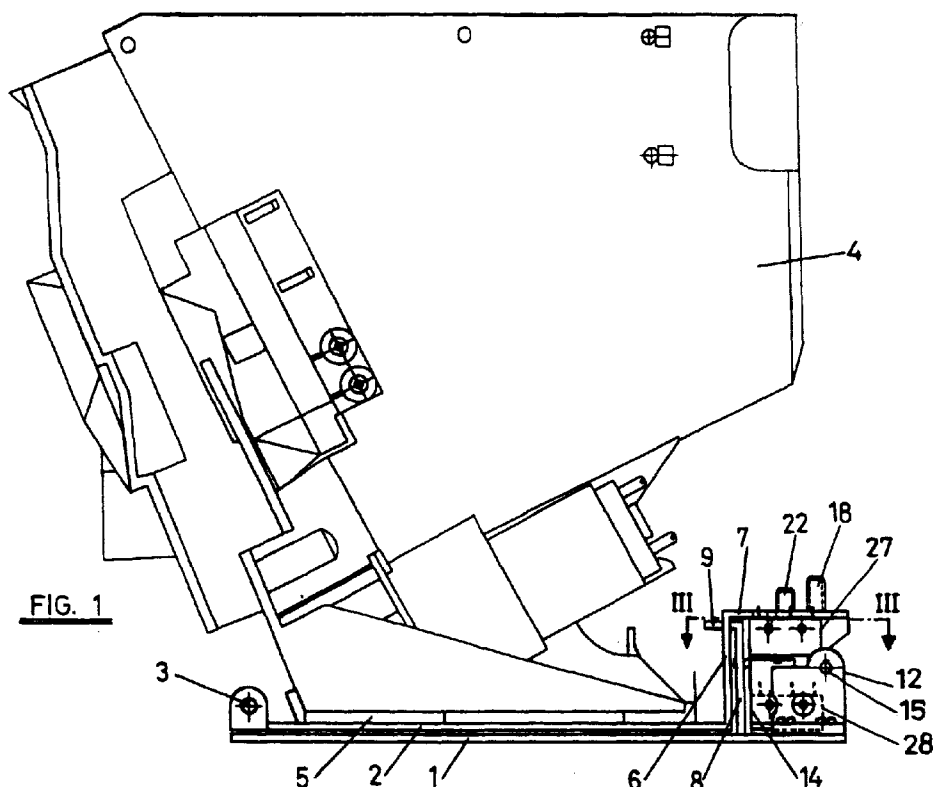
(74) Representative: **Hernandez Covarrubias, Arturo**
c/o Clarke, Modet & Co.,
Avda. de los Encuartes 21
28760 Tres Cantos (Madrid) (ES)

(71) Applicant: **AZKOYEN INDUSTRIAL, S.A.**
E-31350 Peralta (Navarra) (ES)

(54) Recreational machine payer control device

(57) Control device for recreational machine payers, formed by a scale which includes a tilting platform (2) upon which is mounted the payer (4). This scale includes at least two position detectors (27, 28) corresponding to the same number of supported weight values. The first detector (27) is enabled when the weight borne corresponds to the minimum number of coins that

the payer must contain for the payment of any prize. The second detector (28) is enabled when the weight borne corresponds to the maximum number of coins that the payer can hold. The two detectors switch off the machine when the payer coin content is lower than minimum amount required for operation and higher than the maximum content.

**FIG. 1****EP 0 791 903 A1**

Description

This invention refers to a control device for recreational machine payers, formed by a scale which includes a tilting platform upon which the payer is mounted.

The payer of recreational machines is responsible for storing the coins inserted in and accepted by the machine, and for paying the prizes won during successive actions or phases of the game. Logically, the payer must always contain a minimum number of coins, sufficient to be able to pay the top prize given by the machine. To ensure this situation, it is known for recreational machines to be equipped with a scale or weighing device which supports the payer and which is designed to switch off the machine when the weight of the coins contained by the payer is less than the weight corresponding to the minimum number of coins required for operation of the machine.

However, the payer may pose other situations which it should be possible to control. For example, if the payer became filled with coins and was not emptied, the payer would overflow if any further coins were inserted and the coins would fall from it, and could even cause the machine to break down.

Certain situations of interest for the control of the machine may arise between the situation of the minimum payer coin content, enough to permit operation of the machine, and maximum payer coin content.

The object of the present invention is a control device for recreational machine payers, formed by a scale, which has at least two sensors to indicate the same number of situations corresponding to different payer coin contents. If the control device includes two detectors or sensors, the latter will indicate the minimum weight of coins that the machine must contain to be able to pay any prize, and the maximum weight of coins that the payer can hold. These two extreme weights will condition operation of the machine, such that if the weight of the coins contained in the payer is lower or higher, respectively, than the preset minimum and maximum values, the corresponding detector will stop or turn off the machine.

This ensures, on the one hand, that the machine cannot operate if the payer does not always contain the right number of coins to be able to pay any prize won during the game and, on the other, if the payer becomes full, the device prevents it from overflowing and also there is an indicator to show that this has occurred, which can be useful when the money collected by the machine is being counted.

In accordance with the present invention, therefore, the control device includes at least two position detectors which correspond to the same number of supported weight values. The first detector is enabled when the weight borne by the balance reaches the minimum number of coins contained in the payer which permits operation of the machine. The second detector is enabled when the weight borne by the balance corresponds

to the maximum number of coins that the payer must receive. Both the first and second detector will stop the machine working when the payer coin content is, respectively, lower than the minimum operation content and higher than the acceptable maximum content.

According to a preferable embodiment, the scale platform upon which the payer is mounted is supported by a first adjustable tension spring, which will give way when the said payer contains the minimum number of coins required for the machine to operate. When this occurs, the first detector will be enabled and at the same time the platform will be supported by a second adjustable tension spring, which will not give way until the payer coin content reaches the maximum set value, at which time the second detector will be enabled.

The features described above will be easier to understand with the following description, made with reference to the enclosed drawings, which show a non-limiting example of embodiment.

In the drawings:

Figure 1 is a side elevation of a control device formed by a scale upon which is mounted the payer.

Figure 2 is a top plan view of the scale of the device shown in figure 1.

Figure 3 is a similar plan view to figure 2, cross-sectioned along the III-III line of figure 1.

Figure 4 is a front elevation of the scale, in accordance with direction A of figure 2.

Figure 5 is a partial vertical cross-section of the scale, taken from the V-V line of figure 2.

Figures 6 to 8 are side views of the device of the invention, showing the scale in three extreme positions corresponding to three payer coin contents.

The control device shown in figure 1 is formed by a scale formed by a fixed lower platform (1) and a tilting upper platform (2), which are connected to each other by the axis of articulation (3), which allows platform (2) to tilt with regard to platform (1). The payer (4) is mounted on the tilting platform (2), to which it is secured or attached via the anchorage base (5).

On the tilting platform (2), near the edge opposite the articulation to platform (1), there are two right-angled twists which determine an inner portion (6), approximately perpendicular to the platform, and an outer portion (7) parallel and located at a certain distance from the said platform. The different invention device mechanisms are mounted between the outer portion (7) and the fixed platform (1).

A partition (8) figures 2 to 5, juts out perpendicularly from fixed platform (1), under portion (7) of the tilting platform. At the top of the partition is a lug (9) which then juts out through a window (10) made in the portion (6) of the tilting platform, in a position adjoining portion (7) of the said platform.

The partition (8) can be obtained from the fixed platform (1) by means of the cut (11) made in the said platform, as may be seen in figures 2 and 5.

Attached to the fixed platform (1) and also below

the portion (7) of the tilting platform are two parallel supports (12), figures 2 to 5, between which is mounted a C-shaped lever (13), the side portions (14) of which are connected to the supports (12) by aligned shafts (15). The middle portion of the lever (13) extends into a lug (16) which passes through a groove or window (17), figures 4 and 5, in the partition (8).

Mounted on the end section (7) of the tilting platform (2) is a screw (18) with a head or wing (19) located below portion (7). Mounted between this head or wing and a support (20) attached to the fixed platform (1) is a helical spring (21). Moreover, mounted on the middle section of the lever (13) is a second screw (22) which also has, below the said lever, a head or wing (23). Mounted between this head or wing and a lower support (24) attached to the fixed platform (1) is a second helical spring (25).

Mounted on the bottom of the end section (7) of the tilting platform (2) is a pivot (26), figures 4 and 5, the end of which is located near the middle section of the C-shaped lever (13).

Constructed in this way, the tilting platform (2) is supported by the helical spring (21) through the screw (18). When the weight borne by this tilting platform (2) reaches a given value, capable of overcoming the tension of spring (21), the platform tilts downwards, until the end of pivot (26) is resting on the middle section of the C-shaped lever (13). The tilting platform (2) is now supported by the helical spring (25), which will give way when the weight borne by the platform (2) reaches a second value.

As may be seen better in figure 4, mounted on section (7) of the tilting platform and the lever (23) are two switches (27) and (28), which serve as position detectors, as will be explained with reference to figures 6 to 8.

Figure 6 shows the scale in the position in which the tilting platform (2) would be when it holds a weight lower than the weight of the minimum number of coins that the payer must contain to ensure the payment of any prize obtained from the machine. In this situation, spring (21) has not given way yet and switch (27) is separated from lever (13) and, therefore, is not enabled.

When the tilting platform (2) holds a weight equal to or higher than the weight of the minimum number of coins that the payer must contain to ensure the payment of any prize, spring (21) gives way and switch (27) is enabled when the platform touches lever (13). At the same time, pivot (26), figure 5, acts on lever (13). In this situation the machine is switched on and ready for use.

If coins are inserted continuously, and the payer (4) becomes full, spring (25) would give way, lever (13) would tilt and spring (28) would act when it touches the fixed platform (1). At this point the machine would be switched off.

The lug (9) of partition (8), figures 5 to 8, limits the highest position of the tilting platform (2). In the same way, lug (16) and window (17) limit the highest position of lever (13).

Should the payer contain a smaller amount of coins than the minimum machine operation value, the tilting platform (2) would be in the position shown in figure 6, in which switch (17) is open, keeping the machine switched off.

The tension of springs (21) and (25) can be adjusted by turning screws (18) and (22), respectively, in order to adjust and adapt the device to different minimum and maximum weight values.

Claims

1. Control device for recreational machine payers, formed by a scale which includes a tilting platform (2), upon which is mounted the payer (4), characterised in that the scale includes at least two position detectors (27, 28) corresponding to the same number of supported weight values. The first detector (27) is enabled when the weight borne by the tilting platform of the scale corresponds to the minimum number of coins contained in the payer (4) to permit the payment of any prize, whereas the second detector (28) enabled when the weight borne by the tilting platform of the scale (2) corresponds to the maximum number of coins that the payer (4) can hold; the first and second detector (27, 28) switch off the machine when the payer coin content is lower than minimum amount required for operation and higher than the maximum content.
2. Device as claimed in claim 1, characterised in that the tilting platform (2) upon which the payer (4) is mounted is supported by an adjustable tension spring (21), which gives when the payer contains the minimum amount of coins required for the machine to operate, at which time the first detector (27) is enabled. The platform is also supported by an adjustable tension spring (25), which does not give way until the payer coin content reaches the maximum value, at which time the second detector (28) is enabled.
3. Device as claimed in claim 2, characterised in that the two aforementioned springs (21, 25), are helical compression springs, the first (21) mounted between the tilting platform (2) of the scale and the fixed lower platform (1) of the said scale, while the second spring (25) is mounted between the same fixed lower platform (1) and an upper stop (13) which limits the expansion of the said spring (25) and moves in reaction to the latter; the tilting platform rests on the said stop (13) when the said platform has made the first spring (21) give way.
4. Device as claimed in claim 3, characterised in that the stop (13) which limits the expansion of the second spring consists of a lever (13) which is articu-

lated at one end to the fixed structure (1) of the scale, rests in a downwards direction through an intermediate zone on the spring (25), and the angle of oscillation of which is restricted between two extreme positions which correspond to the maximum and minimum expansion positions of the said spring (25).

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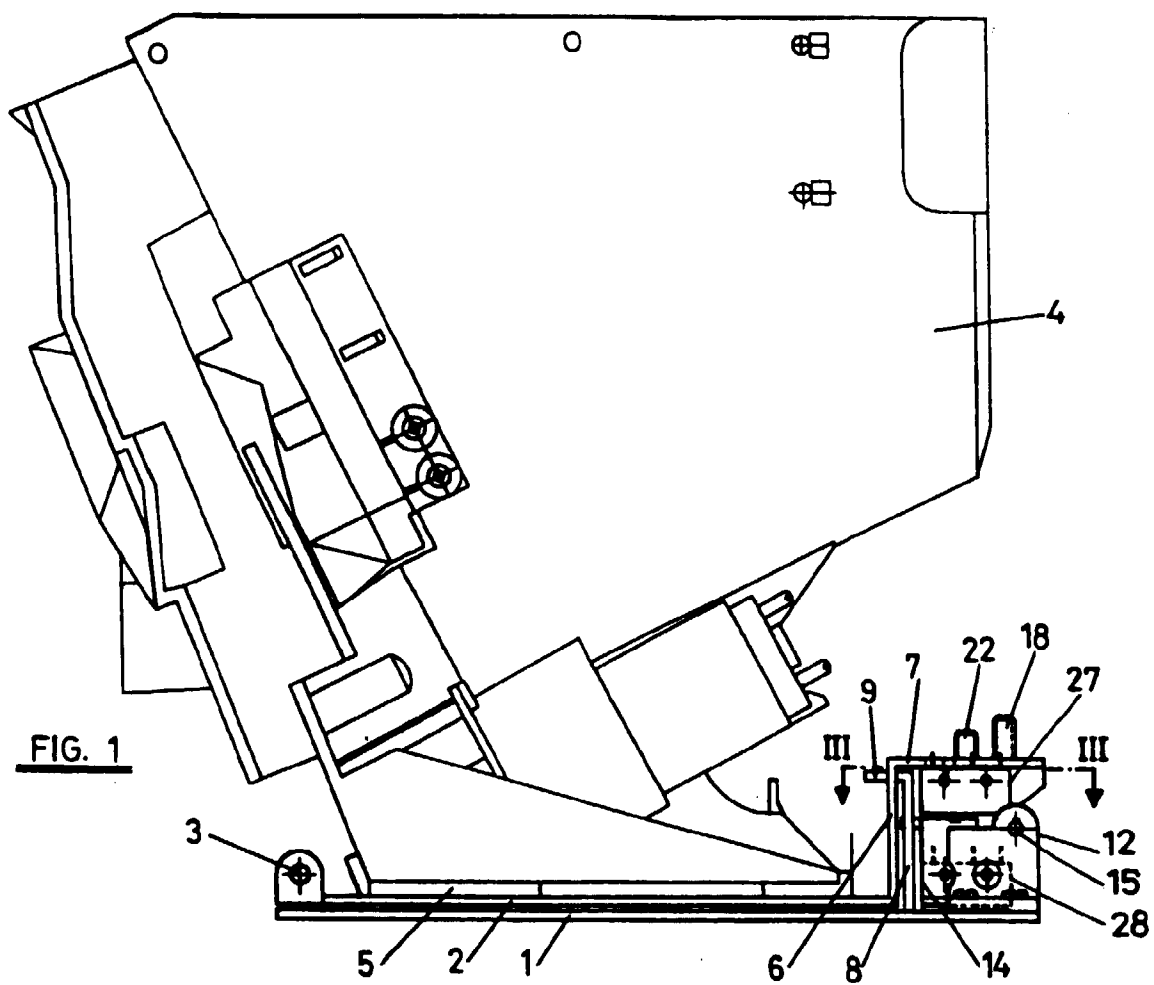


FIG. 2

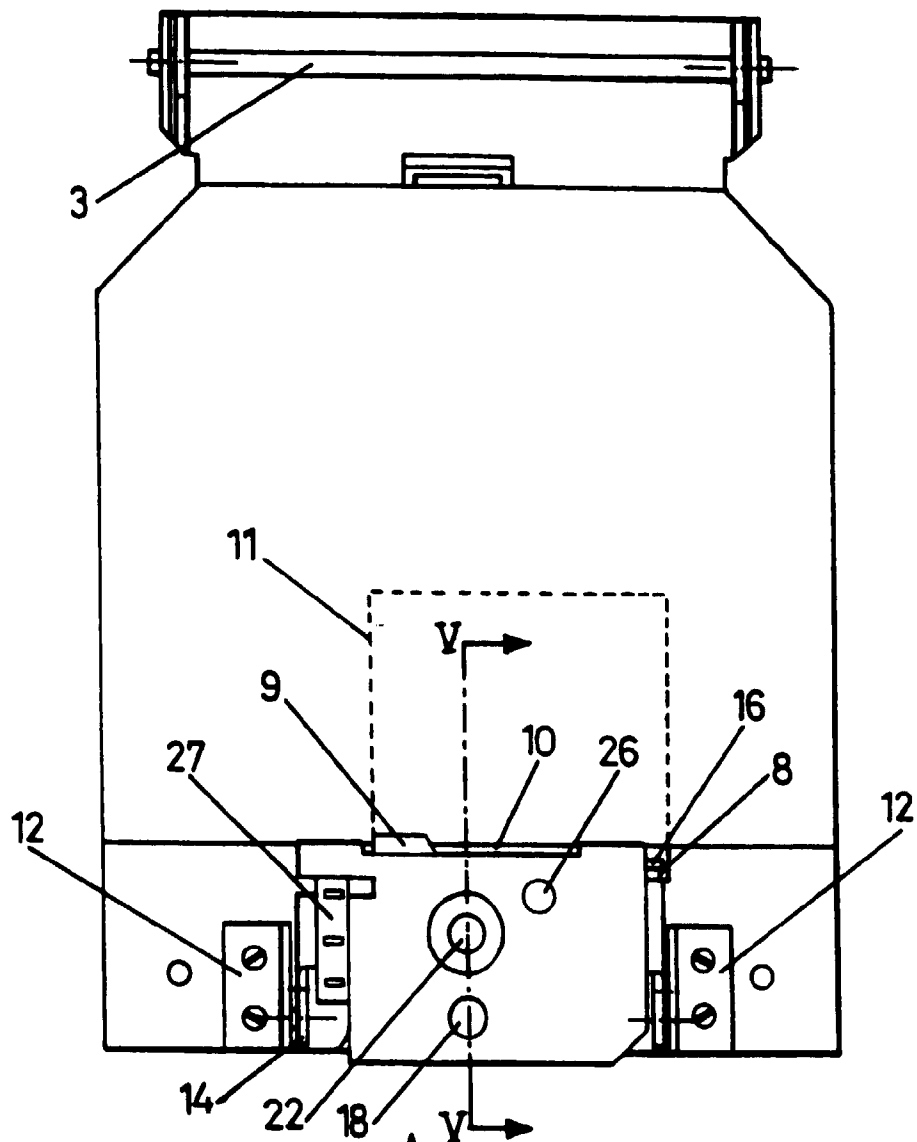
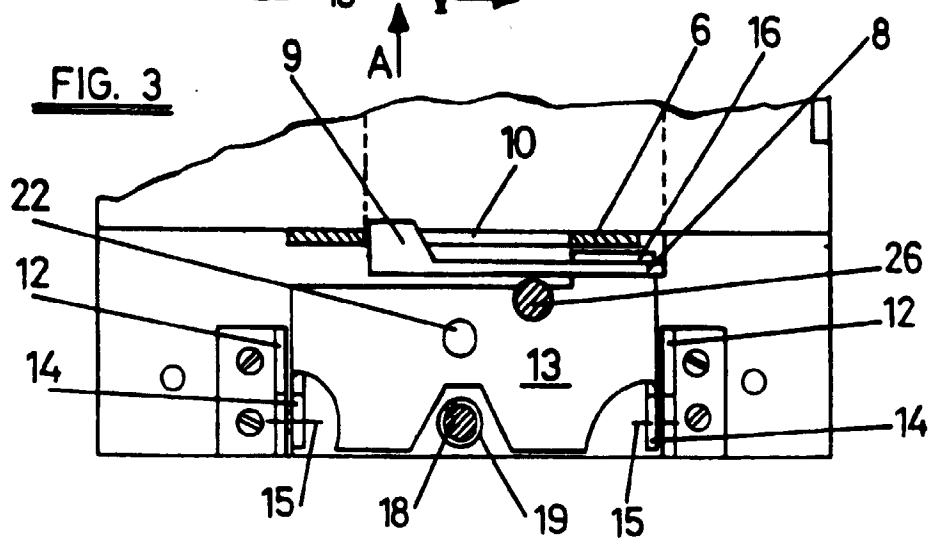
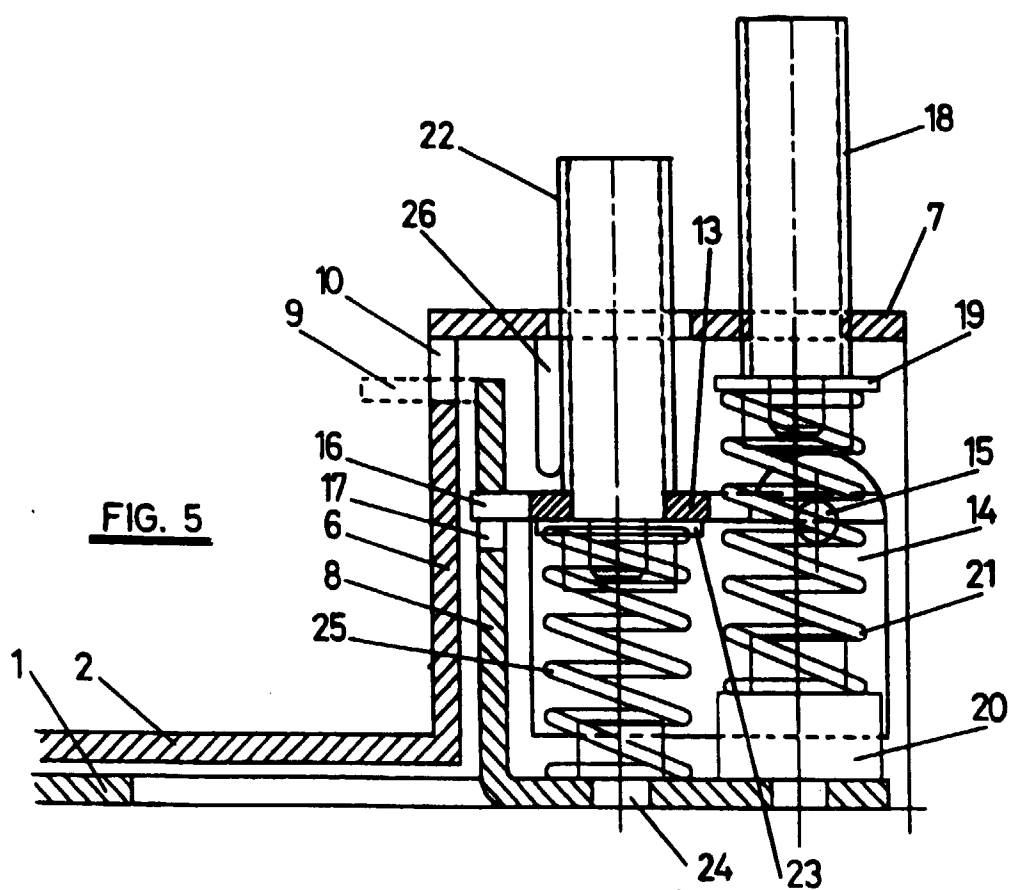
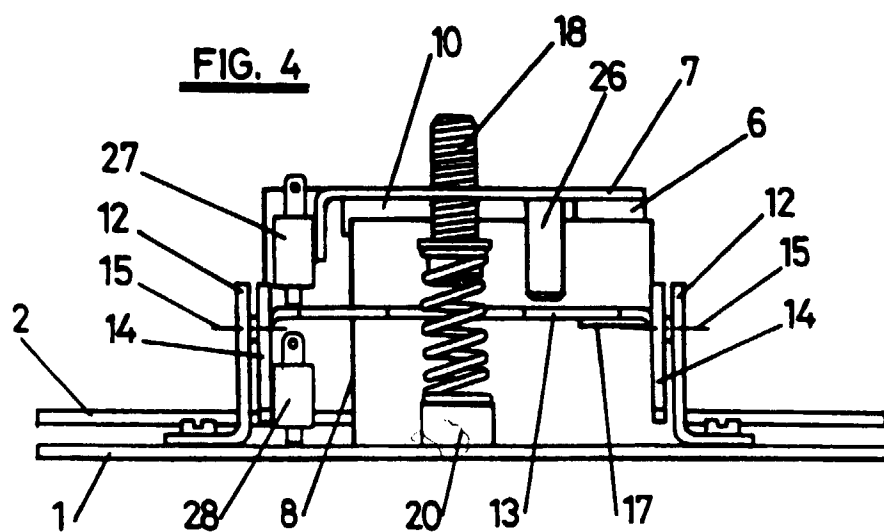


FIG. 3





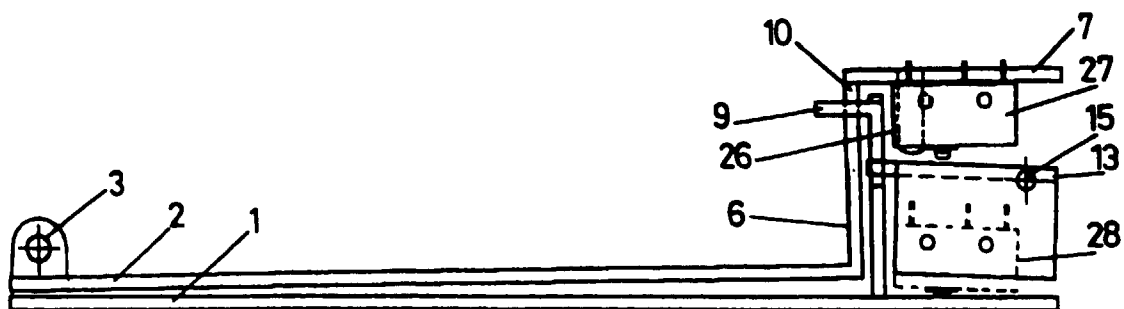


FIG. 6

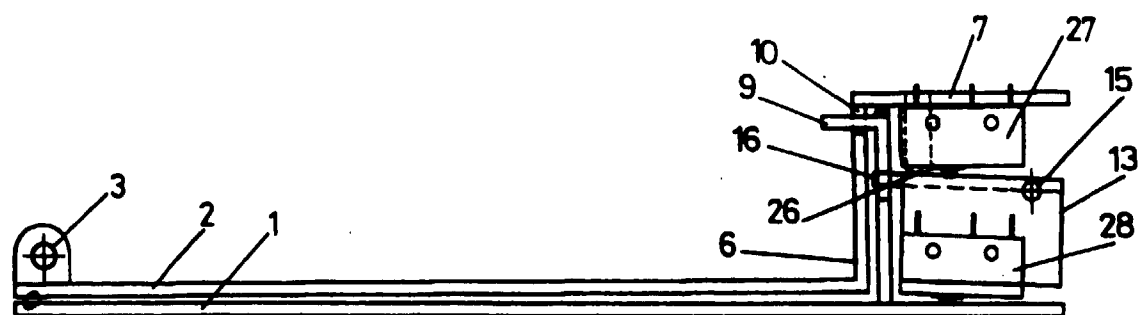


FIG. 7

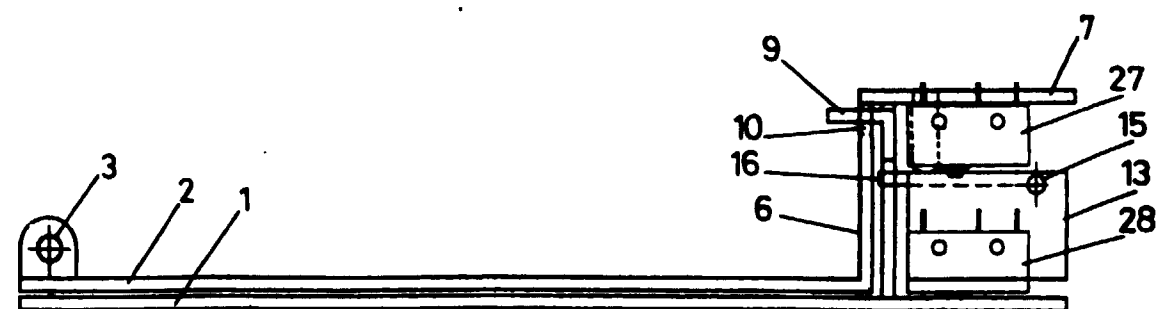


FIG. 8



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EUROPEAN SEARCH REPORT

Application Number
EP 97 50 0039

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 4 036 242 A (BREITENSTEIN ET AL.) * column 4, line 62 - column 5, line 16; figure 7 *	1-3	G07F17/32
A	--- AU 547 969 B (CROUCH) * page 3, line 24 - page 4, line 7 * * page 5, line 13 - line 20 *	1	
A	--- GB 2 221 315 A (AINSWORTH NOMINEES) * abstract *	1	
A	--- US 5 326 312 A (PATRONI) * abstract; figure 2 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G07F G07D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 June 1997	Examiner Neville, D
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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