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(11)

EP 0 904 816 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
31.03.1999 Bulletin 1999/13

(51) Int Cl.⁶: **A63H 13/16**

(21) Application number: **98307099.6**

(22) Date of filing: **03.09.1998**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

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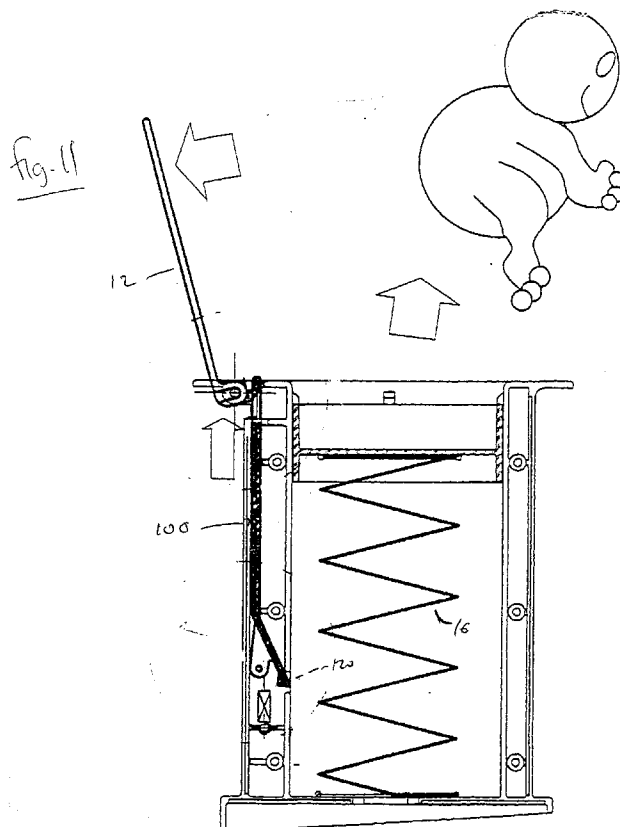
(30) Priority: **06.09.1997 GB 9719074**

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(54) Plaything

(57) A plaything 2 comprises a generally cylindrical housing 4 which houses a spring loaded plunger 6 which can be held in a retracted position (Figure 1) by a foot 8 of a latch member 10. A lid 12 is pivotally mounted for closing the housing and is arranged such that when

it is pivoted through slightly more than 90° from its Figure 1 position, the foot 8 is automatically retracted to allow the plunger to be propelled upwardly. A soft toy is arranged in the housing, seated on the plunger 6, so that the toy is propelled out of the housing on pivoting the lid as described.



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Description

[0001] This invention relates to a plaything and particularly, although not exclusively, relates to a plaything which includes an article arranged to be propelled from within a housing, for example a box or the like.

[0002] So called "Jack-in-a-boxes" are well known childrens' playthings which comprise a box arranged to house a figure mounted on a compression spring. A lid is provided to close the box. A crank or push button arrangement is provided to operate a latch to release the lid and allow the figure to be propelled out of the box under the force of the spring so that the figure assumes an extended position, outside the box, whilst still remaining mounted on the spring and, therefore, permanently fixed to the box.

[0003] It is an object of the present invention to provide a novel plaything which includes an article, for example, a figure arranged to be propelled from within a housing.

[0004] According to a first aspect of the invention, there is provided a plaything comprising :

- a housing for an article;
- a closure means operable to open and close the housing and being arranged when open to allow passage of the article from the housing;
- a propellant means for propelling the article out of the housing;
- wherein operation of the propellant means is initiated by movement of the closure means from the closed to the open position.

[0005] This contrasts with mechanisms wherein operation is initiated by using a lever (or the like) to cause the lid to be unlatched to thereby allow the propellant means to operate.

[0006] Preferably, said plaything includes a removable and/or washable cover means. A respective cover means may be provided for the closure means and the housing.

[0007] Said propellant means is preferably separate or separable from the article for propelling the article from the housing. The plaything is preferably arranged such that, after the article has been propelled from the housing, the article is not supported by said propellant means and/or by any part of the apparatus. Whilst it is preferred for the article to be completely detached from the apparatus after it has been propelled, in some cases, it may be necessary for a tether means, for example a length of string (or the like) to be attached between the plaything and the article to restrict the distance over which the article may travel.

[0008] Said propellant means preferably comprises a pusher member for pushing the article from the housing. Said pusher member is preferably slidable within the housing. Said member is preferably cylindrical, more preferably circularly-cylindrical.

[0009] Said propellant means preferably includes a resilient member which is suitably arranged to store energy for propelling the article. Said resilient member preferably comprises a compression spring means.

[0010] Preferably, the closure means is pivotably mounted, suitably about a first axis, for movement between the open and closed position. Operation of the propellant means may start after the closure means has been pivoted, from its closed position, through at least 30°, preferably at least 60°, more preferably at least 90°, towards its open position.

[0011] Preferably, the housing does not include any latch means which cooperates with the closure means at a position diametrically opposite the first pivot axis of the closure means and/or within an arc of at least 25°, preferably 50°, more preferably 75°, especially 90° or more from said diametrically opposite position.

[0012] Operation means is preferably provided for causing operation of the propellant means, wherein said operation means is suitably operable to cause operation of the propellant means on movement of the closure means between the open and closed positions.

[0013] Said operation means preferably includes a first operation member translationally fixed relative to the lid, preferably at a position adjacent the first pivot axis of the lid, more preferably substantially tangentially to said first pivot axis. Said first operation member may be arranged to traverse a curved and/or arcuate path on movement of the closure means between the closed and open positions.

[0014] Said operation means preferably includes a second operation member which is preferably arranged inwardly of an outer wall of the housing suitably in a cavity defined in the housing.

[0015] Said second operation member is preferably arranged to cooperate with the first operation member for causing operation of the propellant means. Preferably, cooperation is by a male or female element on one engaging a female or male element on the other. Preferably, the first operation member includes a male element and the second operation member includes a female element. Said second operation member is preferably arranged to be moved translationally, suitably upwardly, on movement of the closure means from the closed to the open position.

[0016] Said operation means may be arranged such that on movement of the closure means between closed and open positions, the first and second operation members cooperate so that said second operation member moves translationally, suitably upwardly, until the closure means has been pivoted through a predetermined angle whereafter translational movement stops and/or cooperation of the first and second operation members ceases or at least the extent of cooperation changes.

[0017] Said second operation member may be arranged to pivot (suitably at a position adjacent one end which is suitably an upper end) for example by being provided with a weakened region, on movement of the

closure means between open and closed positions. The pivotal movement may allow re-engagement of the first and second operation members. Preferably, the pivotal movement is effected by the first operation member contacting a part, for example an end, of the second operation member to cause the second member to be bent out of position and the second part is suitably resilient and thereby arranged to bend back after reduction or cessation of the contact.

[0018] A spring means is preferably associated with the second member and is suitably operative to urge the second member into a first position which is suitably a position in which the operation means is inoperative - that is, a position in which the propellent means can be retained in position.

[0019] Said second operation member is preferably arranged to cooperate with the propellent means and is suitably operative between said first position in which the propellent means may be restricted from operation and a second position in which the propellent means may be unrestricted. To this end, said second operation member may comprise a latch member which is movable laterally to the direction of operation of the operation means and/or direction of travel of the propellent means. Said second operation member is preferably arranged to pivot during the lateral movement suitably by being bent about a weakened region. Said second member is preferably arranged to pivot for operation of the propellent means during translational, especially upwards, movement thereof.

[0020] Said second operation member is preferably a unitary component which is preferably made of plastics suitably by moulding.

[0021] Said plaything preferably includes an article for propulsion out thereof. Said article is preferably a toy. Said article preferably is a compressible or "soft" toy which suitably represents an animal for example a frog. Said article is preferably not rigidly connected to the propellent means. Said article may be detachable from the apparatus so that it can be played with independently of the plaything.

[0022] Said plaything preferably includes a user-operable operation member for causing operation of the propellent means and preferably for causing movement of the closure means. Said operation member is preferably directly connected to the closure means. Suitably, no other operation member need be provided.

[0023] According to a second aspect of the invention, there is provided a plaything comprising :

- a housing for an article;
- a closure means operable to open and close the housing and being arranged when open to allow passage of the article out of the housing;
- a propellent means, separate or separable from the article, for propelling the article out of the housing; and
- operation means for causing operation of the pro-

pellent means.

[0024] According to a third aspect of the invention, there is provided a method of causing the propulsion of an article from a plaything which includes a housing closable by a closure means, the method comprising causing operation of an operation means which in turn causes operation of a propellent means which propels the article from the housing.

[0025] The method may include initiating the propulsion by moving the closure means from a closed to an open position.

[0026] Any feature of any aspect of any invention or embodiment described herein may be combined with any feature of any aspect of any other invention or embodiment described herein.

[0027] Specific embodiments of the invention will now be described, by way of example, with reference to the accompanying diagrammatic drawings, in which :-

Figure 1 is a vertical cross-section through a plaything (excluding a soft toy thereof) ;

Figure 2 is a plan view of a latch member from one side;

Figure 3 is a plan view of the latch member from an opposite side;

Figure 4 is a side elevation of the latch member;

Figure 5 is a side elevation of a lid;

Figure 6 is a top plan view of the lid;

Figure 7 is an end elevation of the lid;

Figure 8 is a vertical cross-section through a second embodiment of a plaything prior to loading a soft toy;

Figure 9 is a view similar to Figure 8 during loading of the soft toy;

Figure 10 is a view similar to Figure 8, after loading and during closing of a lid of the plaything; and

Figure 11 is a view similar to Figure 8 during opening of the lid.

[0028] In the figures, the same or similar parts are annotated with the same reference numerals.

[0029] Referring to Figures 1 to 7, the plaything 2 comprises a generally cylindrical housing 4 which houses a spring loaded plunger 6 which can be held in a retracted position (shown in Figure 1) by a foot 8 of a latch member 10. A lid 12 is pivotably mounted for closing the housing and is arranged such that when it is pivoted through slightly more than 90° from its Figure 1 position,

the foot 8 is automatically retracted to allow the plunger 6 to be propelled upwardly. In a preferred embodiment, a soft toy is arranged in the housing, seated on the plunger 6, so that the toy is propelled out of the housing on pivoting the lid as described.

[0030] The plaything is described in greater detail below.

[0031] The plunger 6 is generally cylindrical and is slidably arranged within the housing. A platform 14 is provided for seating the toy. A compression spring 16 (shown schematically in Figure 1) is fixed at one end to the plunger and at an opposing end to a lower wall of the housing.

[0032] The latch member 10 is a unitary member made of resilient plastics. At a lower end it comprises foot 8 which is arranged to pass into and out of opening 20 in wall 22 of the housing as member 10 moves downwardly or upwardly; inwards of the post it comprises a narrow region which is arranged within an opening 24 in the housing; adjacent the narrow region it includes a laterally extending rib 24 which includes a conical projection 26; towards its upper end it includes a narrow region 28; and at its upper end it includes an opening 30 in a head 31.

[0033] The projection 26 provides a seat for a compression spring (shown schematically at 32) which is fixed at an upper end to a laterally extending rib 34. Rib 34 and also ribs 36 and 38 include openings for passage of the member 10.

[0034] The lid 12 includes a boss 50 which includes pivot pins 52 arranged in openings in the housing 4 to enable the lid to be pivoted between open and closed positions. The boss also includes an inwardly facing curved finger 54. The arrangement of the boss and latch member 10 are such that, when the lid 12 is pivoted through slightly greater than 90° from the figure 1 position, finger 54 engages opening 30 in head 31 so that further pivoting of the lid causes the latch member to be pulled upwardly by the finger. However, upon further pivoting beyond a predetermined angle, the finger moves out of engagement with the latch member which, consequently, moves downwardly under the control of spring 32. Thereafter, if the lid is pivoted towards its closed position, the finger 54 contacts head 31 of the latch member and causes it to bend inwardly about narrow (or weakened) region 28 so that finger 54 can pass into the opening 30 as the resilient head member returns to its original position.

[0035] The embodiment shown in Figures 8 to 11 is generally similar to that of Figures 1 to 7, although the latch arrangement is different. Referring to figure 8 in this regard, latch member 100 of plaything 90 includes a foot 8 adjacent to which there is provided a web 102 to which one end of a tension spring 104 is attached, the other end of the spring being fixed to a rib 106. The latch member is generally of a regular cross-section between the flange 102 and head 31. Head 31 includes an opening 30 as in the earlier embodiment.

[0036] The playthings 2, 90 may be operated as follows :-

[0037] Firstly, with the lid 12 open as in figure 8, (and therefore with the foot 8 of the latch member in its lowermost position by virtue of it being urged downwardly into opening 20 by springs 32 or 104), a soft toy 105 (in this case representing a frog) is placed on the plunger and pushed downwardly so that foot 8 deflects leftwardly (see figure 9) allowing the plunger to pass, and then to be latched in position as the foot springs outwardly after the plunger has passed. Next, the lid 12 may be closed in which case finger 54 contacts head 31 of the latch member and causes it to be bent rightwardly so that the lid can be pivoted to its fully closed position, during which finger 54 enters opening 30 in the head. Finally, the plaything may be operated to propel the toy from the housing, simply by opening the lid 12. After the lid 12 has been pivoted through slightly greater than 90° the latch member 10 or 100 starts to be pulled upwardly (by the finger 54 engaging opening 30 in the head) thereby causing the latch member to be bent towards its lower end so that foot 8 can be withdrawn from opening 20. As a result, the plunger 6 is released and urged upwardly by spring 16 thereby to eject the toy.

[0038] Thus, it should be appreciated from the above that the plaything is automatically operable to eject the toy on opening of the lid. On ejection, the toy is projected away from the toy so that it becomes detached therefrom. The toy can, therefore, be played with by a child independently of the complete plaything.

[0039] The playthings 2, 90 are provided with a "soft" feel to them by having removable decorative fabric covers (not shown). Such covers are suitably made from a material comprising a foam inner region encased in a cotton cover. A first such cover is provided for covering lid 12 and it comprises a sleeve which is closed at one end and is arranged to receive the lid and be secured in position by Velcro (Trade Mark) or the like. A second cover is provided for covering the housing 4. Again it comprises a sleeve which is closed at one end and is arranged to be slid on to the housing from the lower end thereof and to extend to a position below the lid of the plaything. Advantageously the covers may be removed for washing.

[0040] The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

[0041] All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

[0042] Each feature disclosed in this specification (including any accompanying claims, abstract and draw-

ings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

[0043] The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

Claims

1. A plaything comprising :

a housing for an article;
a closure means operable to open and close the housing and being arranged when open to allow passage of the article from the housing;
a propellent means for propelling the article out of the housing; wherein operation of the propellent means is initiated by movement of the closure means from the closed to the open position.

2. A plaything according to Claim 1, wherein said propellent means comprises a pusher member for propelling the article from the housing and a resilient member which is arranged to store energy for propelling the article.

3. A plaything according to Claim 1 or Claim 2, wherein the closure means is pivotably mounted for movement between the open and closed positions and operation of the propellent means starts after the closure means has been pivoted, from its closed position, through at least 30°.

4. A plaything according to any preceding claim, wherein an operation means is provided for causing operation of the propellent means, said operation means including a first operation member translationally fixed relative to the closure means and a second operation member which cooperates with the first operation member for causing operation of the propellent means.

5. A plaything according to any preceding claim, wherein said operation means is arranged such that on movement of the closure means between the closed and open positions, the first and second operation members co-operate so that said second operation member moves translationally until the closure means has been pivoted through a predetermined angle whereafter translational movement

stops.

6. A plaything according to Claim 4 or Claim 5, wherein said second operation member is arranged to pivot on movement of the closure means between open and closed positions.

7. A plaything according to any of Claims 4 to 6, wherein said second operation member is arranged to co-operate with the propellent means and is operative between a first position in which the propellent means is restricted from operation and a second position in which the propellent means is substantially unrestricted.

8. A plaything according to any of Claims 4 to 7, wherein said second operation member comprises a latch member which is movable laterally to the direction of operation of the operation means and/or the direction of travel of the propellent means.

9. A plaything according to any preceding claim, wherein said article is a compressible toy.

10. A plaything comprising :

a housing for an article;
a closure means operable to open and close the housing and being arranged when open to allow passage of the article out of the housing;
a propellent means, separate or separable from the article, for propelling the article out of the housing; and
operation means for causing operation of the propellent means.

11. A method of causing the propulsion of an article from a plaything which includes a housing closable by a closure means, the method comprising causing operation of an operation means which in turn causes operation of a propellent means which propels the article from the housing.

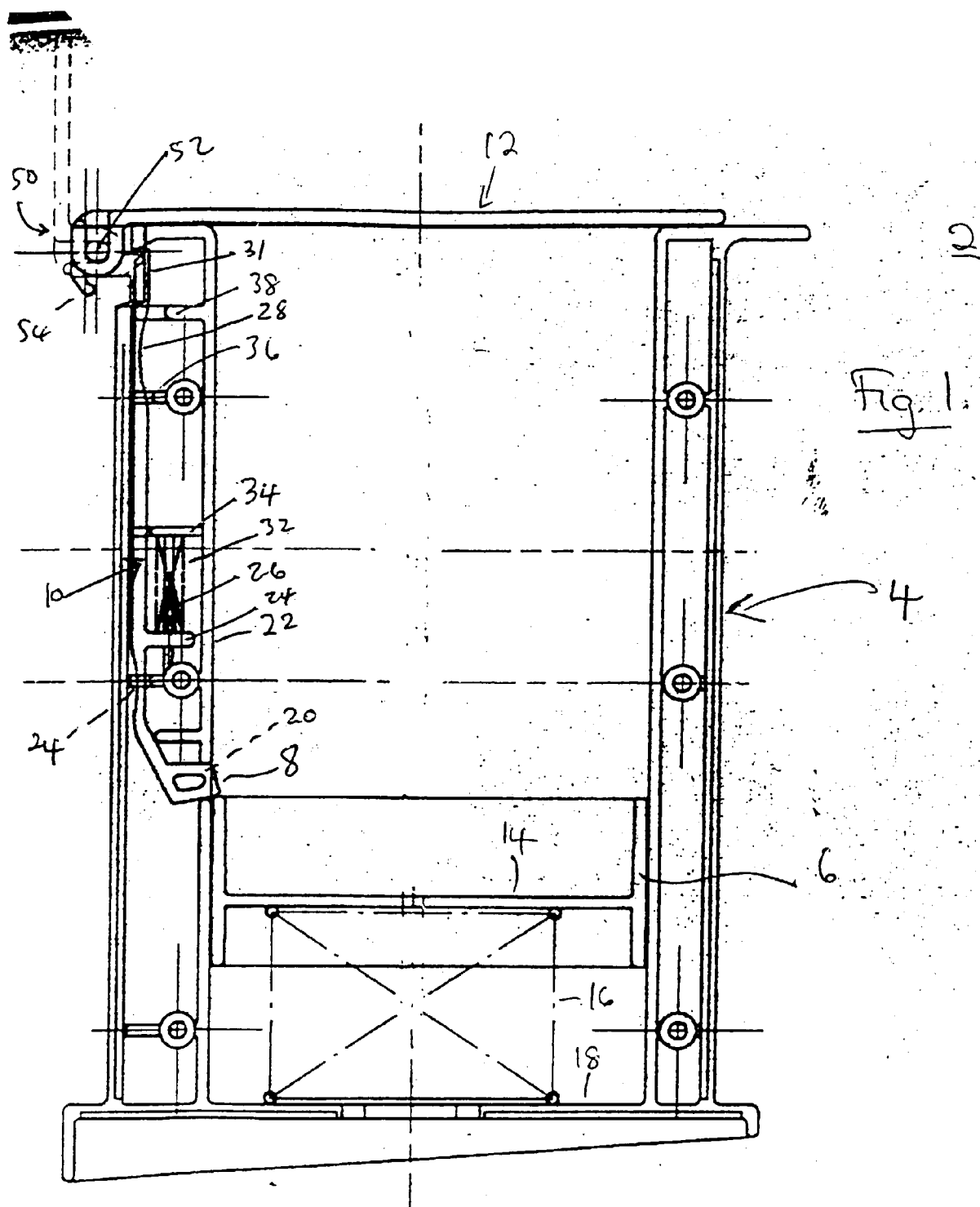


Fig. 2.

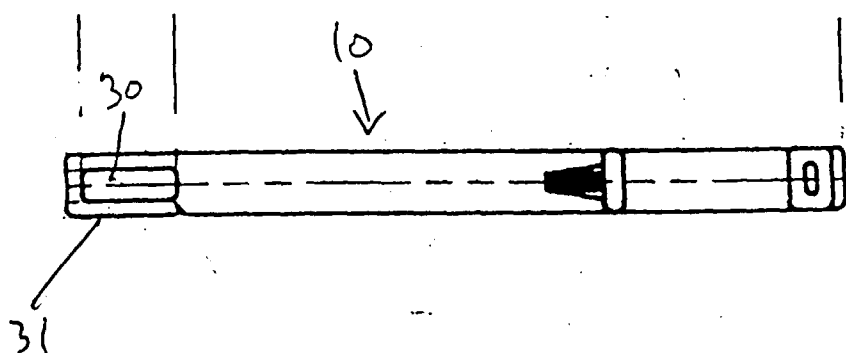


Fig. 3.

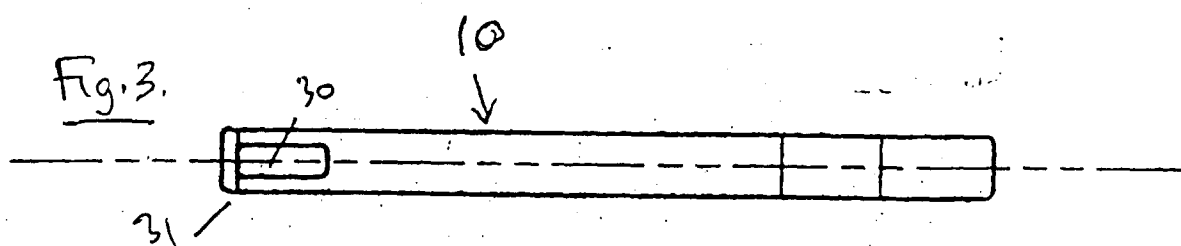


Fig. 4.

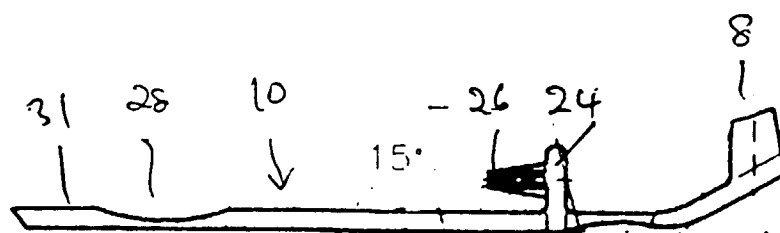
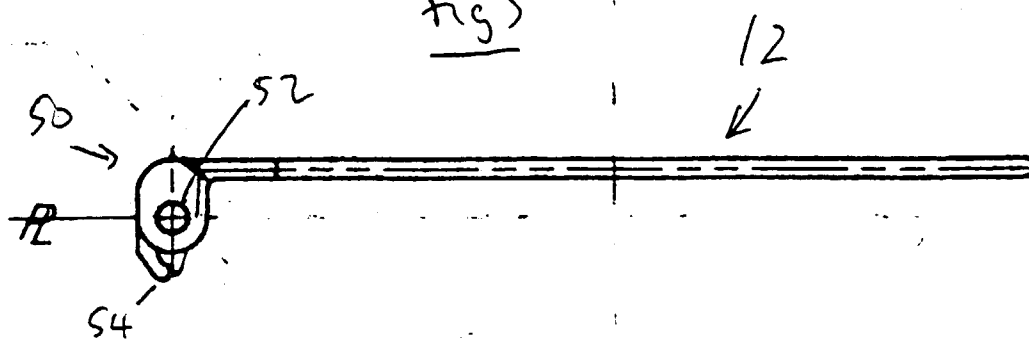
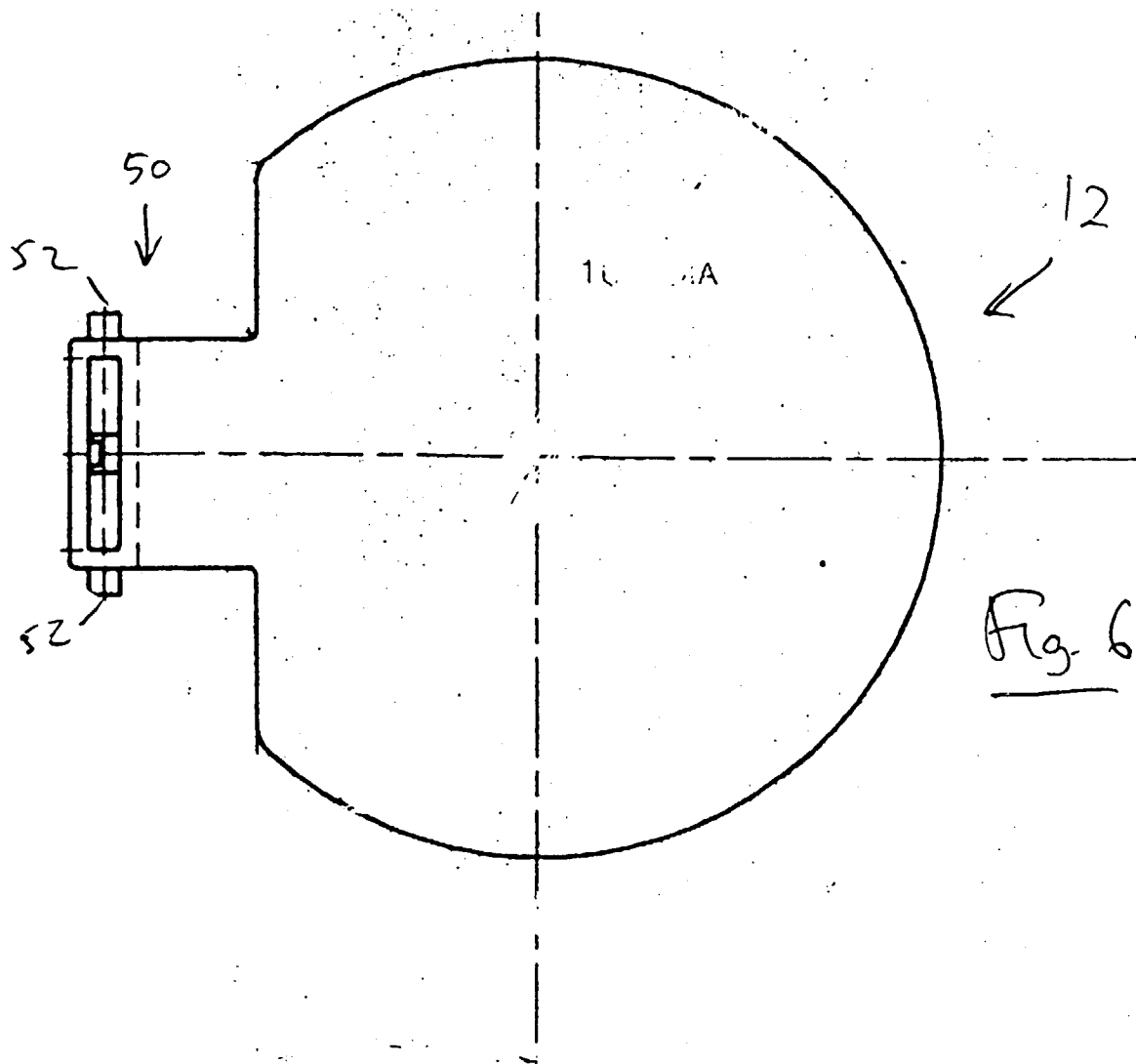
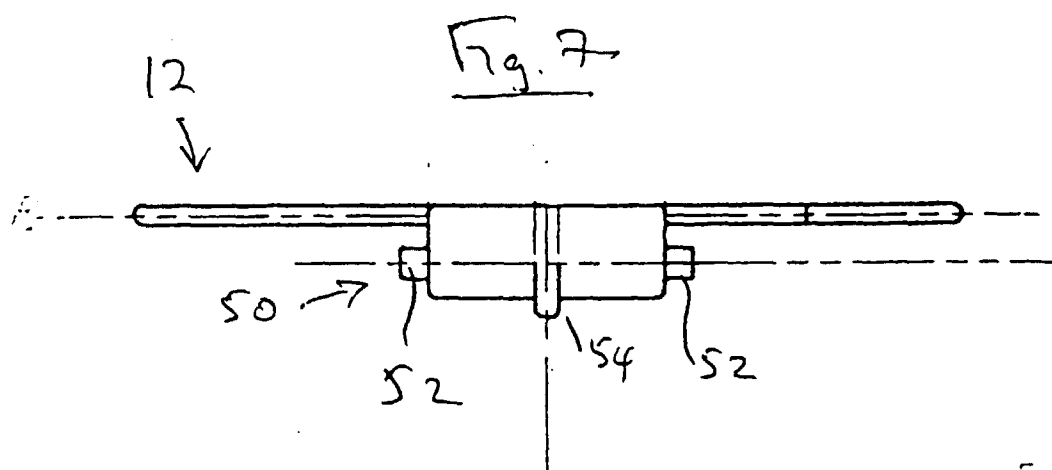
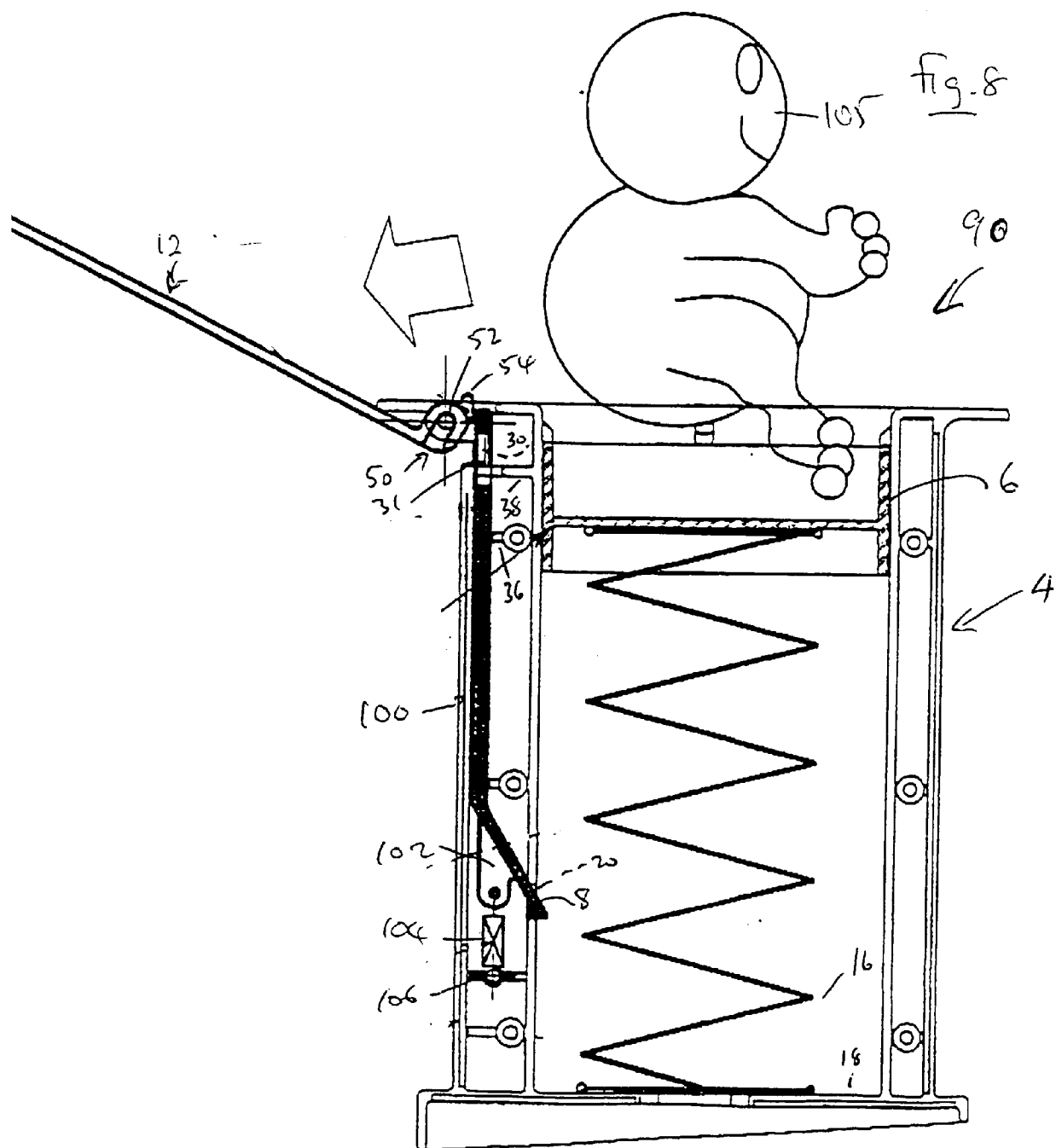


Fig. 5









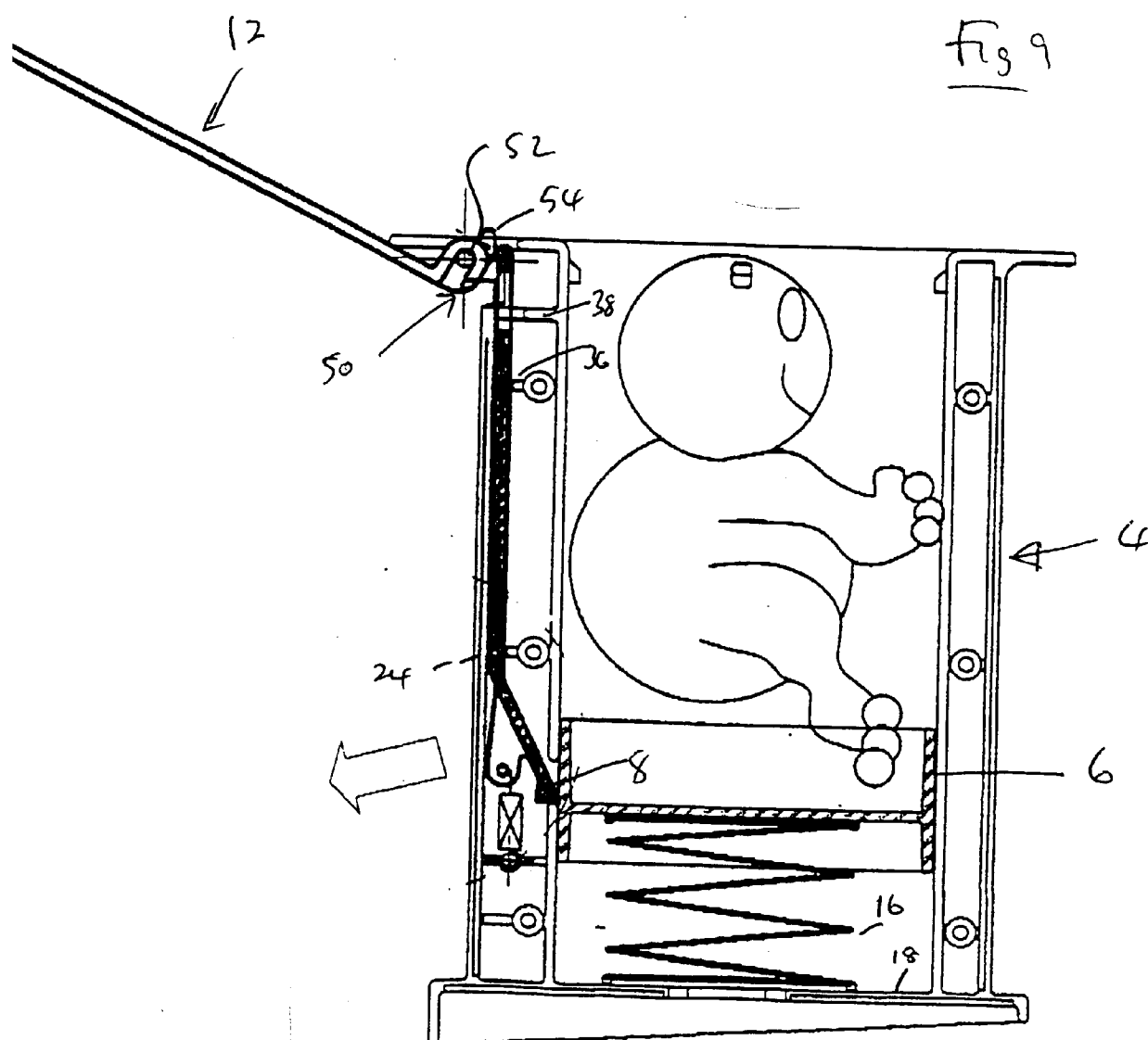


Fig. 10-

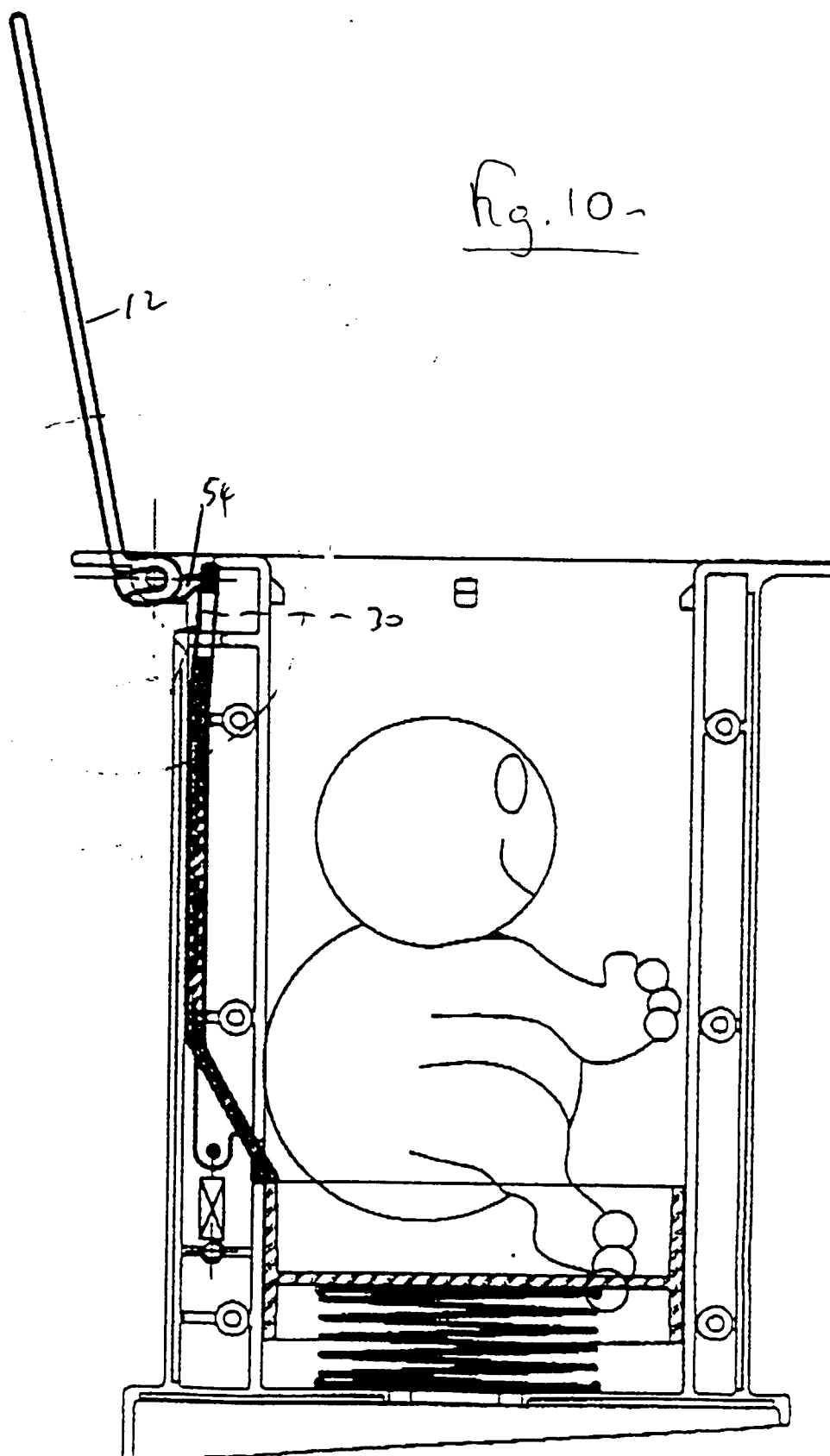
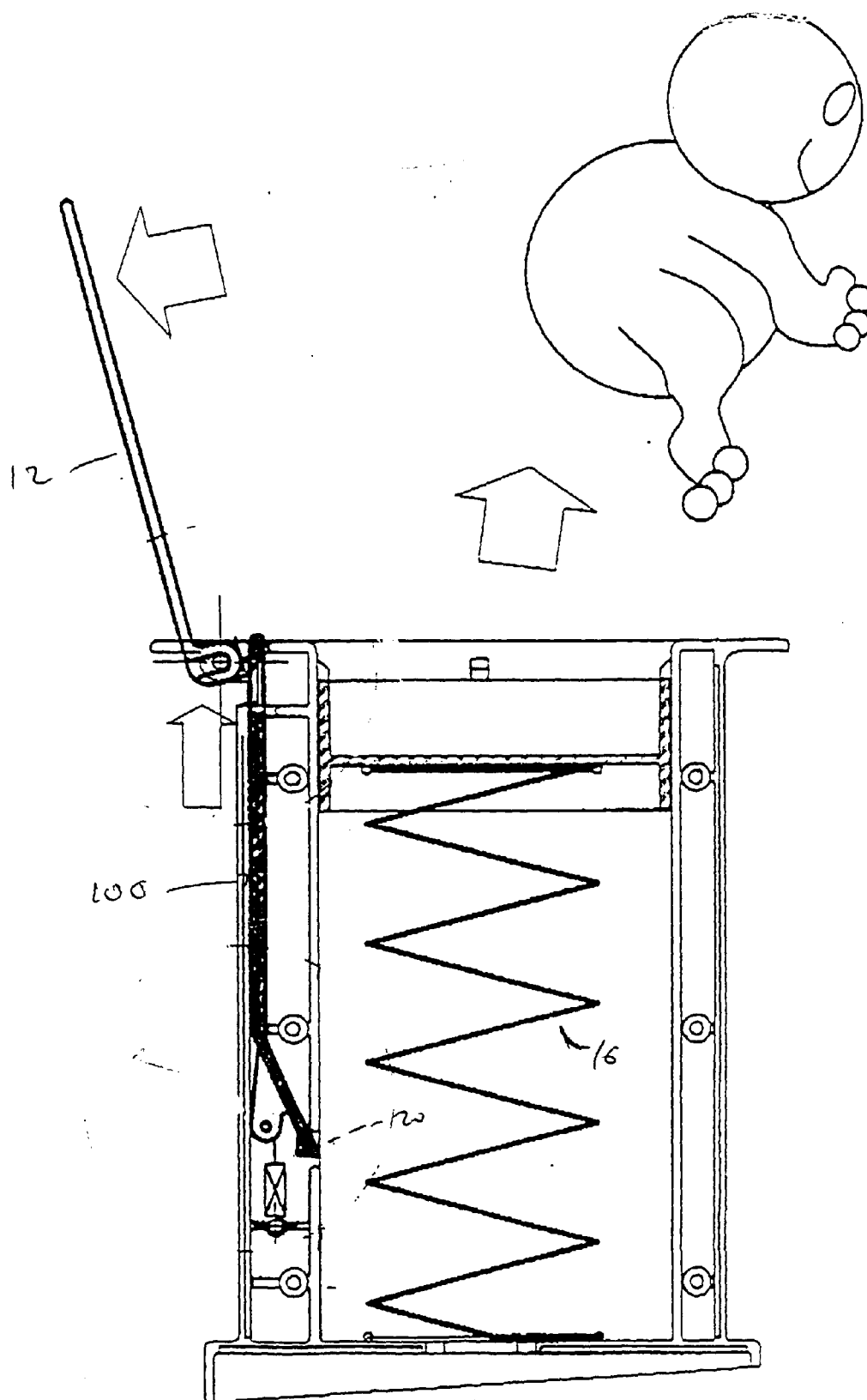


fig. 11





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 7099

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)
X	US 5 120 263 A (IERFINO) 9 June 1992 * the whole document *	1,2,10,11	A63H13/16
X	GB 414 183 A (HARRIS) * figures *	1,2,9-11	
A	GB 1 154 395 A (GOLFARB) 4 June 1969 * figures *	1	
A	GB 2 274 601 A (TOMY COMPANY LTD) 3 August 1994 * the whole document *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A63H
Place of search		Date of completion of the search	Examiner
THE HAGUE		9 December 1998	Lasson, C
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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