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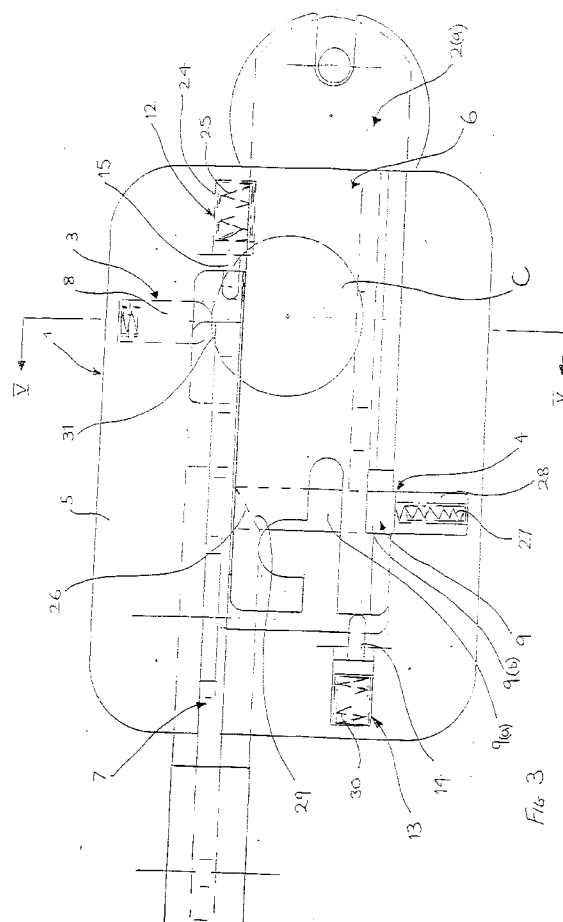
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(54) **Lock.**

(57) A lock (1) is disclosed which is particularly suitable for use on a shopping trolley, for releasably interconnecting with the lock of another similar trolley or with an anchoring point.

The lock may, by suitable attachment of appropriate key members (2), be adapted either as a trolley lock permitting "daisy chaining", or as one preventing such "daisy chaining". In the daisy chaining configuration, a free trolley has a loose key which is intended to be used only when the trolley is held at a designated trolley collection point to release a coin key or slide of a newly returned trolley. In the non-daisy chaining configuration a free trolley has no loose key.

The described lock has two key holes (6,7) for receiving key members and two separate locking means (4,3) for releasably engaging and securing the key members in the respective key holes. The insertion of one key member releases the other, which can then be withdrawn, such withdrawal causing securing of the inserted key.



This invention relates to a lock particularly, but not exclusively, for installation on a shopping trolley such that the trolley may be releasably connected to the lock of another trolley or an anchoring point at, for example, a designated trolley collection point.

Coin operated locks have been widely used in conjunction with shopping trolleys to encourage the users of such trolleys to return a trolley to a designated place when usage of that trolley is complete. In general, the method requires that a number of shopping trolleys, which are usually nestable, are stored together at a particular location and are securely connected one to another by their respective coin locks. The trolleys so connected form a chain with the trolley at the fore end of the chain secured to an anchoring point. The rearmost trolley of the chain is releasable from the preceding trolley by insertion of a coin into its coin lock which causes a connection with that preceding trolley to be released allowing withdrawal of the trolley from the chain. The coin is retained in the lock during the period in which the trolley is in use and is only retrievable if the trolley is reconnected to either another trolley or a designated anchoring point.

A coin lock disclosed in specification WO 90/13098 comprises a casing, a coupling member flexibly attached to the coin lock and a coin slide. A first trolley fitted with such a coin lock may be securely connected to a second such trolley by means of the coupling member of the second trolley coin lock securely engaged in the first trolley coin lock. In order to release the first trolley from such connections, a coin is placed in a recess of its coin slide and inserted into the lock. This insertion allows the aforementioned coupling member of the second trolley to be removed from the first trolley coin lock by application of a withdrawal force. The coin is retained within the coin lock while the trolley is in use and may only be retrieved by inserting the coupling member of another trolley into the coin lock. Thus a shopping trolley fitted with this coin lock may only be separated from a like trolley to which it is connected by insertion of a suitable coin into its coin lock and that coin is retrievable only by resecuring the trolley to the coin lock of another trolley or a designated anchoring point.

Another lock of this type disclosed in specification GB 2101383 comprises a casing having at one end thereof two keyholes each adapted to receive a tongue-like key and one such key flexibly attached to the casing or the trolley on which the coin lock is installed. The rearmost trolley of a chain of trolleys fitted with this type of coin lock is securely connected to the preceding trolley of that chain by the flexibly attached key of that preceding trolley which is releasably held in one keyhole of the coin lock. When in this secured state, the flexibly attached key of the rearmost trolley is disengaged. For use, a coin is placed in the coin slot of the disengaged key and they both are inserted into the second keyhole of the coin lock, which insertion

causes the release of the key connecting the two trolleys allowing the rearmost trolley to be removed from the chain for use. The coin bearing key is securely held within the coin lock during use. The coin is retrievable at such time as the trolley is connected to a second trolley having a disengaged flexibly attached key member; i.e. a trolley that is locked to another trolley or to a designated anchoring point.

Coin locks of the type disclosed in WO 90/13098 allow the formation of so-called daisy chains. This is because when a trolley of this type is free and in use it always has a disengaged coupling member or key. Thus it is possible to connect a trolley fitted with such a lock to a second such trolley even when the second trolley is not secured to another trolley or anchoring point at a designated trolley collection point. In this way a chain of trolleys, a so-called daisy chain, may develop behind a randomly dumped trolley. A trolley fitted with the coin lock of specification GB 2101383 has no disengaged key while in use. Therefore, a trolley fitted with this type of lock may only be connected to a second trolley which is already locked to another trolley or anchoring point at a designated trolley collection point. A user of a trolley fitted with such a non-daisy chain lock, may only retrieve his coin by returning the trolley to a designated collection point and not by finding other trolleys or daisy chains which may be located randomly.

The invention provides a lock comprising two separate locking means adapted to releasably engage and secure respective key members, and arranged such that insertion of one of said key members disengages the locking means engaging and securing the other said key member to allow withdrawal thereof, which withdrawal causes the other locking means to engage and thereby secure the inserted key member.

Another aspect of the invention provides a lock comprising first and second separate locking means for engaging and securing first and second key members respectively, and arranged such that the first said locking means, when securing said first key member, is disengageable by insertion of said second key member carrying a coin, which insertion causes a circumferential edge portion of said coin, acting as a cam, to displace said engaged first locking means such that said first key member is released for withdrawal, said second locking means being arranged to releasably secure said second key in its inserted position.

In order that the invention may be better understood, some embodiments thereof will now be described, reference being had to the accompanying drawings, in which:

Fig. 1 shows a system of trolleys at a trolley collection point, each trolley being provided with a lock according to an embodiment of the invention; Fig. 2 is a perspective view of the lock in combin-

ation with a key member, with the key member of a similar lock and key member combination held in the lock;

Fig. 3 is a plan view of the lock showing a key member having a coin securely engaged in its respective keyhole and another key member only partially inserted in its respective keyhole;

Fig. 4 is a plan view of the lock showing a key member having a coin in the point of being released and another key member fully inserted and engaged in its respective keyhole;

Fig. 5 is a sectional view taken on line V-V of Fig. 3;

Fig. 6 is a sectional view taken on line VI-VI of Fig. 4 but after the removal of the released key member having a coin;

Fig. 7 is a perspective view from one side of a key member for use with the lock;

Fig. 8 is a perspective view of the key member from the other side;

Fig. 9 is a part-sectional view illustrating a modification to a part of the lock of Figs. 3 to 6, and

Fig. 10 is a part-sectional view, similar to Fig. 9, showing the modified part in a different state.

Fig. 1 shows a system of shopping trolleys fitted with a preferred embodiment of the lock. Such a system operates generally in the same way as an arrangement of trolleys described in specification GB 2,101,383 in that neither of the respective systems allows the formation of the so-called daisy chains described above.

A first trolley, W is securely connected by means of a key member 2(a) of anchoring point A inserted into its lock. A second trolley X is similarly connected to trolley W and a third trolley Y is connected to trolley X. Each of trolleys Y and X is connected to the trolley in front of it (to the right in Fig. 1) by means of a key member of that preceding trolley inserted in its lock. Thus a nested chain of trolleys each securely locked one to another by means of their respective locks is formed with the trolley at the fore end of the chain secured to an anchoring point. Trolley Z has been removed from the chain by inserting its own key member 2(Z), carrying a coin into its coin lock which insertion caused the release of the key member 2(Y) of the trolley Y to which it was connected. Thus trolley Z is free for use with the coin retained in its lock. The user may only retrieve the coin by securing trolley Z to the rearmost trolley of the chain, or to the anchoring point when there is no trolley connected thereto.

Fig. 2 shows an arrangement wherein the lock 1 is fitted to a shopping trolley which trolley includes a transverse push handle 34 and side supports 33 therefor. With reference to Fig. 3, separate locking means 3 and 4 are housed in a casing 5 which is formed integrally with mounting means 32 adapted such that the lock is located at the joint between one end of the handle and a side support. It is to be un-

derstood that this form in no way limits the present invention and is for illustration purposes only and that the casing may include or be fitted with mounting means having a form suitable for the use to which the lock is to be put.

The casing has the form of a substantially oblong box having a rectangular cross section. As illustrated the edges of the casing have been radiused and two ends thereof are curved to form a semi-circle. Such a shape is not important to the invention being for aesthetic purposes only. It is to be understood that the casing could equally be any flat sided box having suitable dimensions for receiving the locking mechanisms. The casing is provided at opposite ends thereof with respective keyholes 6 and 7 each in the form of a slot for receiving tongue-like key member 2. Each keyhole extends into the casing perpendicular to its opening such that the key members inserted therein move in parallel directions. The aforementioned slots which form the keyholes are formed at right angles to one another to receive identical key members orientated in substantially perpendicular planes. In the preferred form illustrated, the slot 6 will face rearwardly of the trolley when the lock is attached thereto and is oriented to receive a key member lying horizontally flat, while the forwardly facing slot 7 receives a key member lying vertically flat, as best seen in Fig. 2.

The locking means 3 and 4 are each located adjacent the inner end of their respective keyholes 7 and 6. Locking means 3 comprises a spring loaded slidable locking member 8 adapted to engage a locking recess 10 of a key member 2. Locking member 8 is constrained in a direction perpendicular to the plane of insertion of its corresponding key member. The other locking means 4 comprises another spring loaded slidable locking member 9 which is guided to slide in a direction substantially parallel to the plane of insertion of its corresponding key member and is adapted to engage another locking recess 11 of a key member 2. The locking member 9 is generally L-shaped, having a horizontal slide part 9a extending across and beneath the key slot 6 and formed at its free end with an angled face 29, and an upstanding engagement part 9b for engagement in the locking recess 11.

An ejector means 12 and 13 is located at the inner end of each keyhole comprising spring loaded ejector pins 15 and 16 respectively, each being guided to slide in the direction of insertion and withdrawal of a corresponding key member.

Figs. 7 and 8 show a key member 2 used in conjunction with the lock. Each lock 1 is provided with such a key member flexibly attached thereto by means of a chain 18 connected at its one end to the casing 5 and its other end to a suitably sized hole 17 of the grip 16 of the key member. The key member comprises a tongue-like element 21 shaped for insertion into either of the keyholes 6 or 7 and is provided with locking recesses 10 and 11 in the region adjacent

its fore end. Each locking recess is positioned and shaped for receiving the locking member associated with the respective keyholes. Locking recess 11 is formed in a lower portion of the key member for receiving locking member 9 of keyhole 6 while locking recess 10 is formed in an upper portion of the key member for receiving locking member 8 of keyhole 7.

The key member 2 is provided also with a recess 19 formed in a side of the key member and shaped to receive a coin such that a portion of the coin projects laterally beyond an edge 24 of the key member as shown in dotted lines in Figure 7. An elongated slot 20 extends perpendicularly from the fore end of the key member and its position and length are such that the projecting portion of a coin carried in the recess 19 of a key member inserted into the horizontally oriented slot 6 can enter such slot 20 of a key member fully inserted and secured in the vertically oriented slot 7 from the fore end thereof.

The key member is formed on that side thereof having the coin recess 19 with an elongate laterally projecting guide rib 22 into which the locking recess 11 is cut, and on the other side with another elongate laterally projecting guide rib 23. The fore end of rib 23 is chamfered to form a cam face 26 which, when the key member is located in the vertically oriented slot 7, operates the locking member 9 by sliding engagement with the angled surface 29.

The lock in its preferred embodiment works in the following way: the situation shown in Figs. 4 and 6 is taken as the starting position. A lock 1 has a key member 2(a) flexibly attached (the attaching chain is omitted for clarity) to its casing 5. The key member 2(b) of another such lock is secured in keyhole 7 of lock 1 by slidable locking member 8 (when at the position indicated by 8') which is engaged in the locking recess 10 of key member 2(b). Key member 2(a) carrying a coin C in its coin recess 19(a) is inserted into the second keyhole 6. A circumferential edge portion of the coin projecting laterally beyond the edge 24 of key member 2(a) protrudes through the elongated slot 20 of engaged key member 2(b) allowing that circumferential edge which acts as a cam to contact a part of the locking member 8 lying in the slot 20. As key member 2(a) is inserted further into the keyhole the circumferential edge of coin C progressively displaces locking member 8 until it reaches the point at which it is fully inserted and locking member 8 is fully disengaged thereby releasing key member 2(b) for withdrawal from the lock.

The released key member 2(b) is ejected from its respective keyhole 7 by ejector means 12; it is shown in a partially ejected state in Fig. 3. In its fully inserted position the fore end of key member 2(b) bears against an end of ejector pins 15 which it pushes back into pin housing 24 working against an associated compression spring 25. The disengagement of locking member 8 caused by the insertion of key member

2(a) which releases key member 2(b) allows the ejector pin to move out of its housing under the influence of spring 25 thereby ejecting the released key member 2(b).

The withdrawal of key member 2(b) from its respective keyhole 7 allows the locking means 4 of keyhole 6 to releasably engage and thereby secure the inserted key member 2(a). While key member 2(b) was secured in keyhole 7 the guide rib 23 held the locking member 9 of locking means 4 against compression spring 27 with its engagement part 9(b) in its housing 28. The withdrawal of key member 2(b) and the consequential withdrawal of cam face 26 allows locking member 9 to slide out of its housing under the influence of spring 27 to engage locking recess 11 of the inserted key member which is thereby releasably secured within the lock.

It is to be understood that the disengagement of locking means 3 which releases key member 2(b) and the subsequent ejection of that key member by ejector means 12 which causes locking means 4 to engage inserted key member 2(a) is a substantially simultaneous action. There is no significant time delay between the release of one key member and the securing of the other. Thus referring to Figure 1, it would not be possible to insert key member 2(Y) and an associated coin C(Y) into the coin lock of trolley Y thereby releasing key member 2(X) from the lock so that the trolley may be taken away for use and to subsequently withdraw key member 2(Y) before that key member was engaged and secured by its respective locking means. Therefore the action of the lock is such where it is fitted to a shopping trolley, for example, it is not possible to free that shopping trolley for use by inserting a coin into the lock and retrieve the coin without resecuring the trolley to another such trolley.

The coin carrying key member 2(a) releasably secured in the lock by locking member 9 engaged in its locking recess 11 is shown in Fig. 3. To release the key member for retrieval of coin 23 another key member 2(b) must be inserted in keyhole 7. A feature of the lock in this embodiment is that it operates in conjunction with two identical key members. Therefore, the flexibly attached key member 2 of the lock serves a dual purpose; it may function as the coin carrying key member 2(a) of Figs. 3 and 4 when the lock is connected to another such lock by the key member of that other lock or as key member 2(b) of the aforementioned figures for releasing the coin carrying key member of another lock and securely connecting the respective locks.

To avoid the problem of a user mistakenly inserting a key member 2 carrying a coin into the vertical keyhole 7, the respective keyholes are sized such that a coin carrying key member 2(a) is only insertable in keyhole 6.

Insertion of non-coin carrying key member 2(b)

into keyhole 7 of the lock causes cam face 26 of guide rib 23 to engage the angled face 29 of locking member 9. In Fig. 3, key member 2(b) is at the point of insertion at which the respective faces are just engaged. Continued insertion of the key member pushes locking member 9 into its housing 28 against the action of spring 27 until at the point of full insertion, the up-standing engagement part 9(b) of the locking member is fully disengaged from the locking recess 11 of key member 2(a) which is thereby released for withdrawal. At the instant of release the ejector pin 14 of ejector means 13 is able to move out of its housing under the influence of compression spring 30 thereby at least partially ejecting the released key member for retrieving the coin.

Again it is to be understood that the release of the engaged key member and its subsequent ejection from its respective keyhole is substantially simultaneous with the securing of the releasing key member in the other keyhole.

From the foregoing description it will be appreciated that the lock provides a simple but highly effective locking action in which two separate locking means adapted to releasably engage and secure respective key members are arranged such that the insertion of one of the key members disengages the locking means engaging and securing the other key member to allow withdrawal thereof, which withdrawal causes the other locking means to engage and thereby secure the inserted key member.

The lock of the preferred embodiment in combination with its flexibly attached key member as described above is of the non-daisy chain type.

In an alternative embodiment (not illustrated) the lock is adapted so as to be of the daisy chain type. Since the lock of this embodiment is substantially the same as that of the above embodiment it will be described with reference to the figures illustrating the first embodiment. Accordingly like reference numerals are used to designate like or similar parts. In this embodiment a flexibly attached key member 2 serves only to securely connect two locks together or to release a coin carrying key member of another lock. The coin carrying key member of the lock has a similar form to a key member 2 but is adapted such that even when it is released from engagement with locking member 8 it may not be fully withdrawn from its respective keyhole 6. That is to say, the coin carrying key member operates in conjunction with locking means, ejector means and a keyhole which are identical to those of the previous embodiment excepting that the keyhole is provided with stop means co-operable with respective stop means of the coin carrying key member which allow withdrawal of the coin carrying key member to a point at which it is not in contact with its respective locking and ejector means, and the coin is retrievable from the coin recess 19. It will be appreciated that in this embodiment of the lock

the flexible attaching means of the associated key member 2 should be such that it cannot be inserted in the keyhole 7 of its own lock, but only into a keyhole 7 of another such lock.

It will be appreciated that where the lock is adapted to be of the daisy chain type, further modifications thereto are possible. For instance there is no requirement that the flexibly attached key member and the coin carrying key member be of an identical form since the key member does not perform the dual functions of a non-daisy chain type lock and key member combination. For example, the flexibly attached key member does not require a coin recess. Further, the coin carrying key member may be a tongue-like element as shown in Figs. 7 and 8, but without the locking recess 10, slot 20 and ribs 22, 23.

It will further be appreciated that in the daisy chain type embodiment, the lock may be provided with two flexibly attached key members rather than the above-described non-withdrawable coin carrying key member and that these may differ from each other according to their function as described in the preceding paragraph. In the case where two flexibly attached key members of differing form are provided, it will be preferable that the respective key members may not be inserted into the incorrect keyhole 6 or 7.

In a further embodiment of the lock either of the foregoing embodiments may be adapted such that the flexibly attached key member or key members of the lock and key member combination may be attached to the trolley on which the lock is installed and not to the casing 4 of the lock.

Referring now to Figs. 9 and 10 there is illustrated an embodiment of the lock similar to the preferred embodiment. It is to be understood that the features of the present embodiment may also be incorporated into the daisy chain type embodiment. Accordingly like reference numerals designate like or similar parts. In this embodiment of the lock at least one of the separate locking means comprises a spring loaded slidable locking member and an associated secondary locking member. The construction of a secondary locking member will be described with reference to associated slidable locking means 8 acting on key member 2(b). It is to be understood that a substantially like secondary locking member may be incorporated in the lock to be associated with slidable locking member 9 acting on key 2(a) differing from that described below in dimensional details of the components and its location. The secondary locking member is adapted for engaging a corresponding locking recess of the same key member as its associated slidable locking member and is likewise actuable for release of that key member by insertion of the other key member. A function of the secondary locking member is to prevent a person actuating for release the associated slidable locking member of a respective key member by insertion of an object such

as a small screwdriver into the respective keyhole. It will be apparent from Figs. 3 and 4 that the portions of each respective slidable locking member contacted by the respective cam means are disposed sufficiently close to the opening of their respective keyhole to be reached for contact by the aforementioned small screwdriver. The secondary locking member is spaced apart from its associated slidable locking member in the direction of insertion and withdrawal of the respective key member so as to be disposed adjacent an inner region of the respective keyhole and is thus substantially more difficult to reach. The difficulty of releasing a key member thus secured is further increased in that it is necessary to simultaneously disengage both of the associated locking members.

In greater detail, the slidable locking member 8 is actuatable for releasing its respective engaged key member 2(b) by cam means 31 of the other key member 2(a), withdrawal of key member 2(b) being at least partially achievable by respective ejector means 13. When key member 2(a) is fully inserted it pushes ejector pin 14 back into its housing 35 against compression spring 30, the position shown in Figure 10.

Secondary locking member 36 has an angled face 37 co-operable with an angled cam portion 38 of ejector pin 14. With the pin pushed back into its housing the angled face 37 of the secondary locking member 36 is able to slide to a lower portion (as viewed in Fig. 10) of the cam portions under the influence of compression spring 39 thereby disengaging secondary locking member 36 from its corresponding locking recess 40 in the member 2(b). Thus the slidable locking member 8 and associated secondary locking member 36 are disengaged by insertion of the other key member 2(a) into its respective keyhole.

The operation for engaging the secondary locking member 36 in the locking recess 40 of key 2(b) is as follows: key 2(b) is inserted into keyhole 7 such that it releases the other key member 2(a), ejection of which causes slidable locking member 8 to engage its respective locking recess of key 2(b). As ejector pin 14 pushes out of its housing under the influence of spring 30 to eject key member 2(a), the angled face 37 of the secondary locking member slides up to a higher portion of cam face 38 thereby pushing the secondary locking member into locking recess 40. Thus withdrawal of key member 2(a) causes slidable locking member 8 and secondary locking member 36 to engage and secure the other key member 2(b).

It should be understood that locks according to the present invention are not restricted to use on shopping trolley locks, but may be employed wherever the kind of security afforded by the use of alternately locking and releasing key members is required.

Claims

1. A lock (1) comprising two separate locking means (3,4) adapted to releasably engage and secure respective key members (2b,2a), and arranged such that insertion of one of said key members disengages the locking means engaging and securing the other said key member to allow withdrawal thereof, which withdrawal causes the other locking means to engage and thereby secure the inserted key member.
2. A lock as claimed in claim 1 wherein said separate locking means are housed in a casing (5) provided at opposite ends thereof with respective keyholes (6,7) for receiving said key members (2a,2b), the keyholes being arranged such that said key members move in parallel directions.
3. A lock as claimed in claim 2 wherein said keyholes are in the form of slots and the key members are tongue-like elements (21) for insertion into said slots, and wherein said slots are formed substantially at right angles to one another to receive said key members oriented in substantially perpendicular planes.
4. A lock as claimed in claim 2 or claim 3 wherein said keyholes are sized such that a said key member carrying a coin (C) in a recess (19) thereof is only insertable into one of said keyholes (6) and not the other (7).
5. A lock as claimed in any of the preceding claims wherein each of said separate locking means (3,4) comprises a spring loaded slidable locking member (8,9) for engaging a corresponding locking recess (10,11) of a said key member, and is actuatable for release of said key member by cam means (C,26) of the other said key member.
6. A lock as claimed in claim 5 wherein at least one of said locking means comprises a secondary locking member (36), also for engaging a corresponding locking recess (40) of the respective key member, and actuatable for release of said respective key member by the other said key member, and wherein said secondary locking member (36) and the associated spring loaded slidable locking member (8) are spaced apart in the direction of insertion and withdrawal of said respective key member.
7. A lock as claimed in claim 5 or claim 6 when dependent on claim 3, wherein one of said slidable locking members (8) is adapted to slide in a direction substantially perpendicular to the plane of insertion of its corresponding key member (2b),

and the other locking member (9) is adapted to slide in a direction substantially parallel to the plane of insertion of its corresponding key member (2a).

8. A lock as claimed in claim 2 or any claim dependent thereon wherein said respective keyholes each comprise an ejector means (12,13) for at least partially ejecting a key member on disengagement of its respective locking means.

9. A lock as claimed in claim 8 wherein each said ejector means is a spring loaded pin (14,15) disposed at an inner end of the respective keyhole.

10. A lock as claimed in claim 8 or claim 9 when dependent on claim 6, wherein the or each said secondary locking member (36) is arranged to engage said respective key member upon said at least partial ejection of said other key member by said ejector means.

11. A lock comprising first and second separate locking means (3,4) for engaging and securing first and second key members (2b,2a) respectively, and arranged such that the first said locking means (3), when securing said first key member (2b), is disengageable by insertion of said second key member (2a) carrying a coin (C), which insertion causes a circumferential edge portion of said coin, acting as a cam, to displace said engaged first locking means (3) such that said first key member (2b) is released for withdrawal, said second locking means (4) being arranged to releasably secure said second key (2a) in its inserted position.

12. A lock as claimed in claim 11 wherein said key members are adapted such that said circumferential edge portion projects from said second key member (2a) and protrudes through a slot (20) provided in said first key member (2b) for contacting said first locking means (3).

13. A lock as claimed in claim 11 or claim 12 wherein said key members are each provided with a guide rib (23) arranged such that a portion (26) of said guide rib is a cam for operating said second locking means.

14. A lock as claimed in any of claims 11 to 13 wherein each of said first and second separate locking means comprises a spring loaded slidable locking member (8,9) for engaging a locking recess (10,11) of said first and second key members respectively, said first locking means (3) being actuable for release by cam means (C) of said second key member (2a) and said second locking

means (4) being actuable for release by cam means (26) of said first key member (2b).

15. A lock as claimed in claim 14 wherein at least one of said first and second locking means comprises a secondary locking member (36), also for engaging a corresponding locking recess (40) of the respective key member, and actuable for release of said respective key member by the other said key member, and wherein said secondary locking member (36) and the associated spring loaded slidable locking member (8) are spaced apart in the direction of insertion and withdrawal of said respective key member.

16. A lock as claimed in any one of the preceding claims wherein keyholes (6,7) provided for receiving said key members each comprise an ejector means (13,12) for at least partially ejecting a key member on disengagement of its respective locking means.

17. A lock as claimed in claim 16, wherein each said ejector means (13,12) is a spring loaded pin (14,15) disposed at an inner end of the respective keyhole.

18. A lock as claimed in claim 16 or claim 17 when dependent on claim 15 wherein the or each said secondary locking member (36) is arranged to engage said respective key member upon said at least partial ejection of said other key member by said ejector means.

19. A lock as claimed in any preceding claim, wherein said lock is adapted to receive two identical said key members.

20. A lock as claimed in claim 19 in combination with a said key member, wherein said key member is adapted to receive a coin (C), and wherein said key member, when carrying a said coin, is insertable into said lock to release an identical key member which belongs to a similar lock and key member combination and which carries no such coin.

21. A trolley which includes a lock according to any preceding claim.

22. A lock according to any of claims 1 to 20 or a trolley according to claim 21, in combination with a key member adapted to bear a coin, the arrangement being such that said key member bearing a coin is insertable into said lock for releasing an identical said key member which does not belong to said lock or trolley, bears no coin and is securely engaged in said lock, said coin-bearing key

member being thereafter releasable only by insertion into said lock of a said identical key member not belonging to said lock or trolley and bearing no coin.

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- 23.** A lock according to any one of claims 1 to 18 or a trolley which includes such a lock, in combination with a first key member adapted to bear a coin and a second key member; the arrangement being such that the second key member of said trolley cannot be inserted into said lock and such that said first key member bearing a coin is insertable into said lock for releasing a second key member which does not belong to said lock or trolley and which is securely engaged in said lock, said first key member bearing a coin being thereafter releasable only by insertion into said lock of a said second key member not belonging to said lock or trolley.
- 24.** A lock or trolley according to claim 23, wherein said first key member is adapted such that it may not be fully withdrawn from said lock.
- 25.** A lock or trolley according to claim 23 or claim 24, wherein said second key member is flexibly attached to the lock or trolley and the length of the flexible attachment is such that said second key member cannot be inserted into said lock.
- 26.** A trolley according to any one of claims 21 to 25, wherein the trolley includes a transverse push handle and side supports therefor and wherein said lock is located at the joint between one end of said handle and a said side support.
- 27.** A trolley according to claim 26 wherein said lock is mounted so that the direction of insertion and withdrawal of each key member is substantially perpendicular to the axis of the handle.

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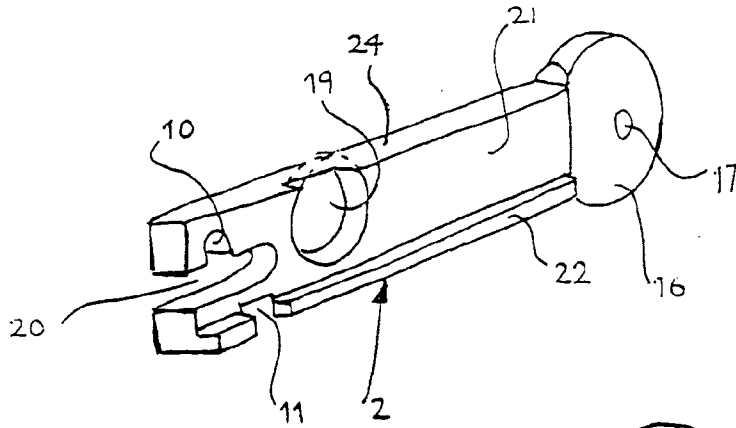


Fig 7

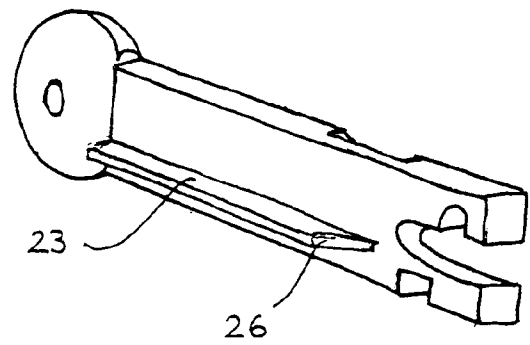


Fig 8

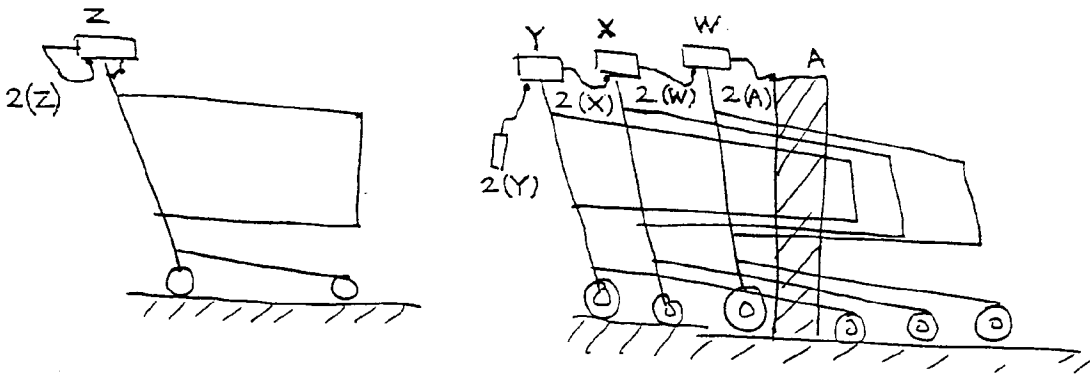


Fig 1

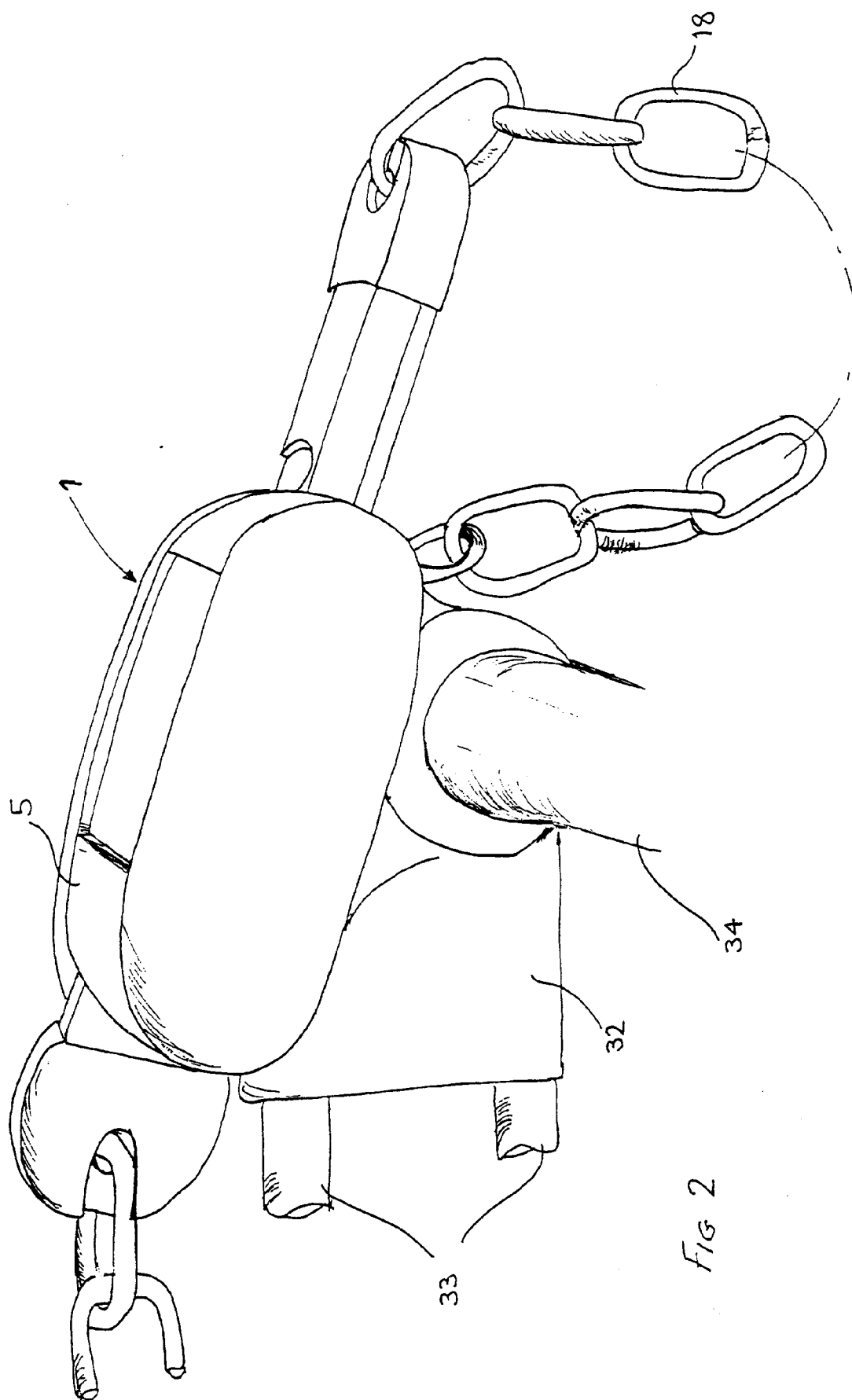
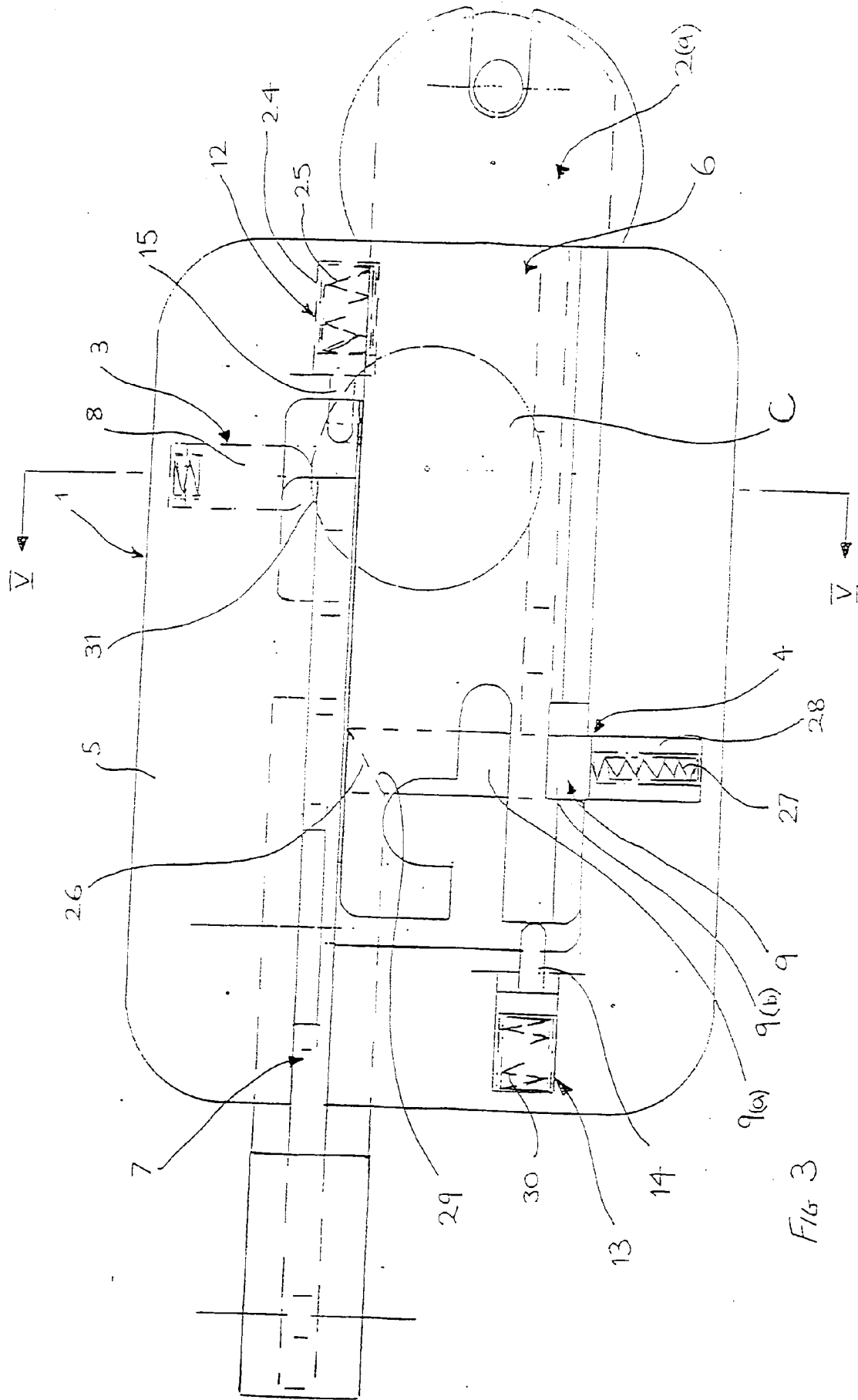


FIG 2



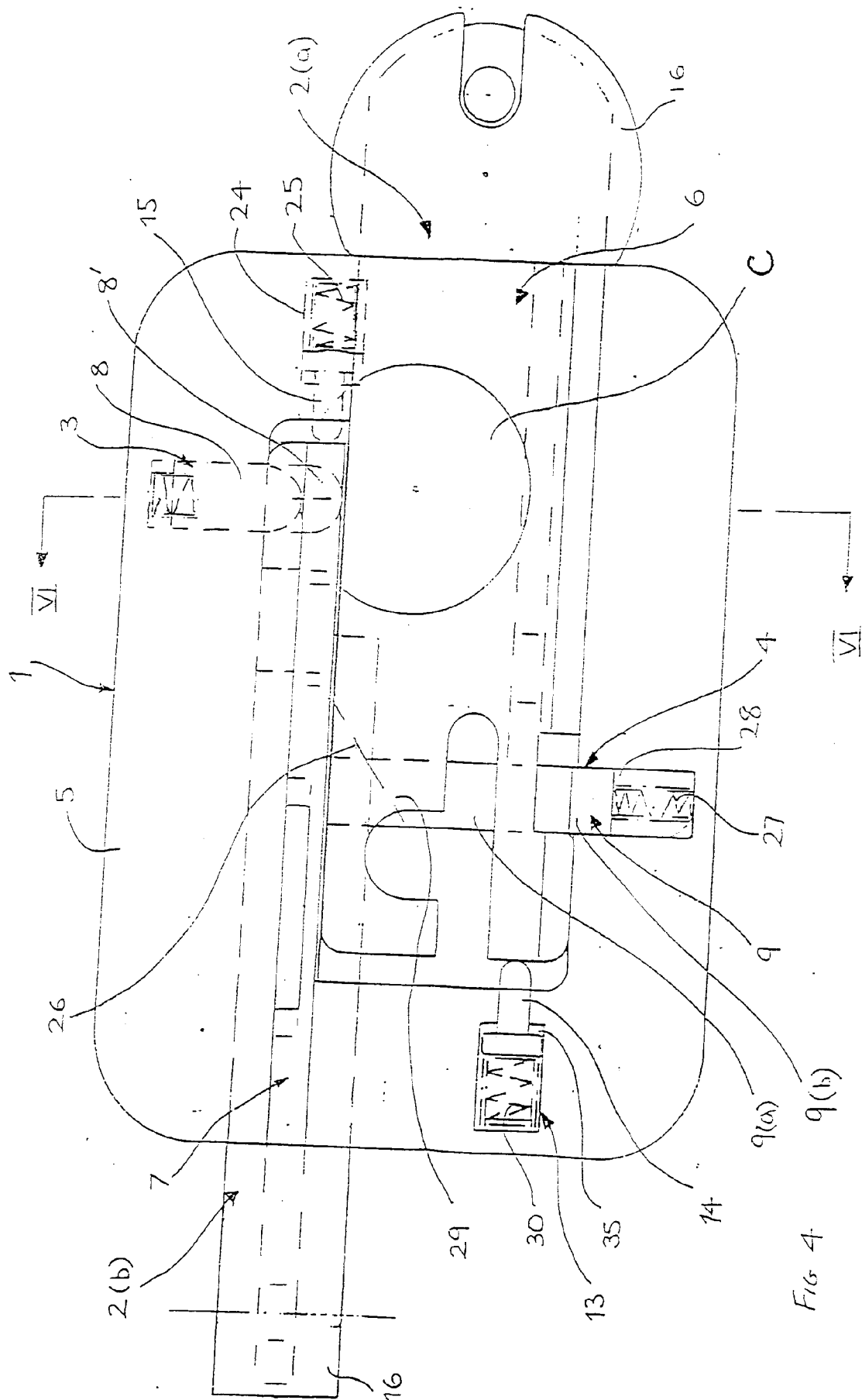


Fig 4

