

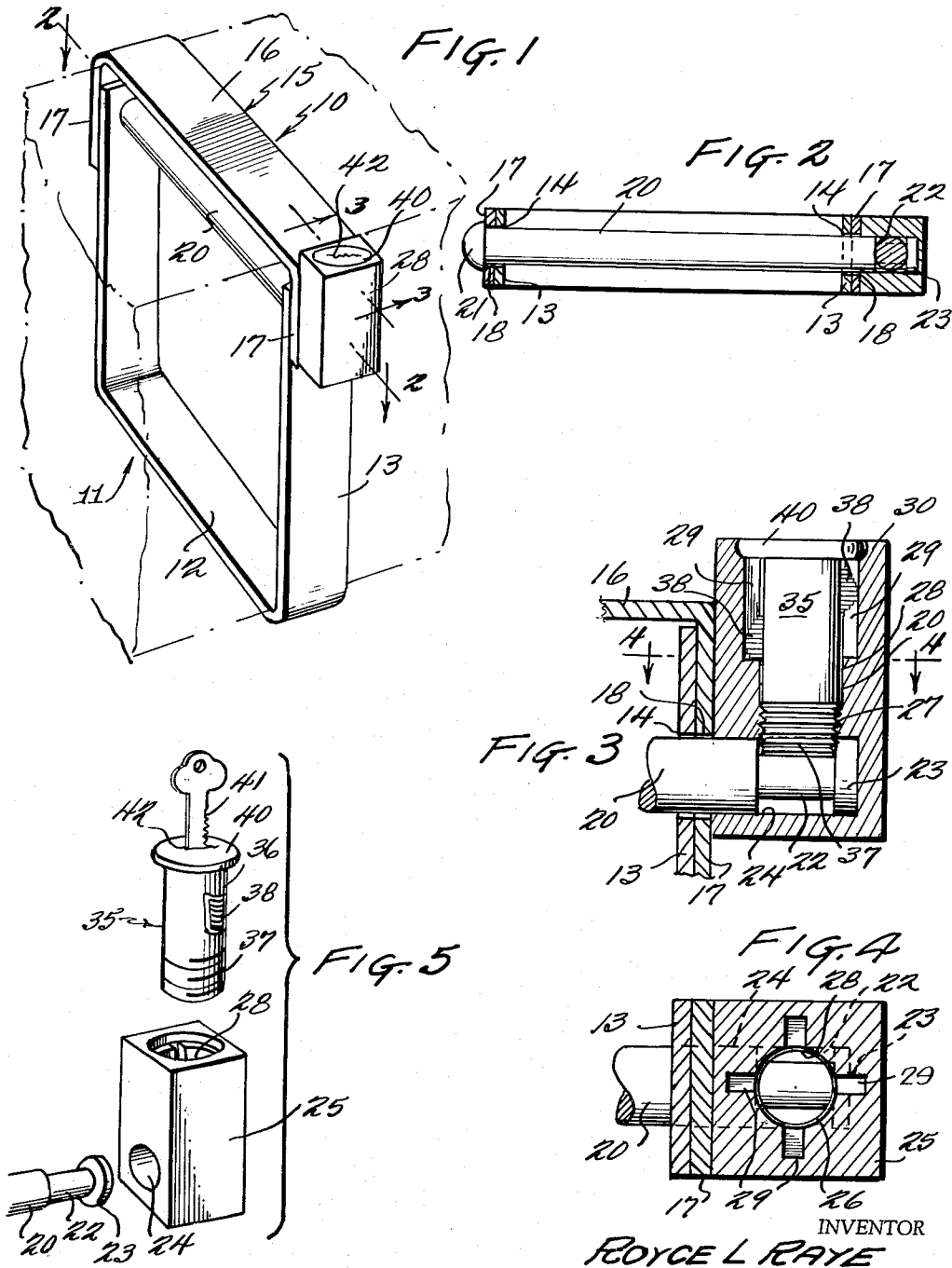
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LOCKING DEVICE

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LOCKING DEVICE

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3 Claims. (Cl. 70-57)

This invention relates to a locking device, and has particular applicability to a lock to be employed with vending machines.

A primary object of the invention is the provision of an improved substantially theft proof lock for vending machines which incorporates means whereby upon the exertion of force against the lock and its associated housing if the lock is ruptured the detent or retaining pin will remain in position to prevent the opening of the vending machine.

An additional object of the invention is the provision of an improved lock which works in conjunction with a yoke and clevis adapted to surround a vending machine holding the lid against removal therefrom, the yoke and clevis being secured in assembled relation by means of a bar extending through the ends of both members, and a lock housing provided with a key actuated lock which threadedly engages in the housing, and engages a groove in the end of a bar securely to retain the parts in assembled relation until released by unlocking the lock member.

A further object of the invention is the provision of a device of this character which upon unauthorized breakage of the lock, will retain the locking pin in engagement with its groove in the bolt, and prevent the disassembly of the yoke and clevis.

A further object of the invention is the provision of a device of this character which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture, assemble, and utilize.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds, and shown in the accompanying drawing wherein there is shown a preferred embodiment of this inventive concept.

In the drawings:

FIGURE 1 is a perspective view of the lock assembly in position about a vending machine, the latter being indicated in dotted lines.

FIGURE 2 is a sectional view taken substantially along the line 2-2 of FIG. 1 as viewed in the direction indicated by the arrows.

FIGURE 3 is an enlarged sectional view taken substantially along the line 3-3 of FIG. 1 as viewed in the direction indicated by the arrows.

FIGURE 4 is a sectional view taken substantially along the line 4-4 of FIG. 3 as viewed in the direction indicated by the arrows; the bolt being removed; and

FIGURE 5 is an exploded perspective view of the lock housing and locking bar.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, the complete structure is generally indicated at 10, and includes a clevis or U-shaped member 11 which includes a bight 12, and upstanding legs 13, the latter being provided with openings 14 adjacent their upper extremities. A yoke or inverted U-shaped member generally indicated at 15 includes a bight 16 of slightly greater length than the bight 12, and depending legs 17, which extend downwardly on the outer sides of legs 13. Openings 18 are provided in legs 17 and adapted to be aligned with the openings 14. The yoke 15 and clevis 11 are adapted to surround a conventional vending machine or any other coin actuated apparatus and a bar 20 having a head 21 is adapted to be inserted through the aligned openings

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14 and 18 and extend across the front of the vending machine.

The opposite end of the bar 20 extends outwardly beyond the adjacent legs 13 and 17 and is provided with an annular groove or channel 22 defining a projecting head 23. The head 23 is adapted to be inserted in a transverse bore 24 in a block 25 which forms a lock housing, and is constructed of tool steel or other relatively infrangible material.

The block 25 is provided with a vertical bore 26 which intersects the bore 24 at right angles, and is threaded at its lower portion as indicated at 27. The bore above the threaded portion 27 is relatively smooth as at 28 and is provided with a plurality of radially extending vertical slots or grooves 29. The top of the block is recessed as at 30, all for a purpose to be more fully described hereinafter.

A locking plug is generally indicated at 35 and is adapted to be inserted into the bore 28. The locking plug 35 is one piece, the upper part as at 36 and the lower part threaded as at 37, the latter being adapted to engage the threads 27, and, when the device is in locked position to engage in groove 22 of bolt or bar 20 to retain the same in position. Locking device 35 is provided with a conventional internal locking mechanism which actuates a plurality of radial dogs 38 which, when the device is locked, extend into the grooves or channels 29 to preclude rotation of the device. A flange 40 rests in the countersunk portion 30 of block 25. A key 41 engaging in a key slot 42 retracts the dogs to permit rotation of plug 35.

From the foregoing the use and operation of the device should now be readily understandable. The clevis 11 is positioned around the vending machine V and the yoke 15 superposed thereover. The bar 20 is then inserted through the aligned openings, and the block 25 positioned on the end thereof. The plug 35 is then positioned in the bore with the key inserted and the threaded part 37 is engaged in the threads 27 and the device is rotated until the plug 37 seats firmly in the groove 22. The arrangement is such that the members 38 are normally extended to preclude rotation of the device, and are retracted only by insertion of the key 41. In consequence, rotation of the device in reverse direction is precluded unless the key is present.

The yoke 15 prevents the breaking of the legs 13 at the openings 14. Similarly, if the lock barrel is pried out of its associated bore with a screwdriver or other implement the plug 37 will break off in its associated threaded bore 27 to retain the bar in position so that the vending machine is still protected.

It will thus be seen that this invention provides a locking arrangement and lock which is theft-proof, the lock being so constructed as to include a one-piece plug for insertion into a block, having a bore, the interior bore of the block being partially threaded and the end of the plug having corresponding threads, the threaded end of the plug fitting into a circumferential groove in the end of a bolt, the plug also having dogs which are key operated to extend into the walls of the plug, so that in operation, when the plug is inserted into the block, and the key is in place in the plug, the plug is rotated until it is threaded into the block and the dogs are extended, the threaded end of the plug extending into the groove in the bolt, and thus, when the key is removed, it is impossible to rotate the plug unless the key is used and so that even if the lock is broken by a thief, it will be impossible to remove the plug from out of the bolt.

It will also be seen that in this invention the lock and the grooved bolt work in conjunction with the yoke and clevis, each of generally U-shaped configuration, each having corresponding openings near the ends of their leg

portions for a substantially constructed headed bolt to extend through, with one end of the bolt having a circumferential groove and said end extending into the block of the lock member, thus providing a locking unit of maximum effectiveness.

From the foregoing it will also be seen that there is herein provided a device which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. In a locking device, the combination of a yoke and a confronting clevis having overlapping legs with aligned apertures therein adapted to be positioned about a vending machine, a bar extended through said aligned apertures and having a head on one end engaging the outermost of said overlapping legs on one side and having its other end provided with an annular groove and extending beyond the other outermost leg of said overlapping legs, a lock block having a first bore therein into which said other end extends, and a second bore intersecting said first bore, a lock plug positioned in said second bore and having a bolt member extending into said groove, and means for retaining said lock plug in said second bore.

2. In a locking device, the combination of a yoke and a confronting clevis having overlapping legs with aligned apertures therein adapted to be positioned about a vending machine, a bar extending through said aligned apertures and having a head on one end engaging the outermost of said overlapping legs on one side and having its other end provided with an annular groove and extending beyond the other outermost leg of said overlapping legs, a lock block having a first bore therein into which said other end extends, and a second bore intersecting said first bore, a lock plug positioned in said second bore

and having a bolt member extending into said groove, means for retaining said lock plug in said second bore, said last-mentioned means including threads interiorly of the inner portion of said second bore and coaxing threads on said bolt member, and key actuated means precluding rotation of said plug.

3. In a locking device, the combination of a yoke and a confronting clevis having overlapping legs with aligned apertures therein adapted to be positioned about a vending machine, a bar extended through said aligned apertures and having a head on one end engaging the outermost of said overlapping legs on one side and having its other end provided with an annular groove and extending beyond the other outermost leg of said overlapping legs, a lock block having a first bore therein into which said other end extends, and a second bore intersecting said first bore, a lock plug positioned in said second bore and having a bolt member extending into said groove, means for retaining said lock plug in said second bore, said last-mentioned means including threads interiorly of the inner portion of said second bore and coaxing threads on said bolt member, and key actuated means precluding rotation of said plug, said second bore having a plurality of radial slots therein outwardly of said bolt member, and said means precluding rotation of said plug comprising key actuated radially extending lugs engaging in said slots.

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