Oct. 29, 1935. G. C. KAUFFMAN 2,019,262

FASTENING DEVICE

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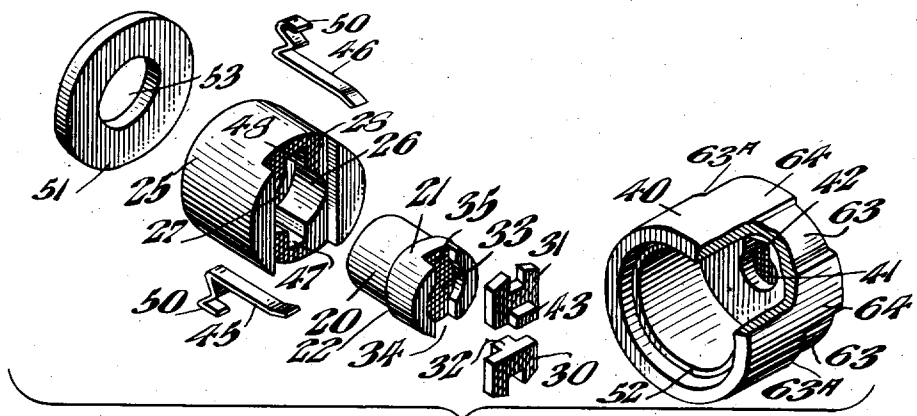


Fig. 1.

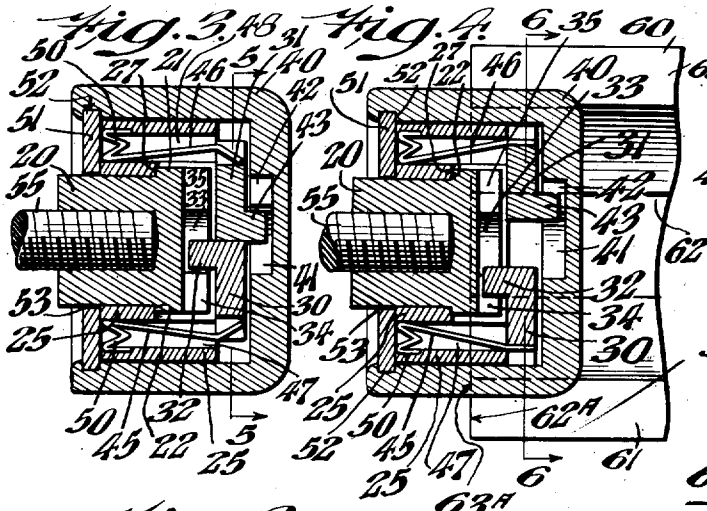


Fig. 3.

Fig. 4.

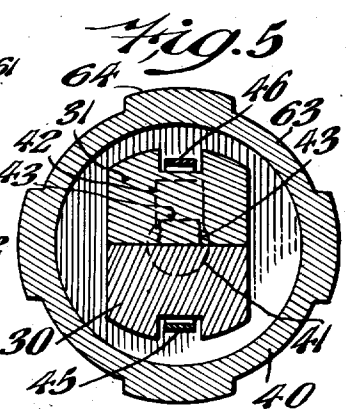


Fig. 5.

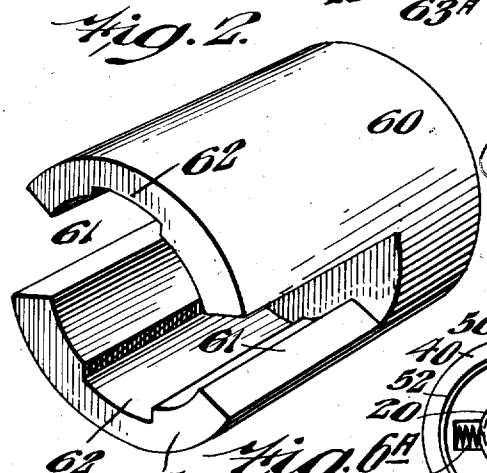


Fig. 2.

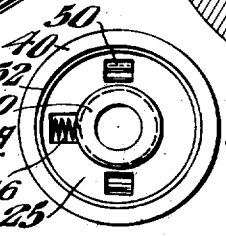


Fig. 6A.

Fig. 6.

INVENTOR
GEORGE C. KAUFFMAN
BY Louis Necho
ATTORNEY

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Fig. 7.

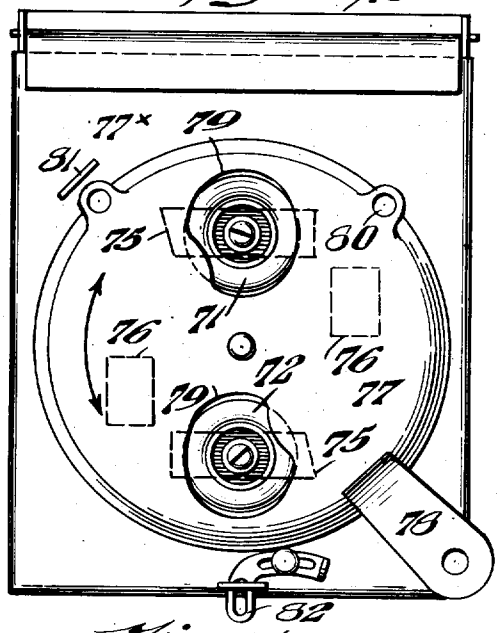


Fig. 8.

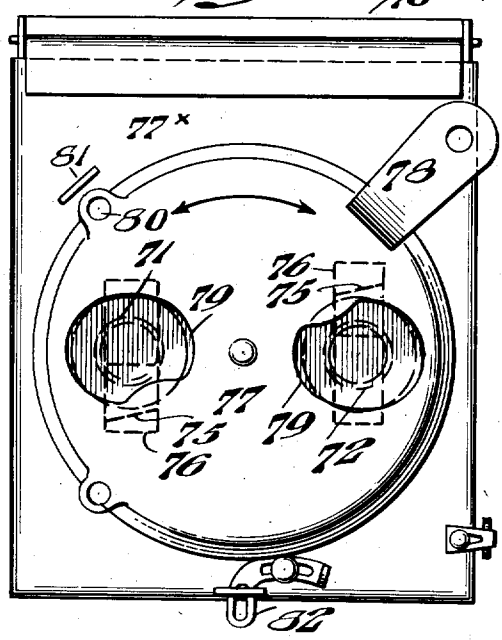


Fig. 10.

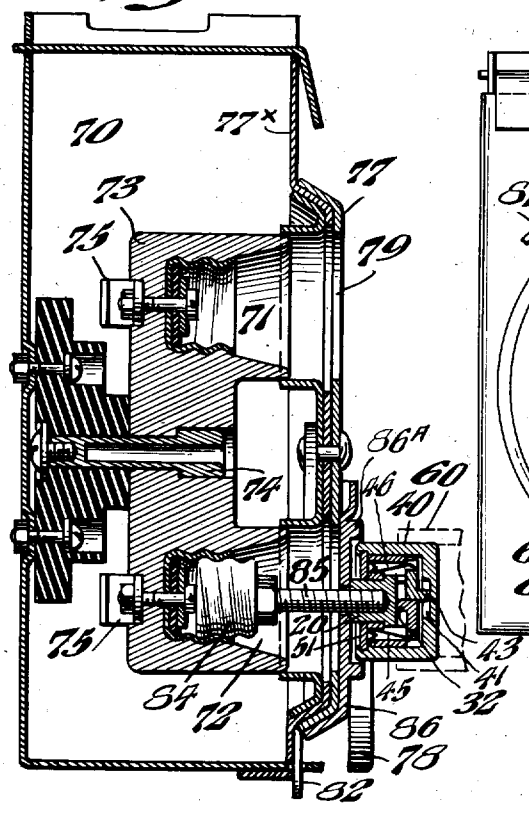
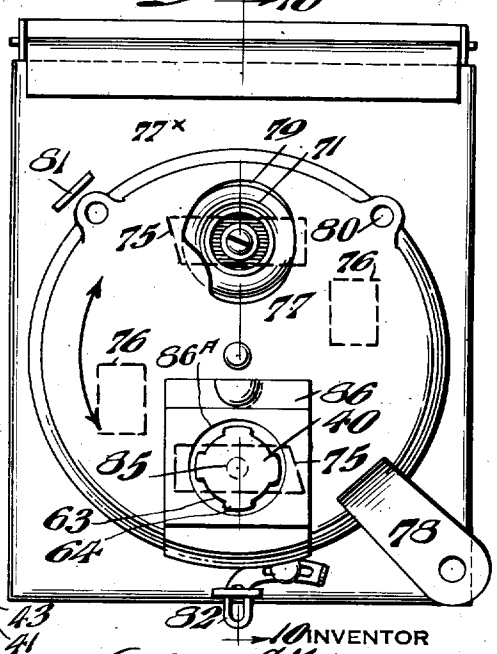


Fig. 9.



10 INVENTOR
GEORGE C. KAUFFMAN
BY Louis Necho
ATTORNEY

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Fig. 11.

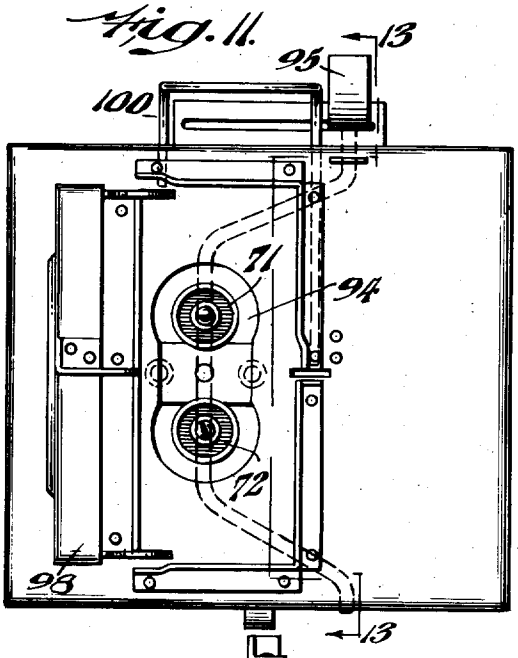


Fig. 12.

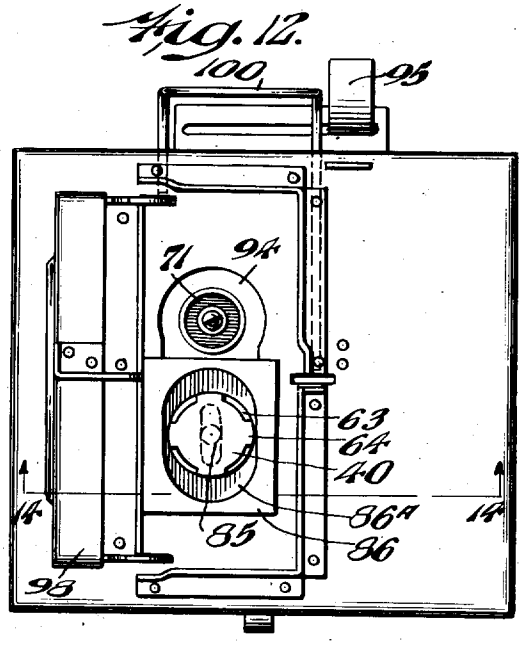


Fig. 13.

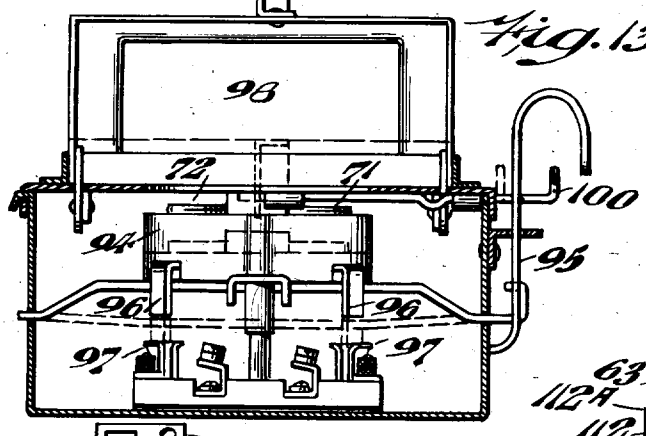


Fig. 15.

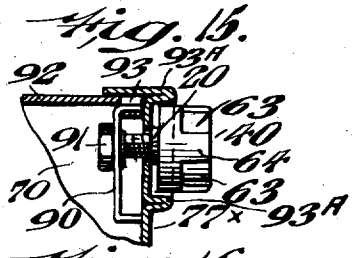


Fig. 16.

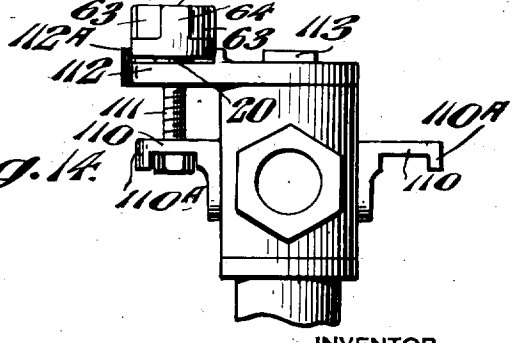
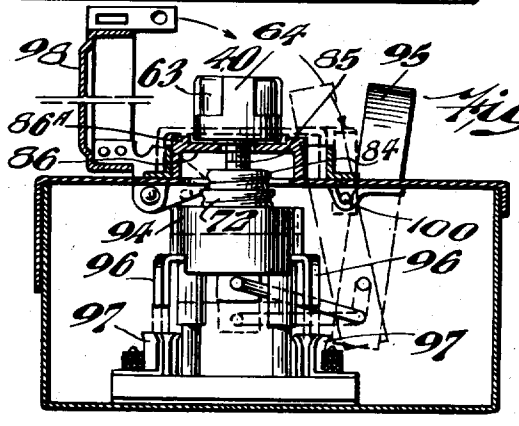


Fig. 14.



INVENTOR
GEORGE C. KAUFFMAN
BY Louis Necho
ATTORNEY

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UNITED STATES PATENT OFFICE

2,019,262

FASTENING DEVICE

George C. Kauffman, Philadelphia, Pa.

Application March 29, 1934, Serial No. 717,898

14 Claims. (Cl. 247—2)

This invention relates to a fastening device for preventing unauthorized access to the interior of closed containers, and for other similar purposes. The invention is more especially intended for use in securing boxes for electrical switches and fuses such as are commonly employed to control the electric current entering houses and other buildings. The main control switch for a circuit in a building is customarily placed between the leading in wires and the meter so that if the main switch is accessible, it is a relatively simple matter to tap the current directly from the line terminals, cutting around the meter to the load lines by means of jumpers so that the meter does not register the current consumed. It is the practice of electric light companies to seal or otherwise lock the switch boxes to prevent tampering with the wiring and theft of current. The locking and sealing devices heretofore in use have not proved wholly satisfactory for one reason or another. It is an object of the present invention to provide fastening means which can be readily released by an operator having the proper tool for the purpose, but which cannot otherwise be removed without substantial destruction of the device. In the embodiment of the invention which is hereinafter described and which is illustrated in the drawings, a fastening device is provided of which the accessible portion consists entirely of a freely rotatable casing member which surrounds and shields the other portions of the device. Within this casing is a core member which must be rotated to set up or to release the device. For the operation of the device the core and casing members must be operatively connected together. This is done by means of suitable locking dogs which are normally maintained in an inoperative position but which can be moved into an operative position by the application of a certain magnetic field induced by the application of a magnet of a special construction to the outside surface of the casing in a certain way. In the embodiment described and illustrated, an intermediate member is positioned between the core and casing members, all three of these members being ordinarily freely rotatable with respect to one another about the axis of the core member. In connecting the casing member to the core member, connection is made between the casing and the intermediate member and between the intermediate member and the core member so that in this manner the three members may be all connected together for rotation together.

The fastening devices may be employed in a variety of ways, according to the invention. The core member may be hollow and internally threaded to receive the threaded end portion of a bolt. In securing a switch or fuse box of sheet metal as ordinarily constructed, the box may be easily adapted to be secured by a fastening device such as is herein described by drilling a hole in the hinged cover of the box preferably near the edge of the cover which is remote from the hinges. A bracket or other support is then secured to the inner side of one of the fixed walls of the box at a point adjacent to said hole. The bracket is provided with a tap hole in which is rigidly secured a threaded bolt which registers with and projects through the hole in the cover when the cover is shut. The fastening element may then be threaded onto the projecting portion of the bolt by means of said magnet so as to clamp the cover tightly shut. The operating tool is then removed from the fastening device leaving the exposed casing freely rotatable with respect to the core member which is on the bolt. It is evident that in place of the threaded bolt and internally threaded core member, various other mechanical equivalents can be employed for securing the cover of the box in its closed position.

The fastening device may also be employed to advantage in connection with fuse switch boxes of various types. One such switch box has a hinged cover with apertures therein adapted to register with one or more sockets for plug fuses mounted within the box. The purpose of a box of this type is to permit access to the fuses themselves for replacement without permitting access to the live terminals and switch elements within the box. Boxes of this type may be secured in closed position by means of a threaded plug of insulating material adapted to be screwed into one of the fuse sockets. This plug may have a stem projecting outwardly and a plate or shield with a perforation therethrough to receive this stem. The fastening device may be screwed on to the projecting end of the stem so as to clamp the plate against the side wall of the box in such a way as to prevent access to the insulator plug or to the stem connected with it. In boxes of this type fuse sockets are customarily aligned with apertures in the box cover of a size and shape merely to permit the insertion of a fuse in the socket. The protective plate which constitutes a portion of the securing device is adapted to cover the opening for the fuse socket completely and also to overlap the surrounding portions of the box cover for a substantial distance so that when the securing device is in place, that is,

screwed into a fuse socket, the box cover cannot then be opened since the socket itself is anchored within the box and the plate to prevent the cover from swinging outwardly.

For a more complete description of the embodiment of the invention illustrated on the drawigs reference may be had to the description thereof which follows:

On the drawings:

Fig. 1 is a perspective view of the several parts or elements which make up a fastening device embodying the invention.

Fig. 2 is a perspective view of a magnetic tool for operating the device.

Fig. 3 is a sectional view of the assembled device.

Fig. 4 is a sectional view similar to Fig. 3, showing the moving parts in a different position in response to the field of a magnetic tool, a portion of which is shown in elevation.

Fig. 5 is a section on the line 5—5 of Fig. 3.

Fig. 6 is a section on the line 6—6 of Fig. 4.

Fig. 6A is an end elevation of Fig. 3 with certain parts omitted, showing a modified construction.

Fig. 7 is a plan view of a fuse switchbox shown in the "off" position with the fuses removed.

Fig. 8 is a view similar to Fig. 7 showing the switchbox in the "on" position.

Fig. 9 is a view similar to Fig. 7 illustrating the manner of applying my novel fastening device to the switchbox to prevent the turning on of the current by closing of the switch and to prevent access into the interior of the box.

Fig. 10 is a sectional view on line 10—10 of Fig. 9 showing details of construction.

Fig. 11 is a plan view of another form of fuse switchbox with the box open and the switch in the "off" position.

Fig. 12 is a view similar to Fig. 11 showing the application of my fastening device to prevent the closure of the switchbox for turning on the current and for preventing access into the interior of the box.

Fig. 13 is a sectional view on line 13—13 of Fig. 11.

Fig. 14 is a sectional view on line 14—14 of Fig. 12.

Fig. 15 is a fragmentary sectional view illustrating the application of my fastening device to any type of box or container other than fuse switchboxes.

Fig. 16 is a fragmentary diagrammatic view in elevation showing the application of my fastening device to any desired plug cock or valve.

Fig. 1 illustrates the several parts which may be employed in an embodiment of the invention. As shown, these parts consist of a cylindrical, internally threaded core member 20 having an enlarged head 21 forming an external shoulder 22. The core 20 is adapted to nest within a cylindrical intermediate member 25 which is centrally bored as at 26 to receive the core member 20, an internal shoulder 27 being provided against which the shoulder 22 may seat. The intermediate member 25 is provided with a wide diametrical groove or channel 28 extending across one end thereof, the top of the core member 20 being slightly below the bottom of the groove 28 when the shoulder 22 is seated against the shoulder 27. Slidable in the groove 28 are a pair of locking dogs 30, 31. These dogs are of sufficient width to fit slidably in the groove 28 so that they can slide radially to or from each other. The dog 30 has a downwardly projecting lug 32 which is adapted to project into a recess 33 in the top of the core member 20. This recess 33 has a circular central portion with one or more radial extensions or slots 34, 35 wide enough to receive the lug 32. In the embodiment illustrated in Fig. 1, two such slots are shown. The lug 32 ordinarily rides in the central circular portion of the recess 33, but when the dog is moved radially outward so that the lug 32 enters the slot 34 or 35, it is evident that this locks these members 20 and 25 for rotation together. A casing member 40 is fitted over the intermediate member 25. This casing member, as shown, consists of a cup-shaped element with a cylindrical bore, closed at one end. In the interior surface of the closed end is a recess 41 consisting of a central circular portion from which radiate one or more slots 42, one such slot being shown on the drawings. The dog 31 is provided with an upstanding lug 43 which rides in the recess 41 when the device is assembled. The lug 43 is ordinarily in the central circular portion of the recess, but when the dog 31 is moved radially outward in the slot 28, the lug 43 enters the radial slot 42, locking the casing member 40 to the intermediate member 25 for rotation together. The dogs 30 and 31 are normally maintained in their central position in which they abut each other, as by a pair of leaf springs 45 and 46. These springs are located respectively in the internal longitudinal slots 47 and 48 within the intermediate member 25. The springs may each be bent to provide an end portion 50 adapted to engage the walls of the member 25 frictionally so as to maintain the springs 45 and 46 in place. When the intermediate member 25 has been assembled with the other parts thus far described within the casing 40, a retaining ring 51 may be inserted in the open end of the casing, this ring being seated against a suitable inner shoulder 52 within the wall of the casing. The ring 51 is provided with a central aperture 53 in which the lower portion of the core 20 is adapted to fit loosely. As is evident from Fig. 3, the open end of the core is thus presented for threaded engagement with a bolt or a stem 55, but none of the other parts of the device are accessible. The open end of the core 20 is shown as projecting slightly beyond the ring 51 and the end edge of the casing 40. Thus, when the fastening device is set up against a surface, the end surface of the core is drawn against the surface of the box or other receptacle on which the device is used, the end edge of the casing 40 being slightly clear of such surface in order to permit free rotation of the casing member. Fig. 3 illustrates the device in its normal position with the dogs 30 and 31 centrally located and abutting each other. These dogs are of ferro-magnetic material such as steel so as to be capable of responding to a suitable magnetic field from a magnet outside of the casing. A magnet for operating the device is illustrated in Fig. 2, this magnet being shown in the general form of a cylinder 60 which is closed at one end but is hollow for most of its length. The cylindrical magnet 60 is transversely slotted as at 61 to form the two opposed pole pieces, which unlike the ordinary horseshoe magnet produce two separate magnetic fields, each having its greatest intensity at the intersection of the slot 61 with the arc of the cylinder. The magnetic cylinder 60 is provided with non-symmetrical, unevenly spaced grooves 62 which are adapted to fit over the corresponding complementary grooves 63 and lands 64 on the outside of the casing 40. This insures the application of the magnet 60 to the

sing 40 in such a manner as to align the slots with the dogs 30 and 31 so as to exert maximum agnetic influence on said dogs in the opposite rections in which said dogs are movable in the)ts 34 and 35 in the core 20, and slots 41 and in the intermediate member 25, and with ref- ence to the slot 42 in the casing 40. A magnet)t specially designed for the casing 40 will not ; over it in the manner described, and if it did, will not, due to the fact that the poles thereof ay not be properly aligned with the dogs 30 and , and the slot 42 act on the dogs 30 and 31 in ıe only direction in which they are movable. ı order to prevent the magnetic fields of the agnet 60 from passing beyond the location of ıe dogs 30 and 31 within the casing 40, where ıe magnetic flux may be shunted by the presence ' other ferro-magnetic parts, I provide the ıoulder 63a on the casing 40 against which the ıce 62a of magnet 60 is adapted to abut when ıe magnet 60 is applied to the casing 40, thereby miting the extent to which the magnet 60 may e drawn over the casing 40, as shown in Fig. 2. he magnet is preferably of cobalt steel or other lloy capable of sufficient magnetization. Refer- ng to the various parts as they appear in Fig. , the right hand pole pieces of the magnet may e considered as having positive polarity, the left and pole piece being considered as having nega- ive polarity. This induces negative polarity in he right hand end of both dogs 30 and 31, and ositive polarity in the left hand ends of both ogs. There is thus set up a mutual repelling ac- lon between the two dogs which tends to move hem apart so that the attractive force of the nagnet upon the dogs is thus augmented. These nagnetic forces move the dogs away from each ther to the positions shown in Fig. 6 against the ight pressure of the leaf springs 45 and 46. When he magnet is in place over the upper portion of he casing member 40, it is rotated sufficiently to lign the slots 34, 35 and 42 radially with the lugs 2 and 43. These lugs thereupon move into these lots, locking the intermediate member to both he core member 20 and the casing member 40. The core and casing are thus locked to each other or rotation together. The intermeshing grooves nd lands of the magnet and casing member lock he magnet to the casing so that it can be used s a wrench to rotate the fastening device as a whole. Hence, the magnet may be used to set up he fastening member or to remove it from a hreaded bolt or stem 55.

The completely assembled fastening device, best shown in Figs. 3 and 4, may be used to prevent tampering with or access into the interior of any closed receptacle, and in Figs. 7 to 10, inclusive, I have illustrated the application of this fasten- ing device to a conventional fuse switchbox of the type ordinarily employed by electric companies in supplying current to users. A box 70 of this type is provided with two fuse sockets 71 and 72 which are mounted in a support 73 which is rotatable on the spindle 74. The switch sockets 71 and 72 are provided with the prongs 75 which are adapt- ed to engage the contact clips 76 to complete the circuit and close the switch. The rotary support 73 is adapted to be rotated by the disc member 77 which is pivoted on the cover 77x of the box while the cover is closed over the box 70, said disc 77 being in turn rotatable by the handle 78. As shown in Fig. 7, the prongs 75 are out of contact with the contact clips or binding posts 76 and the switch is in its "off" position. In this posi- tion of the parts the fuse sockets 71 and 72 will register with the registering openings 79 provided in the disc 77 and the cover 77x to permit the insertion or removal of the fuses (not shown) which are adapted to be received in the sockets. In Fig. 8 the switchbox is shown in its closed or "on" position with the fuse support 73 rotated by and with the disc 77 to bring the prongs 75 into engagement with the binding posts 76. In this position of the parts the fuse sockets 71 and 72 are inaccessible and the conventional practice has heretofore been to put a seal through the apertured lug 80 and the coacting fastening mem- ber 81 to prevent turning of the cover member 77 from the position shown in Fig. 8 to the position shown in Fig. 7. Furthermore, in order to pre- vent the complete removal of the cover 77x of the box 70 and thus prevent access into the in- terior thereof, it has been customary to put a seal through the fastening arrangement 82, part of which is carried by the cover 77x of the box and the other part of which is carried by a side wall of the box. The use of the seals herein re- ferred to has been entirely unsatisfactory, since they could be tampered with, without any redress or recourse available to the electric company maintaining the service, for the reason that it is impossible to establish by legal proof who broke the seal. By my invention, when it is desired to cut off the electric current and to prevent access into the interior of the switchbox to prevent the consumer from drawing unauthorized current, I first turn the disc 77 into the position shown in Fig. 7 to expose the fuse sockets 71 and 72. I thereupon remove one of the fuses (not shown) and insert in the place thereof the dummy fuse 84, which is of the same contour as the regular fuse and which can be threaded into one of the fuse sockets 71 or 72. The dummy fuse 84 is pro- vided with a threaded member 85 which projects through and beyond the disc 77, as best seen in Fig. 10. An auxiliary non-rotatable cover 86 is then placed over the fuse socket, into which the dummy 84 has been threaded, with the threaded stem 85 of said dummy projecting through the cover 86 to engage the inner core 20 of my fasten- ing device, as shown in Fig. 10. In addition to closing the fuse socket, the auxiliary cover 86 provides a surface against which the inner pro- jecting edge of the core 20 may abut to afford the frictional engagement necessary to retain the in- ner core member 20 against rotation. The cover 86 is provided with a depression bounded by the flange 86a which overlaps and surrounds the in- ner, abutting edge of the casing 40 of the as- sembled device to prevent access to the face of the fastening device by a thin tool which could otherwise be inserted between the face of the fastening and a flat surface against which it free- ly abuts. With the dummy fuse 84 thus posi- tioned in one of the fuse sockets and with the stem 85 thereof engaged by the loosely rotatable fastening device herein described it is impossible to open the box and tamper with the interior thereof and it is impossible to unthread the dum- my fuse 84 without the use of the particular mag- netic tool 60 (see Fig. 2), without the use of which the fastening device cannot be unthreaded from the stem 85. If it is desired to maintain the current or electric service, but it is also desired to prevent access into the interior of the box 70, the dummy fuse 84 is dispensed with and the ar- rangement shown in Fig. 15 is employed. In this construction a bracket 90 is secured to one of the fixed walls 92 of the box by the tongue and lip ar- rangement 93 shown, or any other suitable de-

vices, and a threaded bolt 91 is fixedly carried by and passes through an aperture in said bracket and through a hole in the hinged cover 77x of the box. The complete fastening device is then threaded on to the bolt 91 in the manner described in connection with Fig. 10, and by this means the switchbox may be closed with the parts in the position shown in Fig. 8. By this construction it is possible to rotate the disc 77 to replace a fuse but it is impossible to gain access into the interior of the box.

In Figs. 11 to 14, inclusive, I have illustrated the application of my novel fastening device to a different form of switchbox. In this form of switchbox the fuse sockets 71 and 72 are mounted on a support 94 which is movable vertically up and down by means of the crank handle 95. When the crank handle 95 is in the position illustrated in Figs. 11, 12 and 13 the fuse support 94 is raised and the contact prongs 96 thereof are disengaged from the spring clips or binding posts 97, as best seen in Fig. 13. In this position of the parts the upper cover 98 which directly closes the fuse sockets 71 and 72 is also open and the lever 100 is in its outer position so as to obstruct the movement of the crank handle 95, as best seen in Figs. 11, 12 and 13. With this type of box, before the current can be turned on it is necessary for the upper cover 98 to be closed and for the lever 100 to be pushed inwardly into the box, out of the way of the crank handle 95, whereupon the movement of the crank handle 95 to the left of Figs. 11 and 12 will bring the fuse support 94 down to its lower position in which the contact prongs 96 engage the binding post 97, as shown in dotted lines in Fig. 13. The construction thus far sketchily described is conventional, and when it is desired to apply my fastening device to this type of box the crank lever 95 is pulled to the right of Figs. 11 and 12 to disengage the prongs 96 from the binding post 97, whereupon the lever 100 is pulled out and the cover 98 is then opened to reveal the fuse sockets 71 and 72. One of the fuses is then removed and the dummy fuse 84 with its stem 85 is threaded into one of the fuse sockets and the fastening device illustrated in Fig. 10 is then applied, as shown in Figs. 12 and 14, in the same manner as that illustrated in connection with Fig. 10. By this arrangement the current can be turned off and access into the interior of the box is completely prevented. If, however, it is desired to prevent access into the interior of the box and to maintain the electric service, the construction shown in Fig. 15 is applied to one of the vertical walls of the box shown in Figs. 11 to 14 and to the cover thereof, and in this way the operation of the box to turn the current on and off is not interrupted or interfered with, but access into the interior of the box is completely prevented.

In Fig. 16 I have illustrated the application of my fastening device to a water valve but it is obvious that the same is applicable to any kind of a valve where motion would be necessary to open and close such valve. In the particular illustration shown in Fig. 16 the valve is provided with apertured lugs 110 through which extends a threaded bolt 111 which also passes through a registering aperture in the handle or operating lever 112 which engages and rotates, or otherwise operates, the plug cock or other member 113. By rotating or turning the operating lever 112 to the closed, open or partly open position desired, (in which position it will register with one of the apertured lugs 110,) and by passing the threaded bolt through the apertures in the lugs 110 a the operating lever I am enabled to apply n fastening device to maintain the parts in su position against all tampering. As shown in Fi 16, the lugs 110 may be provided with the flan 110a which abuts against and prevents the m nipulation of the bolt 111. Also, the operati lever 112 is provided with a depression to rece the face of the fastening device, said depressi being surrounded by a flange or raised porti 112a corresponding to the flange 86a to prev the insertion of a thin tool between the face the fastening device and the operating lever 1

Referring again to Fig. 15, that portion of t cover 77x against which the fastening devi abuts is provided with a raised annular flange 9 which prevents the insertion of a tool betwe the fastening device and the cover 77x. By pr viding the protective elements 86a, 110a, 11 and 93a the fastening device may be spaced fro the surface against which it abuts to insure fr rotation, and at the same time protection is a forded against tampering with the fastening d vice by a tool inserted between it and the surfa against which it abuts.

In Fig. 6A, I have shown a modified form the fastening device in which I employ an auxi liary spring 116 which is positioned in a bore i the intermediate member 25 so as to bear co stantly against the core 20, thereby tensioning th intermediate member 25 and thus somewhat de creasing its capacity for free rotation with th outer casing 40 to guard against the possibility o moving the dogs 30 and 31 in the slots 34, 35, 4 38, and 42 by centrifugal force which may de velop from a rapid free rotation of the casing 4 and the intermediate member 25. The tension o the spring 116, while enough to retard the mo tion of the intermediate member 25 to prevent th development of extremely high speed rotation an consequent centrifugal force is nevertheless suc as to permit free rotation of the intermediat member 25 with respect to the core 20 and th casing 40 to prevent the unthreading of th fastening device from the bolt except by use o the specially designed magnet. The use of thi spring 116 is optional.

From the foregoing it will be seen that m novel fastening device is capable of applicatio wherever a permanent sealing or enclosure of th parts is desired and that my novel fastening de vice cannot be operated by any ordinary magnet since it only yields to the action of the particula magnet designed for this purpose, the manufac ture and distribution of which can be controlle exclusively by the party using the fastening device on switchboxes, valves, or any other containers.

According to my invention, I contemplate mak ing all, or almost all, of the vital operating part of the fastening device from case hardened steel, or its equivalent, to prevent drilling or cutting through the casing or any of the parts. The part of the bolt not engaged by the core 20 is either secure within the box 70 or else may be otherwise guarded from access, and while the face or inner edge of the fastening device must necessarily be spaced from the surface against which the core abuts to provide permanent free rotation, I have shown various forms of providing means for preventing the insertion of a tool between the edge of the fastening device and the surface against which the core abuts. It will further be seen that my novel fastening device is not one that can be operated by any magnet but that it will respond only to a magnet of the specific construction

especially designed for use in connection with this fastening device, since the casing **40** is provided with grooves and lands which will register only with corresponding grooves and lands formed in the specially designed magnetic tool **60**, that the casing **40** is provided with a stop **63A** against which the face **62A** of the magnet **60** abuts to insure the registration of the magnetic fields with the dogs **30** and **31** (see Fig. 4), and that the slots **61** separating the two magnetic fields insures the alignment of the poles of the magnet with the dogs **30** and **31** and slot **42** to insure their being actuated in the opposite directions in which they are intended to move. With reference to the construction of the magnet itself it is to be noted that by this construction the dogs **30** and **31** are made to repel each other while the magnetic poles attract them in the opposite direction, thereby insuring positive action at all times.

I claim:

1. A magnetically operable fastening device comprising a securing element adapted to be rotated into and out of securing condition, a casing around said element and freely rotatable relatively thereto, and means for operatively connecting said element and casing for rotation together whereby rotation of the casing rotates the element into or out of securing condition, said means including a pair of radially and oppositely movable locking dogs normally in inoperative position, said dogs being movable by magnetic influence from without the casing to operative positions in which the casing and element are connected for rotation together.

2. A magnetically operable fastening device comprising a fixed securing element, a casing enclosing the end of said element and freely rotatable relatively thereto, and means for operatively connecting said casing and element for rotation together, said means including a pair of locking dogs movable in different directions into operative position by magnetic influence from outside the casing.

3. A magnetically operable fastening device comprising a casing member, a core member within said casing, an intermediate member between said core and casing, all three members being normally rotatable relatively to one another about a common axis, and means within said casing movable by magnetic influence at an angle to said axis and from outside the casing to operatively connect said three members for rotation together.

4. A magnetically operable fastening device comprising a casing member, a core member within said casing, an intermediate member between said core and casing, all three members being normally rotatable relatively to one another about a common axis, means within said casing movable by magnetic influence at an angle to said axis and from outside the casing to operatively connect said three members for rotation together, and spring means yieldingly maintaining said locking means in a normally inoperative position.

5. A magnetically operable fastening device comprising a casing, a hollow cylindrical member located within said casing and freely revoluble relatively thereto, a cylindrical core within said member and freely revoluble relatively thereto, a pair of magnetically operable locking dogs within said casing normally in inoperative position, said dogs being movable in different directions into operative positions wherein the said casing, member, and core are locked together to revolve as a unit.

6. A magnetically operable fastening device comprising a core member adapted to be threaded onto a fixed bolt, a casing member surrounding said core member, an intermediate member between said casing and core members, all three said members being normally freely revoluble relatively to one another about said axis, and means responsive to magnetic influence from outside said casing for operatively connecting said three members for rotation together, said means including a pair of locking dogs movable in opposite directions into operative locking position, and spring means yieldably maintaining said dogs in inoperative position.

7. A magnetically operable fastening device comprising a casing member, a threaded member having a portion thereof within the casing and a portion thereof outside of the casing, an intermediate member entirely enclosed by said casing, said three members being normally freely rotatable relatively to one another about a common axis, and a pair of inaccessible locking dogs of ferro-magnetic material inaccessible within said casing and movable by outside magnetic influence to operative positions in which one of said dogs operatively connects said casing and said intermediate member and the other of said dogs connects said intermediate member and said threaded member, whereby all three members are integrated for rotation as a unit.

8. A magnetically operable fastening device comprising a cylindrical core member having a threaded portion and an external shoulder, a cylindrical intermediate member bored to receive said core member and provided with an internal shoulder for engagement with said external shoulder, a casing member surrounding said core and intermediate members, said casing having a single opening in one end thereof through which a portion of said core member projects, said three members being normally rotatable relatively to one another about the axis of said core member, and means for operatively connecting said three members for rotation together, said means including a pair of locking dogs carried by said intermediate member and normally held out of connecting engagement with said core and casing members, said dogs being movable in different directions into locking position by magnetic influence from outside the casing, and spring means yieldingly maintaining said dogs in inoperative position.

9. A magnetically operable fastening device comprising a casing member, a threaded core member within said casing member, said members being freely rotatable relatively to each other, and means operable by magnetic influence from outside the casing to connect said members for rotation together, said means including a pair of locking dogs arranged side by side in a plane substantially perpendicular to the axis of rotation of said members and movable in said plane, each said dog having a lug projecting from its plane and adapted to engage one of said members when said dogs are moved away from each other in their plane.

10. The combination with a switchbox or the like having an apertured cover movable to open the box and a fuse socket therein normally accessible through the aperture in said cover, of means for securing said box in open-circuit condition, said means comprising a threaded plug of insulating material adapted to be screwed into

said fuse socket through said aperture, a protective plate screening said aperture, a stem projecting from said plug through said plate, and a fastening device on the projecting end portion of said stem.

11. The combination with a switchbox or the like having an apertured cover movable to open the box and a fuse socket therein normally accessible through the aperture in said cover, of means for securing said box in open-circuit condition, said means comprising a threaded plug of insulating material adapted to be screwed into said fuse socket through said aperture, a protective plate screening said aperture, a stem on said plug having a threaded portion projecting through said plate, and a fastening device including a nut threaded on said stem, a casing enclosing and shielding said nut and normally rotatable with respect to said nut about the axis of said stem, and means actuable to connect said casing and nut whereby rotation of said casing screws the nut on or off said stem.

12. The combination with a switchbox or the like having an apertured cover movable to open the box and a fuse socket therein normally accessible through the aperture in said cover, means for securing said box in open-circuit condition, said means comprising a threaded plug of insulating material adapted to be screwed into said fuse socket through said aperture, a protective plate screening said aperture, a stem on said plug having a threaded portion projecting through said plate, and a fastening device including a nut threaded on said stem, a casing enclosing and shielding said nut and normally rotatable with respect to said nut about the axis of said stem, and means responsive to magnetic influence from outside the casing to connect the casing and nut for rotation together.

13. A fastening device comprising a casing, an inner core freely rotatable therein, an intermediate sleeve freely rotatable with respect to said inner core and said casing, a pair of locking dogs normally freely rotatable on said inner core, and operable by a magnetic tool having two opposed pairs of negative and positive polarity adapted when applied to said fastening device to cause a repellent action between said locking dogs to move the latter in opposite directions, one of said locking dogs being adapted to integrate the inner core with said intermediate member and the other of said locking dogs being adapted to integrate said intermediate member with said casing to render said inner core, said intermediate member and said casing rotatable together as a unit.

14. A fastening device comprising a casing, an inner core freely rotatable therein, an intermediate sleeve freely rotatable with respect to said inner core and said casing, a pair of locking dogs normally freely rotatable on said inner core, and operable by a magnetic tool having two opposed pairs of negative and positive polarity adapted when applied to said fastening device to exert, simultaneously, a mutually repellent action between said dogs and an attraction on said dogs in opposite directions, one of said locking dogs being adapted to integrate the inner core with said intermediate member and the other of said locking dogs being adapted to integrate said intermediate member with said casing to render said inner core, said intermediate member and said casing rotatable together as a unit.

GEORGE C. KAUFFMAN.