Feb. 11, 1947. A. H. GROEGER 2,415,587

LOCK FOR REFRIGERATOR DOORS

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Fig. 1

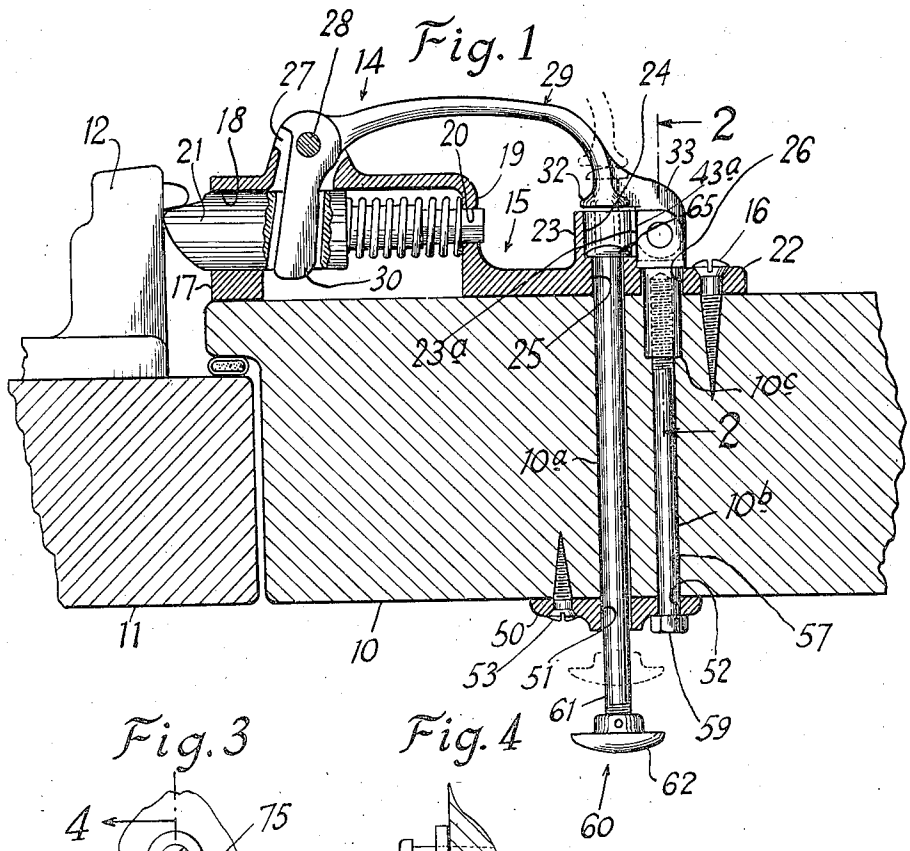


Fig. 3

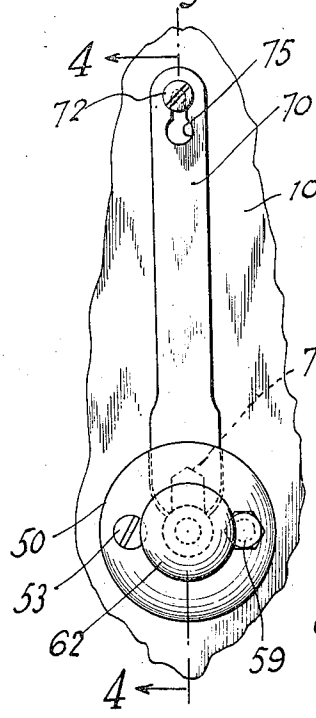


Fig. 4

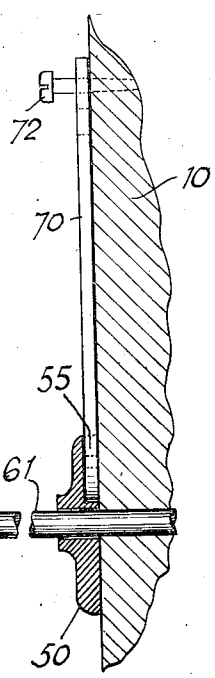
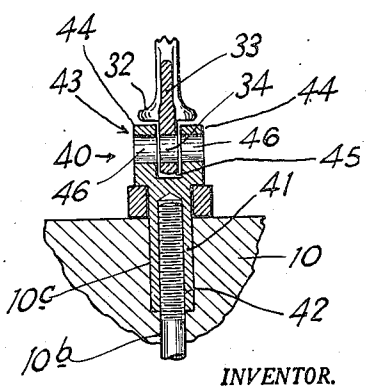


Fig. 2



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Fig. 5

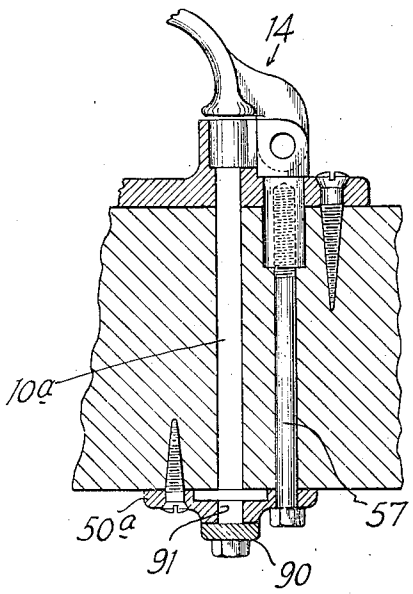


Fig. 8

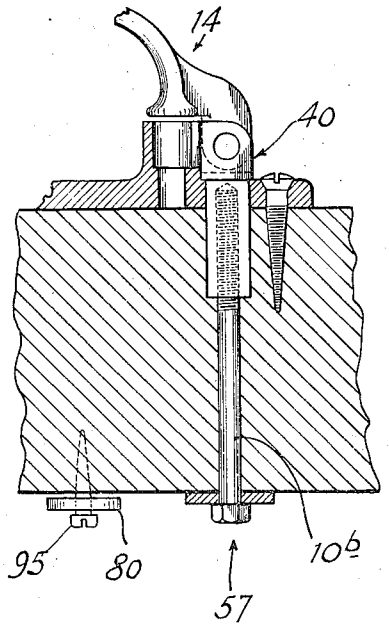


Fig. 6

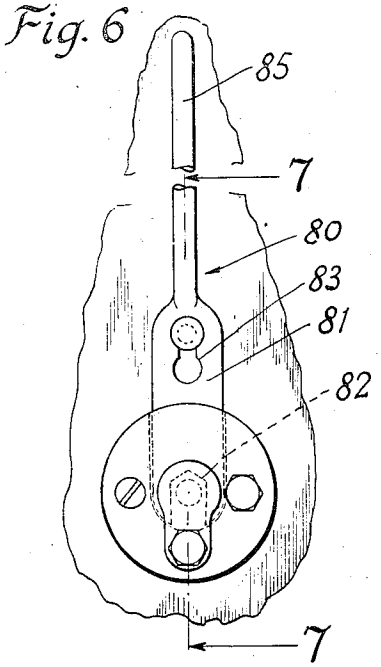
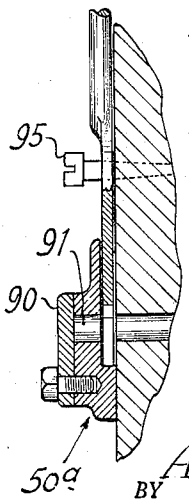


Fig. 7



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LOCK FOR REFRIGERATOR DOORS

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11 Claims. (Cl. 292—173)

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This invention relates to locks for refrigerator doors and the like articles.

Locks for refrigerator doors usually comprise a spring-pressed latch to engage a keeper or striker on the door jamb, and a handle to retract the latch. The handles are usually formed with a hole registering with holes in the latch casing to receive a pad lock for retaining the latch in locked position. Often a rod is provided passing through the door which may be pushed from the inside of the refrigerator to swing the handle and retract the latch so that a person inside the refrigerator can get out. A thief entering a butcher store would sometimes force the proprietor into the refrigerator and then put a pin through the registering holes in the handle and latch casing, making it impossible for the person within the refrigerator to push open the handle with the usual push rod for such purpose. Some refrigerator locks are not provided with any means for pushing open the handle from the inside. Sometimes the person enters such a refrigerator, and the door closes accidentally so that the person inside has no means whatsoever of opening the door. It is therefore an object of this invention to provide a refrigerator lock so constructed that it may be opened from the inside of the refrigerator even if a pin is passed through the registering openings in the handle and latch casing, or if the usual pad lock is applied to lock the latch.

A further object of this invention is to provide a refrigerator lock having highly improved means to permit opening of the lock from the inside of the refrigerator even if the lock is locked from the outside.

Yet another object of this invention is to provide a strong, rugged, and durable lock of the character described which shall be relatively inexpensive to manufacture, easy to manipulate, safe and positive in use, and yet practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which are shown various possible illustrative embodiments of this invention,

Fig. 1 is a horizontal cross-sectional view of the refrigerator door and door jamb provided with a

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lock embodying the invention and with parts in cross-section;

Fig. 2 is a cross-sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is an inside elevational view of the refrigerator door showing the means for opening the door from the inside;

Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is a partial view of the lock and refrigerator door embodying the invention and illustrating a modified construction;

Fig. 6 is an inside view of the door shown in Fig. 5;

Fig. 7 is a cross-sectional view taken on line 7—7 of Fig. 6; and

Fig. 8 is a view similar to Fig. 5 but illustrating still another modified construction.

Referring now in detail to the drawings, 10 designates a refrigerator door and 11 a door jamb. Attached to the door jamb 11 is a striker or keeper 12 of usual construction. Attached to the door 10 is a refrigerator door lock 14 embodying the invention.

The same comprises a casing 15 attached to the front of the door 10 as by screws 16. The casing 15 has a front wall 17 formed with a through opening 18. Said casing also has an end wall 19 formed with a through opening 20 registering with opening 18. Slidably mounted within openings 18, 20 of the casing is a usual spring-pressed latch 21. Extending rearwardly from the casing is a flat wall 22 contacting the door and formed with a boss 23 having a socket 24. Wall 22 is formed with a through opening 25 at the bottom of socket 24. Rearwardly of opening 25 is another through opening 26 through wall 22, for the purpose hereinafter appearing.

Housing 15 is formed with parallel spaced walls 27 forming a slot therebetween. Supported by walls 27 is a pivot pin 28. Pivoted to the pin is a handle 29. Handle 29 has an arm 30 extending into casing 15 and passing through an opening in the latch 21. Handle 29 has a boss 32 overlying socket 24. Extending from boss 32 is a web 33 disposed in a plane diametric with respect to opening 26.

Web 33 is formed with an opening 34. The door 10 is formed with a through opening 10a registering with opening 25. It also is formed with a second through opening 10b parallel to opening 10a and registering with opening 26. At the front end of opening 10b is an enlarged socket 10c.

Slidably mounted on the door is a releasable

lock member 40. Lock member 40 has a stem 41 received within socket 10c and formed with an internally screw threaded axial opening 42. Extending from stem 41 is a slotted head 43 comprising parallel walls 44 disposed on opposite sides of web 33 and forming a slot 45 therebetween to receive said web. Walls 44 are formed with through openings 46 registering with opening 34. Head 43 has a front surface 43a contacting the rear surface 23a of boss 23. Thus member 40 cannot rotate but can only be moved outwardly out of socket 10c.

Means is provided to fix member 40 to the refrigerator door. To this end there is fixed to the inside of the door, a plate 50 formed with a central through opening 51 registering with opening 10a. Plate 50 is furthermore formed with an opening 52 registering with opening 10b. Said plate may be attached to the door by screws 53 or in any other suitable manner. Said plate 50 is furthermore formed on the inner surface thereof with a groove 55 extending upwardly for the purpose hereinafter appearing. Extending through openings 52 and 10b is a screw 57 screwed to the screw threaded opening 42 of member 40. At one end of screw 57 is a polygonal head 59. It will now be understood that when screw 57 is screwed to member 40, member 40 is retained in position so that if a padlock is placed through the registering openings 34, 46 the lock cannot be opened through the outside of the refrigerator.

Extending through registering openings 51 and 10a is a push rod 60. The same has a shank 61 and a handle or head 62 at its inner end. The shank 61 passes through the registering openings 51, 10a and 25. At its forward end is an enlarged head 65 within socket 24. It will now be understood that when there is no padlock on the lock, a person on the inside of the refrigerator may open the door by pushing on rod 60 to retract the latch. However, should a pin or screw be inserted through the registering openings 34, 46 or if a padlock is placed on the lock, the door cannot be opened from the inside by pushing on the push rod 60. The door can be opened however, by unscrewing screw 57 until it is released from member 40. Then the push rod 60 may be pushed forwardly even if member 40 is connected to the handle by something inserted through the openings 34, 46. Upon pushing the push rod 60 the handle will swing open and member 40 will be pushed out of the socket 10c, and the latch will be retracted.

For the purpose of safety, a wrench 70 may be mounted on the inside of door 10. The wrench 70 may have a wrench socket 71 at one end and may be inserted within slot 55 to lie against the door. A pin or screw 72 attached to door 10 may pass through a key slot 75 for mounting the wrench on the door. Thus if a thief should force the proprietor of a butcher shop or the like, into a refrigerator and then insert a pin or screw into the registering openings 34, 46, in an attempt to lock the proprietor within the refrigerator, the door may nevertheless be opened from the inside of the refrigerator.

In Figs. 5, 6 and 7 there is shown a modified construction. The door lock 14 is the same as described above. However, some refrigerator doors are not provided with a push rod. In such event there is substituted for the wrench 70 a wrench 80 which can serve to unscrew the screw 57; and also it serves as a push rod to push the door handle to open position. To this end the

wrench comprises a flat portion 81 formed with a wrench socket 82 at one end and with a key slot 83 to engage a screw or pin on the door 10. Extending from the flat part 81 is a rod 85 which may be pushed through the opening 10a, after the screw 57 is unscrewed, to push open the lock.

In Fig. 5 there is shown a plate 50a to replace the plate 50. The plate 50a is similar to plate 50 with the exception that it may be provided with a shutter 90 to close opening 91 therein registering with the opening 10a in the door.

In Fig. 8 there is shown still another modified construction. In Fig. 8 the door lock 14 is the same as described above. However, the door is not provided with any through opening 10a for a push rod. In such case the screw 57 can be unscrewed by the combination wrench and push rod 80 which may be hung on any suitable screw or pin 95 on the inside of the door. The wrench 80 may thus be used to unscrew the screw 57. Said screw can thus be removed from the door and the rod portion 85 pushed through the opening 10b and pressed against the rear of member 40 to swing out the handle.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A refrigerator door lock comprising a casing, a spring-pressed latch on said casing, means to retract said latch, a member releasably attached to said casing and having an opening, said retracting means having an opening registering with the opening in said member.

2. A refrigerator door lock comprising a casing, a spring-pressed latch on said casing, means to retract said latch, a member having an opening, said retracting means having an opening registering with the opening in said member, said member having a screw threaded opening, and a screw adapted to pass through the refrigerator door, and screwed to the screw threaded opening in said member, said member being movable with said retracting means upon unscrewing said screw from said member.

3. A refrigerator door lock comprising a casing, a spring-pressed latch on said casing, means to retract said latch, a member having an opening, said retracting means having an opening registering with the opening in said member, said member having a screw threaded opening, and a screw adapted to pass through the refrigerator door, and screwed to the screw threaded opening in said member, said screw having a head on the inside of the door.

4. A refrigerator door lock comprising a casing adapted to be attached to the refrigerator door, a spring-pressed latch on said casing, means to retract said latch including a handle, means adapted to pass through the door for moving the handle to latch retracted position, said handle having an extension formed with an opening, a member movable with respect to the casing and having an opening registering with the opening

in said extension, and means to fix said member against movement relative to said casing.

5. A refrigerator door lock comprising a casing adapted to be attached to the refrigerator door, a spring-pressed latch on said casing, means to retract said latch including a handle, means adapted to pass through the door for moving the handle to latch retracted position, said handle having an extension formed with an opening, a member movable with respect to the casing, and having an opening registering with the opening in said extension, and means to fix said member against movement relative to said casing, said last means comprising a screw adapted to extend through the door and screwed to said member.

6. A refrigerator door lock comprising a latch, means to retract the latch, a member movable relative to the refrigerator door, means to lock said retracting means to said member, and releasable means to attach said member to the door.

7. A door lock comprising a casing adapted to be attached to the door, a latch on said casing, said casing being provided with an extension formed with a through opening, means to retract said latch comprising a handle pivoted to the casing and having an arm engaging said latch, said handle having a portion overlying said through opening, an extension on said handle, formed with an opening, said extension on said casing having a second opening, a member having a portion projecting into said second opening in said casing extension, said member having an opening registering with the opening in the handle extension.

8. A door lock comprising a casing adapted to be attached to the door, a latch on said casing, said casing being provided with an extension formed with a through opening, means to retract said latch comprising a handle pivoted to the casing and having an arm engaging said latch, said handle having a portion overlying said through opening, an extension on said handle, formed with an opening, said extension on said casing having a second opening, a member having a portion projecting into said second opening in said casing extension, said member having an opening registering with the opening in the handle extension, and a push rod on the door passing through the first opening in said casing extension.

9. A door lock comprising a casing adapted to be attached to the door, a latch on said casing, said casing being provided with an extension formed with a through opening, means to retract said latch comprising a handle pivoted to the casing and having an arm engaging said latch, said handle having a portion overlying said through opening, an extension on said handle, formed with an opening, said extension on said casing having a second opening, a member having a portion projecting into said second opening in said casing extension, said member having an opening registering with the opening in the handle extension, and a screw passing through the opening in the door and screwed to said member.

10. A refrigerator door lock comprising a spring pressed latch, means to retract the latch, a member, releasable means for attaching said member to a refrigerator door, means to connect the retracting means to said member, said attaching means being adapted to extend to the inside of the door so that it can be released from the inside of the door.

11. A refrigerator door lock comprising a casing adapted to be attached to a refrigerator door, a spring pressed latch on said casing, means to retract said latch, including a handle, a member mounted on the casing and having an opening, said handle having an opening registering with said first opening, and a screw adapted to pass through the door and screwed to said member for fixing said member to said door, said member being movable relative to said casing upon unscrewing said screw from said member.

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