Sept. 11, 1934. J. F. RYAN ET AL 1,973,579

LOCKER

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Fig. 1

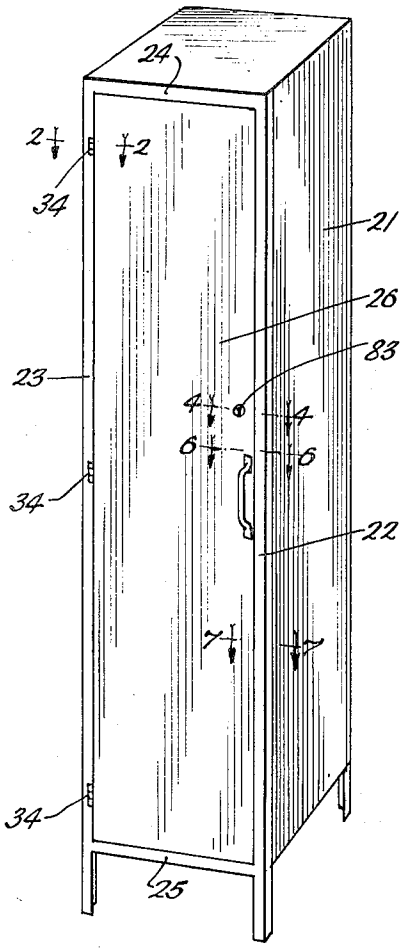


Fig. 2

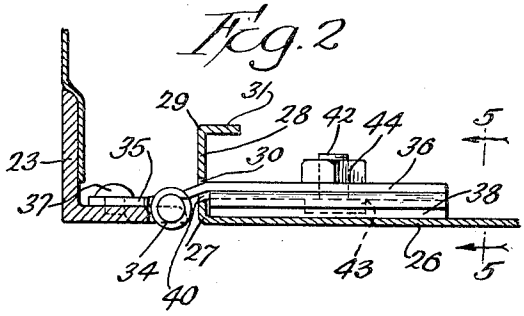


Fig. 3

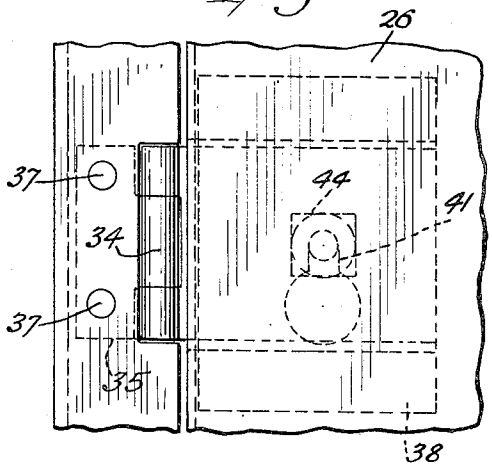


Fig. 4

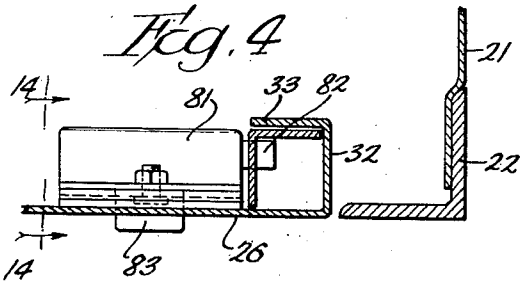
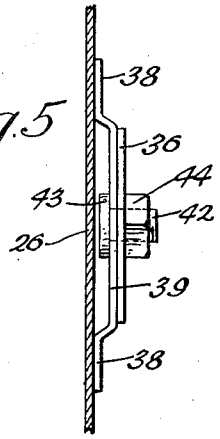


Fig. 5



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Fig. 6

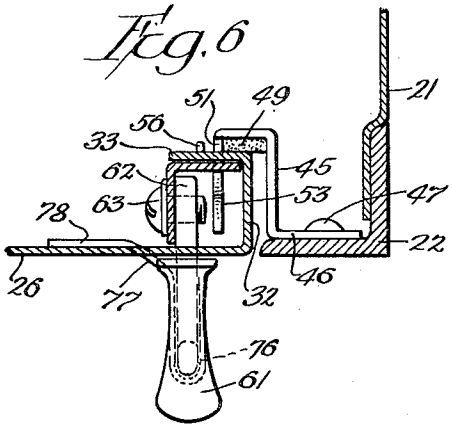


Fig. 7

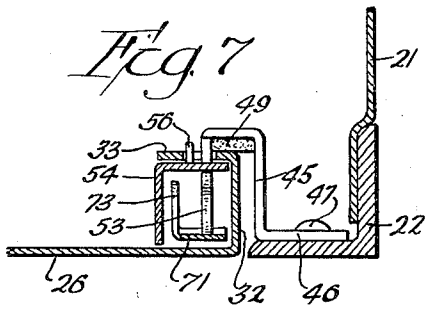


Fig. 8

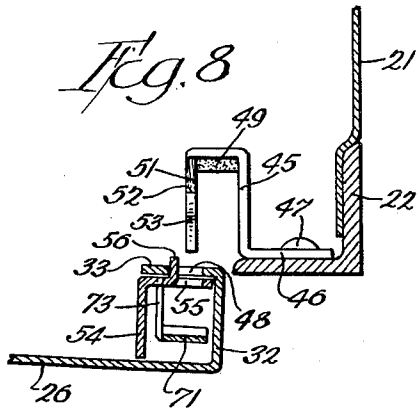


Fig. 9

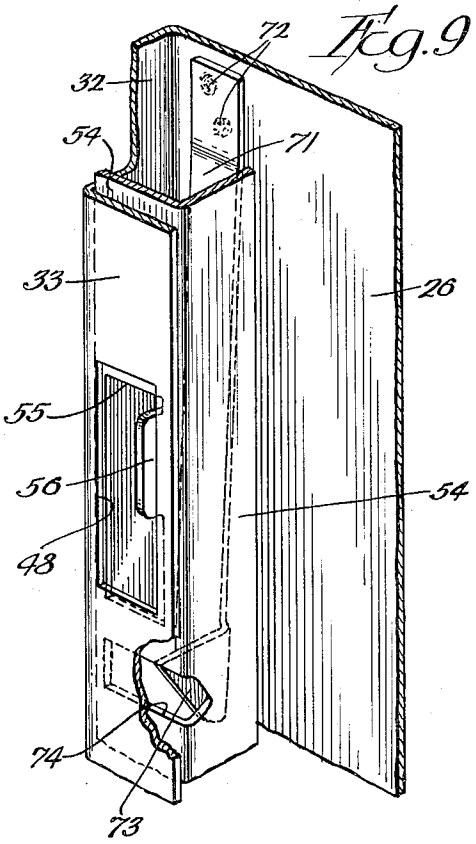
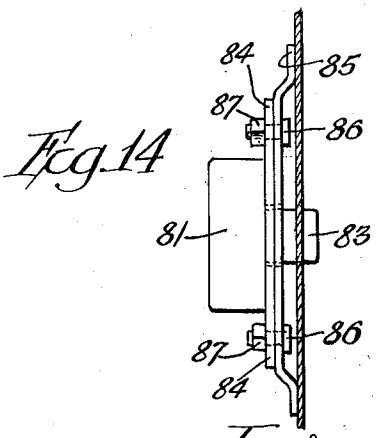


Fig. 14



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Fig. 10

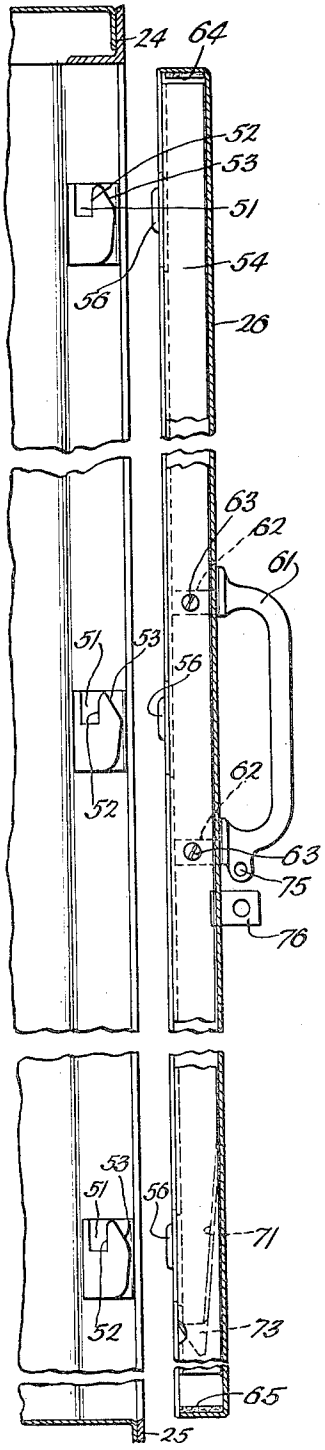


Fig. 11

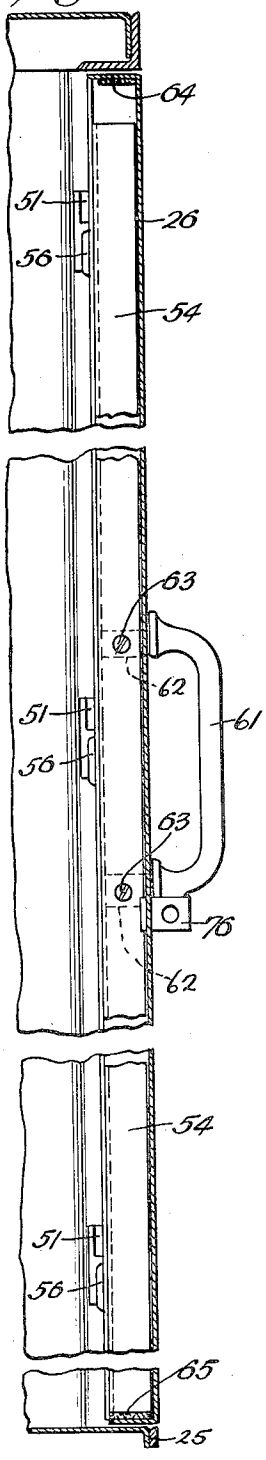
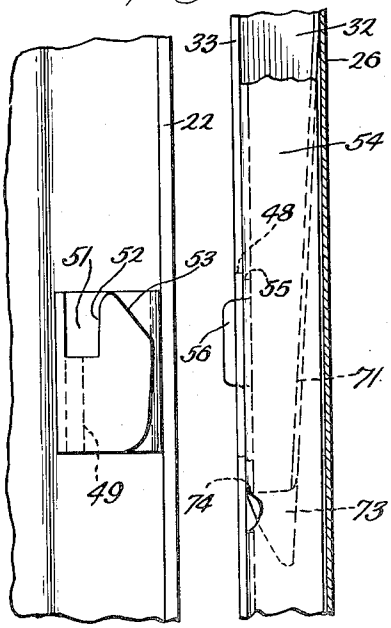


Fig. 12



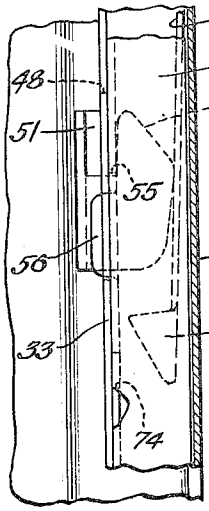


Fig. 13

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UNITED STATES PATENT OFFICE

1,973,579

LOCKER

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Application December 31, 1930, Serial No. 505,812

6 Claims. (Cl. 292—334)

This invention relates in general to sheet metal lockers and has for its object broadly improvements in features of construction as will be presently more fully explained.

The principal object of the invention is the provision of a locker of pleasing appearance, simple construction, which may be opened and closed with minimum noise, and which is or may be provided with latching mechanism requiring minimum effort in the opening and closing of the door.

The invention contemplates, among other important features of novelty, the securing of the hinges, the rim lock and possibly other parts to the door by fastening devices which, while permitting ready assembly of these parts to the door after it has been finished and their ready subsequent removal if desired, will not extend through the door or mar its external finish.

The invention contemplates also the provision of effective and easily operated latching mechanism fully cushioned against noisy impact in the closing and opening of the door and/or movement of the latch bar.

The invention contemplates as a further and important feature of novelty the provision of simple automatic mechanism for maintaining the latch bar in an elevated position while the door is open so that closing of it may be accomplished without effort, and so that the door may be opened by merely lifting the latch bar and pulling it to open position.

The invention has for a further important purpose the provision of simple latching mechanism which may be assembled upon the door and removed by securing or removing merely the connection between the internal latch bar and the external handle.

A further important object of the invention is the construction of the locker and its lock bar and attendant parts so that the locking of the locking mechanism cannot be accomplished while the bar is opened.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which when considered in connection with the accompanying drawings, illustrates a preferred embodiment thereof.

On the drawings

Figure 1 is a perspective view of a locker embodying the present invention;

Fig. 2 is a section taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary front elevation showing details of the hinge fastening device;

Fig. 4 is a section taken substantially on the line 4—4 of Fig. 1;

Fig. 5 is a section taken substantially on the line 5—5 of Fig. 2;

Fig. 6 is a section taken substantially on the line 6—6 of Fig. 1;

Fig. 7 is a section taken substantially on the line 7—7 of Fig. 1;

Fig. 8 is a section taken similarly to the section in Fig. 7 and showing the parts in different relation;

Fig. 9 is a fragmentary perspective view illustrating certain details of construction;

Fig. 10 is a vertical section taken through the locker, showing the door partly opened and disclosing the relationship between the keepers of the door frame and the latching mechanism at the door edge;

Fig. 11 is a similar view showing the door fully closed;

Fig. 12 is an enlarged fragmentary portion of the bottom part of Fig. 10;

Fig. 13 is a similar view of the bottom part of Fig. 11; and

Fig. 14 is a section taken substantially on the line 14—14 of Fig. 4.

For the purpose of illustrating the instant invention a locker embodying it is shown in perspective in Fig. 1. The invention relates to the front portion of the locker, i. e. to the door and to the door frame.

The body of the locker generally indicated by reference character 21 is provided at its front with a door frame generally consisting of two upright angles 22 and 23 and top and bottom angles 24 and 25, all suitably secured together to provide the rectangular door receiving opening. The door generally indicated by reference character 26 will first be described in some particularity.

The door generally consists of a single sheet of metal of suitable gauge. It is bent at 27 at its hinge side to provide an inwardly extending flange 28 which is preferably reversely bent at 29 to provide a reversely extending marginal flange 31. Similar bending of the door is provided at the free or open edge to provide the inwardly extending flange 32 and the reversely extending flange 33. The flange 33 is arranged of course in parallelism with the body of the door and is of greater width, preferably, than the flange 31. A channel is thus provided at the free edge of the door to receive and house the latch bar as will be presently more fully explained.

Three hinges generally indicated by reference characters 34 are provided to secure the door in the frame at the hinge side. The detailed construction and arrangement of the hinge and its connection to the door and door frame are shown more particularly in Figs. 2, 3 and 5. The hinge consists, of course, of two parts indicated respectively by reference characters 35 and 36. The part 35 which is secured to the door frame is relatively narrow and is riveted or otherwise secured at 37 to the inner face of the front flange of the angle upright 23. Since the angle 23 is relatively thick its front face may be countersunk to receive the rivets 37 so that subsequent finishing will conceal them from view.

Means are provided for securing the hinge leaf 36 entirely to and upon the inner face of the relatively thinner door. The connection between the hinge member 36 and the door comprises a strip of metal offset from adjacent its ends 38 to provide a main or central part 39 which may be spaced away from the door 26 when the ends 38 are secured to the door. These ends are preferably spot welded in place and the metal strip is provided with a central perforation 41 through which the threaded stem of a bolt 42 may extend. The head 43 of this bolt is arranged between the part 39 of the strip and the door itself. If desired the perforation 41 may be of key-hole shape to permit positioning of the bolt after the spot welding has been accomplished. Thus arranged, the hinge member 36 may be attached to the door to complete the assembly by merely positioning the bolt through it and threading on tightly a holding nut 44.

The flange 28 of the door is slotted at 30 to receive the hinge leaf 36 and the holding strip just described is preferably provided with a side or lateral extension 40 arranged in the slot to permit accurate positioning of the strip on the door without the use of jigs or careful measurement.

This hinge connection is, of course, duplicated at each hinge 34 and permits of the ready assembly and removal of the door with the locker body. No part extends through the door face and a smooth unbroken external finish results.

The channel upright 22 at the free edge of the door is provided with three keepers 45, each of the channel form shown in Figs. 6 and 8. Each of these keepers comprises a part 46 riveted or otherwise secured at 47 to the inner face of the front flange of the angle 22. The reversely extending marginal flange 33 at the free edge of the door is slotted at 48 to receive the keepers when the door closes. Suitable cushioning material, as rubber, leather, hard felt or the like, 49 is secured in the base of the channel portion of the keepers to cushion the closing impact of the door and deaden the sound.

Each keeper is provided at its free edge, i. e. the part which enters into the channel at the free edge of the door, with a slot 51 to receive the latch bar to latch the door in place. The forward edge 52 of this slot is preferably slightly inclined or beveled to draw the parts into snug contact as the door is latched. A cam or beveled edge 53 may also be provided on the keeper to guide the latch bar into keeper engaging position, if desired.

The latch bar in the present instance consists of a strip of metal bent to the angle form shown on the drawings. The latch bar is generally indicated at 54 and its rear angle part is slotted at 55 for registration with the slots 48 in the door flange 38 already described. In the removing of the metal to provide the slots 55, an outwardly extending finger 56 is formed which is adapted to extend through its companion keeper receiving slot 48, as is illustrated best in Fig. 9.

A handle 61 is arranged on the outside of the door and is provided with two inwardly extending legs 62 arranged through slots in the door. The legs 62 are suitably secured by screws or nut and bolt assemblies 63 to the forwardly extending flange part of the latch bar.

The parts thus constructed and arranged permit of the assembly of the latch bar to final operative position by merely inserting the fingers 56 through the keeper receiving slots 48 of the door flange and the subsequent connection of the legs 62 of the handle to the latch bar by the fastening member 63, it being understood of course that these legs are arranged within the latch bar so that mere lifting of the latch bar brings it into fastening relation. Removal of the fastening devices 63 permits like removal of the latch bar for repair or replacement should occasion require it. Cushioning means 64 and 65 are provided respectively at the top and bottom of the door to receive the impact of the latch bar in its vertical movement to deaden the sound of contact.

It is contemplated that the latch bar upon being raised to clear the keepers 45 in opening the door will be maintained in elevated position until subsequent closing of the door returns the parts into position for latching. A leaf spring, generally indicated at 71, is spot welded or otherwise secured at 72 to the inner face of the door. This spring extends downwardly and inwardly from beneath its point of attachment and is bent toward the latch bar at its lower end into the form of a lug 73 adapted to engage within a slot 74 provided for the purpose in the latch bar, when the latch bar is in raised position and the spring unrestrained. The body of the spring is arranged directly in line with one of the keeper receiving slots 48 in the door. In the instant embodiment of the invention the spring is arranged back of the lowermost keeper receiving slot 48.

Assuming the parts arranged in the position shown in Fig. 9 wherein the spring is engaged in the slot 74 and the latch bar held in elevated position, closing of the door first causes the companion keeper to contact with the spring body and flex it back toward parallelism with the door face releasing the latch bar and permitting it to move down into engagement with the keepers to latch the door closed. When the door is to be opened the handle is first raised to lift the latch bar out of engagement with the keeper. As an incident to the initial opening movement of the door and withdrawal of the keepers from the keeper receiving slot, the spring moves its lug 73 back immediately into latch bar sustaining position, where it remains until the door again arrives at or nearly at finally closed position.

The locker shown upon the drawings to disclose the preferred embodiment of the instant invention is adapted to be locked in closed position either by a rim lock or by a padlock. To permit the use of a padlock the handle 61 is provided with a lower perforated tail 75 adapted to move into a perforated tail receiving loop 76 constructed of a strip of metal generally indicated by reference character 77 and bent to provide a part or end 78 arranged through the door and spot welded or otherwise secured to its inner face. On the outside of the door the strip

77 is bent into the looped keeper 76 as will be readily apparent.

The rim or bolt lock is generally indicated by reference character 81 and is provided with a bolt 82 adapted for projection through an appropriately arranged slot in the latch bar when the latch bar is in latching position. The lock 81 is provided with a key receiving barrel 83 disposed through a perforation provided in the door for the purpose. The lock 81 is secured to the door by attachment to its inner face through connecting means much like those for securing the hinge parts 36 in place. A metal strip is offset at its center or main portion at 84 and is provided with ends 85 spot welded or similarly secured to the inner door face. Bolts 86 are arranged through the central portion 84 near its ends with the bolt heads between this central portion of the strip and the door face. Nuts 87 hold the lock 81 tightly in place upon the strip and in locking position. When the rim lock 81 is provided this lock must also be removed to permit removal of the latch bar. The fastening devices 86, 87 of the connection between the rim lock and the door readily permit such removal.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

We claim:

1. In a locker, the combination of a door having a marginal flange at its free edge and openings in its face for the reception of a handle, and having slots arranged in said flange, an angle latch bar arranged at the free edge of said door with parts slidably extending through said slots, and a handle disposed through said door and engaging said latch bar, said handle and said parts securing said latch bar in position, disconnection of the handle from said latch bar permitting removal of said latch bar.

2. In a locker, the combination of a door having its free edge bent to channel form to provide a spaced reversely extending door flange open at one side, said flange being slotted, and an angle latch bar arranged within the channel and having parts extending through the slots in said door edge.

3. In a locker, the combination of a door having its free edge bent to channel form to provide a spaced reversely extending door flange open at one side, said flange being slotted, a latch bar arranged within the channel and having integral parts extending through the slots in said door edge, and a handle arranged through the door and secured to said latch bar, said handle co-operating with said latch bar parts to slidably secure said latch bar in place.

4. In a locker, the combination of a door having its free edge bent to channel form to provide a spaced reversely extending door flange, and an angle latch bar arranged within said channel and having one of its sides closing the open side of the channel of the door edge.

5. In a locker, the combination of a door having its free edge bent to channel form, a latch bar consisting of an angle member arranged in the channel of the door edge with one of the legs of the angle closing the open side of the channel, and means extending through opposite channel legs for holding said latch bar in position.

6. In a locker, the combination of a door having its free edge bent to channel form to provide a spaced reversely extending door flange, an angle latch bar arranged within said channel and having one of its sides closing the open side of the channel of the door edge, a flat leaf spring carried by said door and arranged within said channel for engagement with said latch bar to releasably retain the same in an elevated position when said door is open, and a handle member arranged through the door and secured to the inner face of said side of said latch bar.

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