Nov. 15, 1938. A. G. AMOS ET AL 2,137,105

COLD STORAGE LOCKER

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Fig.3

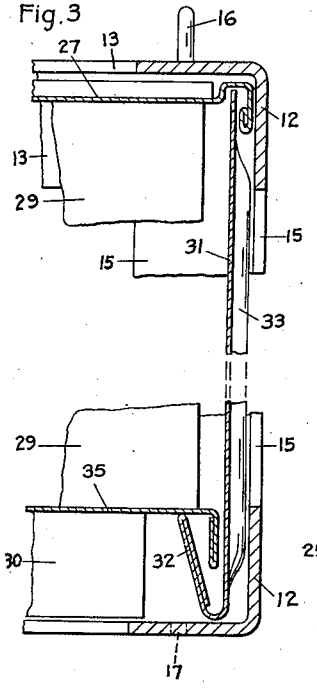


Fig.2

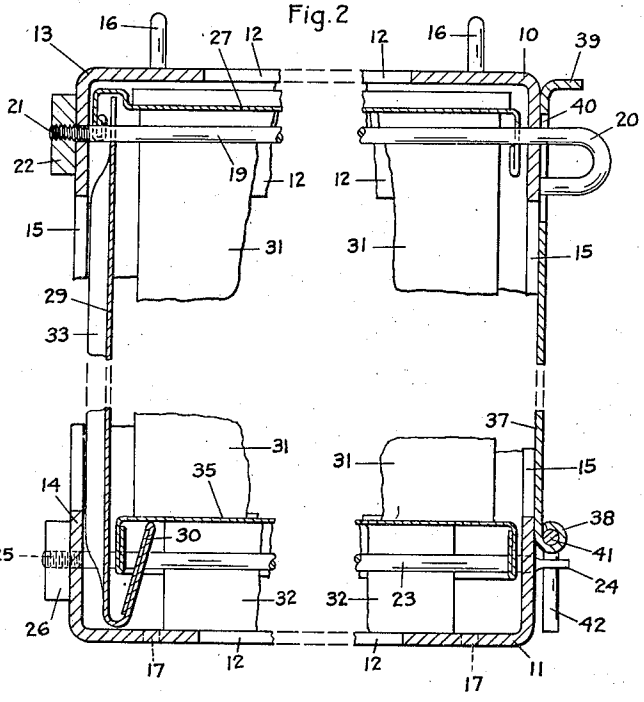
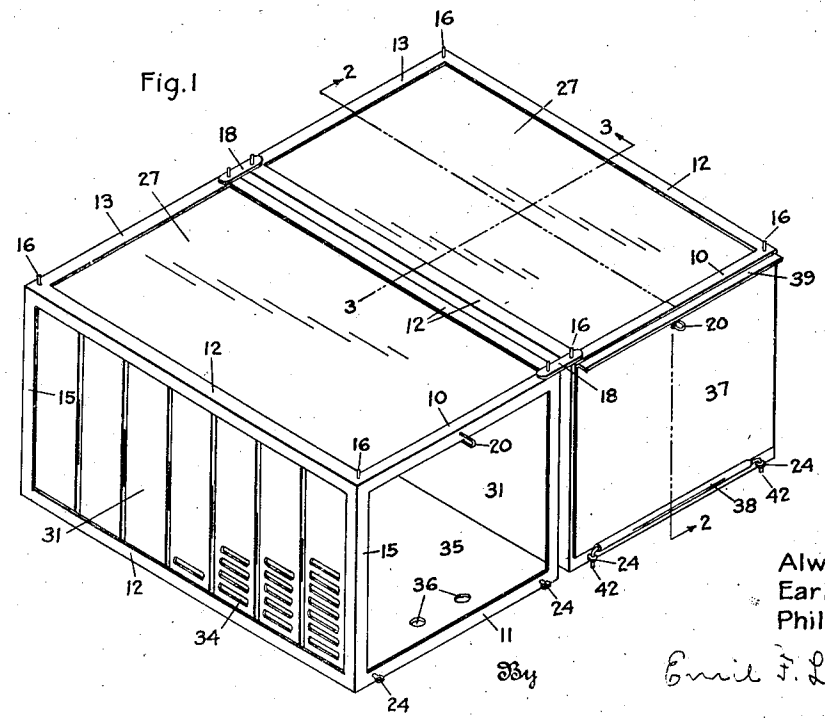


Fig.1



Inventors

Alwin G. Amos

Earl E. McGrew

Philip Hergenrader

By Ernest F. Lange

Attorney

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Fig. 7

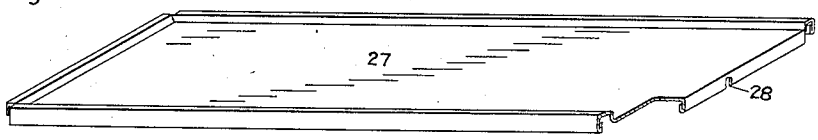


Fig. 8

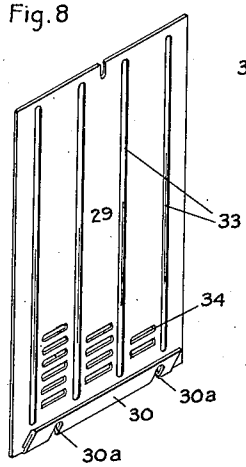


Fig. 9

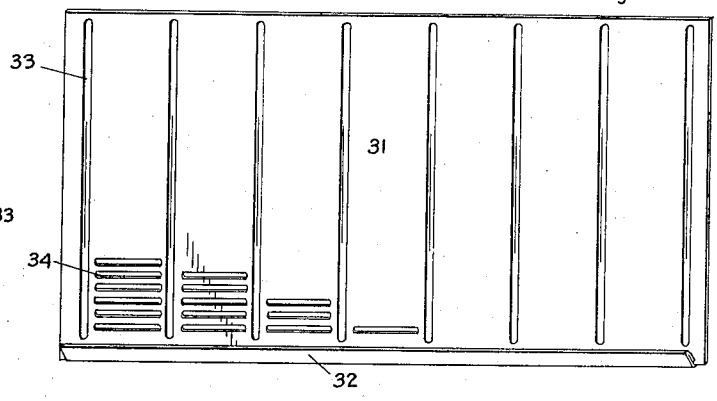


Fig. 10

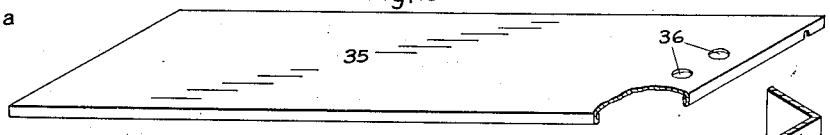


Fig. 11

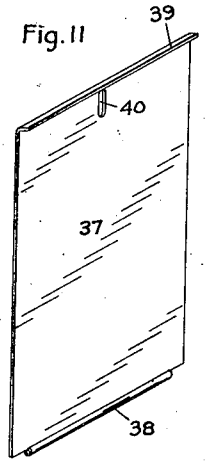


Fig. 6

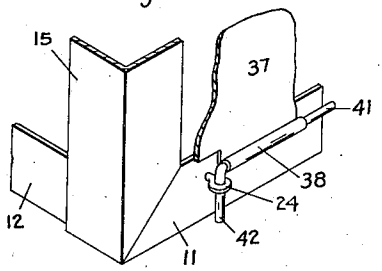


Fig. 4

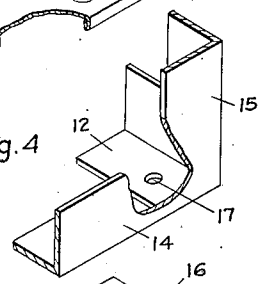
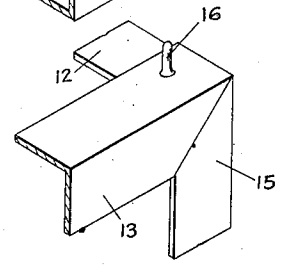


Fig. 5



Inventors

Alwin G. Amos

Earl E. McGrew

Philip Hergenrader

By Emil F. Lange

Attorney

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UNITED STATES PATENT OFFICE

2,137,105

COLD STORAGE LOCKER

Alwin G. Amos, Earl E. McGrew, and Philip Hergenrader, Lincoln, Nebr., assignors to Nebraska Appliance Company, Lincoln, Nebr., a corporation of Nebraska

Application April 23, 1936, Serial No. 75,933

5 Claims. (Cl. 220—4)

Our invention relates to cold storage lockers which are designed for individual use in cold storage warehouses and in other similar places.

The primary object of our invention is the provision of a cold storage locker which may easily be kept in sanitary condition and which may be cleaned and sterilized with the minimum of effort.

Another object of our invention is the provision of cold storage lockers which may be assembled in rows or in columns or in both rows and columns in a manner such that they will be accessible to the individual users without necessitating the disturbing of other lockers.

Another of our objects is the provision of an all-metal cold storage locker which may be assembled and disassembled with the expenditure of the minimum amount of time and effort.

Another object which we have in view is the provision of a cold storage locker which may be readily assembled or disassembled but with the various parts so designed and arranged that each part in turn locks the previous part in fixed position so that the final application of a padlock will lock all of the parts in their fixed positions.

Another object which we have in view is the provision of cold storage locker units which may be arranged in either side by side position or in back to back relation but spaced from each other to permit the circulation of air between and through the units.

Having in view these objects and others which will be pointed out in the following description, we will now refer to the drawings, in which

Figure 1 is a view in isometric projection showing interlocked units of our cold storage box.

Figure 2 is a longitudinal section of a unit taken on the plane 2—2 of Figure 1.

Figure 3 is a half-section on the vertical plane of the line 3—3 of Figure 1.

Figure 4 is a view in perspective showing a corner detail of one of the lower corners of the unit and broken away to disclose the aperture.

Figure 5 is a perspective view showing a corner detail of one of the upper corners of a unit.

Figure 6 is a perspective view showing one of the lower forward corners of the unit and showing particularly the hinge connections.

Figure 7 is a view in perspective showing the top panel of a unit with a corner broken away to disclose the form.

Figure 8 is a perspective view showing the inner face of the rear panel of a unit.

Figure 9 is a perspective view showing the inner face of either of the two side panels of the unit.

Figure 10 is a view in perspective showing the floor or bottom panel of a unit, a corner being broken away to show the form.

Figure 11 is a view in perspective showing the outer surface of the hinged door of a unit.

The frame of each unit is in the form of a rectangular parallelopiped of open construction. The forward upper and lower beams 10 and 11 are connected through beams 12 with the rear upper and lower beams 13 and 14, the upper and lower beams being connected by means of vertical corner beams 15. All beams are of angle form with the vertices determining the corner edges of the units. Pins 16 project upwardly from the upper corners of the units and these pins are in alignment with apertures 17 in the lower beams. By means of this construction it is possible to stack the units to any desired height determined by the convenience of the user and the height of the storage room. The units may also be arranged in side by side relation as shown in Figure 1 but for reasons to be subsequently mentioned the units must be spaced apart. For this purpose, links 18 are provided for engaging the pins 16, the apertures of the links being spaced to space the units from each other. It will be obvious that the units may likewise be arranged in back to back relation and spaced apart by means of the links 18 and the pins 16. This construction provides great flexibility in adapting a plurality of the units to any set of conditions which may be encountered. The vertical walls of the beams 10 and 13 are apertured for the insertion of an eye bolt 19 having an eye 20 at its forward extremity. A strap 22 is secured against the vertical side of the beam 13, preferably by welding, and this strap is screw threaded for the reception of the screw threaded portion 21 of the eye bolt 19. Likewise, the beams 11 and 14 are apertured for the reception of eye bolts 23 having eyes 24 at their forward extremities and screw threaded portions 25 at their rear extremities. One or two straps 26 are welded to the vertical wall of the beam 14 and they are provided with screw threaded apertures for receiving the screw threaded ends 25 of the eye bolts 23. The eye bolts 23 are two in number and they are positioned in proximity to the lower lateral corner edges of the unit. Their function will be subsequently described.

The units are each provided with a front door and with top, bottom, rear and side walls. The top panel 27 rests on the eye bolt 19 as shown in Figure 2. The form of the top panel is best shown in Figures 2, 3 and 7. This top panel is

formed from sheet metal which is turned down at its forward edge and then folded back upon itself for reinforcing. At its rear and side edges it is first turned up and then outwardly with a downturned extension at the outer side, this latter being reinforced by folding the metal back upon itself. Notches 28 are formed in both the forward and rear edges for seating on the eye bolt 19. The rear and side panels are similar in construction. The rear panel 29 terminates at its lower extremity in an inwardly and upwardly inclined flange 30, the flange terminating short of the side edges of the panel 29 as shown in Figure 8. The rear panel 29 and its flange 30 are notched at 30a for seating and centering them on the eye bolts 23. Similarly, the side members 31 terminate in inwardly and upwardly inclined flanges 32, these also terminating short of the end edges of the panel as shown in Figure 9. Both the rear panel 29 and the side panel 31 are heavily ribbed at 33 and between the ribs they are provided with apertures or slots 34 for the admission of air. The floor or lower panel 35 has all of its edges downturned and then folded back against the downturned edges as best shown in Figures 2, 3 and 10. Then panel 35 is so dimensioned that it seats snugly between the end and side panels 29 and 31 with the downturned flanges seating on the eye bolts 23 and within the space between the panels 29 and 31 and their upturned flanges 30 and 32. The floor panel 35 is provided with a pair of apertures 36 for the insertion of the user's fingers for lifting the panel.

From the foregoing description it will be apparent that the members are interlocked. The eye bolt 19 may be withdrawn but the parts are still locked together. The top panel 27 can not be withdrawn until the rear and side panels 29 and 31 are withdrawn. These in turn are locked by the floor panel 35. These may be disassembled only by first withdrawing the floor panel 35 and then withdrawing the rear panel 29 and side panels 31, whereupon the top panel 27 will fall providing the eye bolt 19 has been removed.

The opening at the forward face of the unit is provided with a closure 37 having the form best shown in Figure 11. At its lower edge is a roll 38 and the upper edge is outturned at 39. The vertical slot 40 has a size and position adapted for receiving the eye 20 of the eye bolt 19. A hinge pintle 41 passes through the roll 38 and it terminates in downturned end portions 42 so that the pintle member is in U-form. The downturned arms 42 of the pintle member are so spaced that they may be pasesd through the eyes 20 of the eye bolts 23. The closure 37 is thus hingedly connected to the unit for opening and closing purposes but it may also be removed by lifting the closure and thus withdrawing the arms 42 from the eyes 24. It is impossible, however, to withdraw the arms 42 from the eyes 24 without first swinging the door on its hinge sufficiently to release the eye 20 from the slot 40.

Before the door 37 is attached to the unit by inserting the arms 42 in the eyes 24, the eye bolts 23 are drawn tight. Due to the resilience of the material, this acts as a clamp for applying pressure at the forward and rear ends of the floor panel 35 to thus lock the floor panel frictionally in fixed position. The eyes 24 must of course be left in horizontal position at the end of the tightening movement so that the arms may pass through the eyes. The eye bolt 19 is also drawn tight until the eye 20 is in contact with the vertical wall of the beam 10 and in vertical position. In this position the door may be closed with the slot 40 engaging the eye 20. While the door 37 is closed it will be impossible to turn the eye bolt 19. Even if the material of the door were stripped, the eye bolt 19 could not be turned through more than a half turn as the movement would then be interrupted by the outturned flange at the upper edge of the door 37. The application of a padlock to the eye 20 would then complete the lock. The entire structure is locked against unauthorized entry thereto.

The cold storage locker is designed primarily for the storage of perishable food products in cold storage warehouses. Because of the nature of the goods thus stored, the problem of sanitation is of primary importance. The juices and particles of food tend to adhere to the floor and other panels of the locker and unless these are thoroughly removed, the food subsequently stored will be apt to become tainted and unfit for use. It will be apparent from the above description, however, that each unit may be entirely disassembled with the exception of the skeleton frame of angle beams, which seldom if ever come into contact with the contents of the locker. In the disassembled position of the various panels and eye bolts, sterilization becomes an exceedingly simple matter. They may be thrown into vats of boiling water either with or without soap or other sterilizing agents. They may be subjected to considerable rough handling without danger of injury to the panels. The various flanges and ribs function not only as interlocking elements but they maintain the strength and rigidity of the panels. At the same time, the grooves and other depressions in the panels are sufficiently open to permit the use of brushes for cleaning out any matter which might be caught in the grooves. The device thus insures not only absolute security but perfect sanitation of the contents.

Having thus described our invention in such full, clear, and exact terms that its construction and operation will be readily understood by others skilled in the art to which it pertains, what we claim as new and desire to secure by Letters Patent of the United States is:

1. A box-like structure having an open side and a closure therefor, a pair of eyes projecting forwardly from said structure at an edge of the open side thereof, a roll at an edge of said closure, a pintle passing through said roll and having end portions perpendicular to the body portion of said pintle, said end portions passing through said eyes for hingedly and releasably securing said closure to said structure, and means for latching said closure in closed position to said structure against opening or releasing movement.

2. A box-like structure having an open side and a closure therefor, a pair of eyes projecting forwardly from said structure at an edge of the open side thereof, a roll at an edge of said closure, a pintle passing through said roll and having end portions perpendicular to said roll, said end portions passing through said eyes for hingedly and releasably securing said closure to said structure, a swivel hasp projecting from said structure at an edge of the opening thereof and in close contiguity thereto, said closure being provided with a slot for receiving said hasp when said closure is in closing position, the arrangement being such that said end portions of said

pintle will be latched against sliding movement out of said eyes while said closure is in its closing position.

3. A box-like structure having angle beams at the edges thereof in the form of an open frame, a top panel engaging against the under side of the top beams of said frame, a rear panel engaging against the inner surfaces of the rear beams of said frame and having its upper edge engaging against the under side of said top panel, an upturned lower edge integral with said rear panel, a pair of side panels engaging against the inner surfaces of the side beams of said frame with the top edges thereof supporting said top panel and provided with upturned lower edges, and a releasable floor member having down-turned rear and lateral edges in interlocking engagement with the upturned portions of said rear and side panels to prevent the withdrawal of said rear and side members without first removing said bottom member.

4. A box-like structure having angle beams at the edges thereof in the form of an open frame, a top panel engaging against the under side of the top beams of said frame, a releasable rear panel and a pair of releasable side panels having their top edges engaging against the under surface of said top panel, upwardly and inwardly inclined flanges projecting from said rear and side panels at the lower edges thereof, and a floor member having down-turned flanges engaging in the space between said rear and side panels and the flanges projecting therefrom, removal of said floor members releasing said rear and side panels for removal from said frame.

5. A cold storage locker, comprising a rigid body frame composed of angle beam edge portions joined together at the corners of the frame providing open sides, top and bottom therein, side panels removably fitted in the sides of the frame against the adjacent angle beams thereof, a bottom panel interlocking with the lower end portions of the side panels to hold the latter spread apart against the frame, a top panel fitted in the frame in the upper ends of the side panels, removable holding means carried by the frame and engaging the top and bottom panels to hold the same in place and retain the side panels from removal, and a closure panel removably secured between the holding means for locking the latter against removal.

ALWIN G. AMOS.
EARL E. McGREW.
PHILIP HERGENRADER.