June 24, 1952 H. W. WHITMORE 2,601,577

LATCH AND HANDLE MECHANISM

Filed Sept. 29, 1947 2 SHEETS—SHEET 1

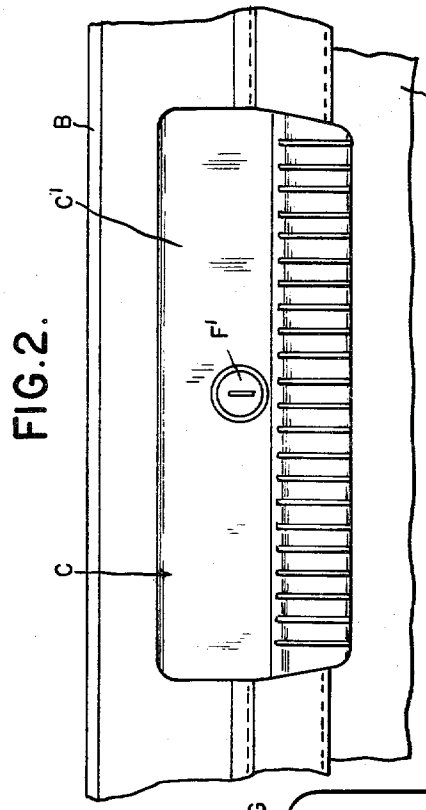


FIG. 2.

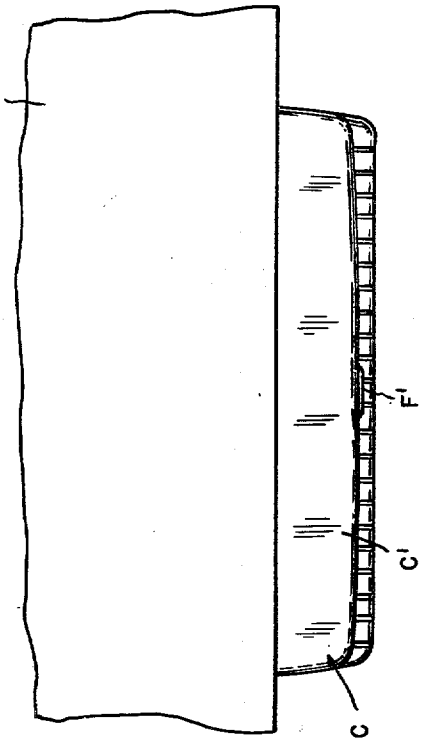


FIG. 3.

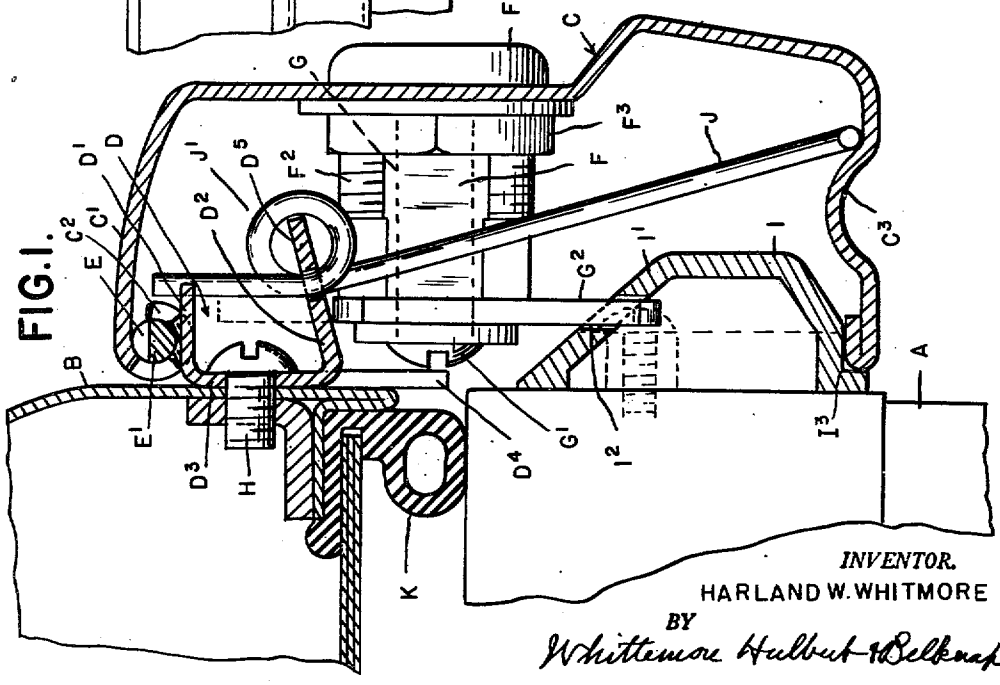


FIG. 1.

INVENTOR.
HARLAND W. WHITMORE
BY
Whittemore Hulbert & Belknap
ATTORNEYS

June 24, 1952 H. W. WHITMORE 2,601,577

LATCH AND HANDLE MECHANISM

Filed Sept. 29, 1947 2 SHEETS—SHEET 2

FIG.4.

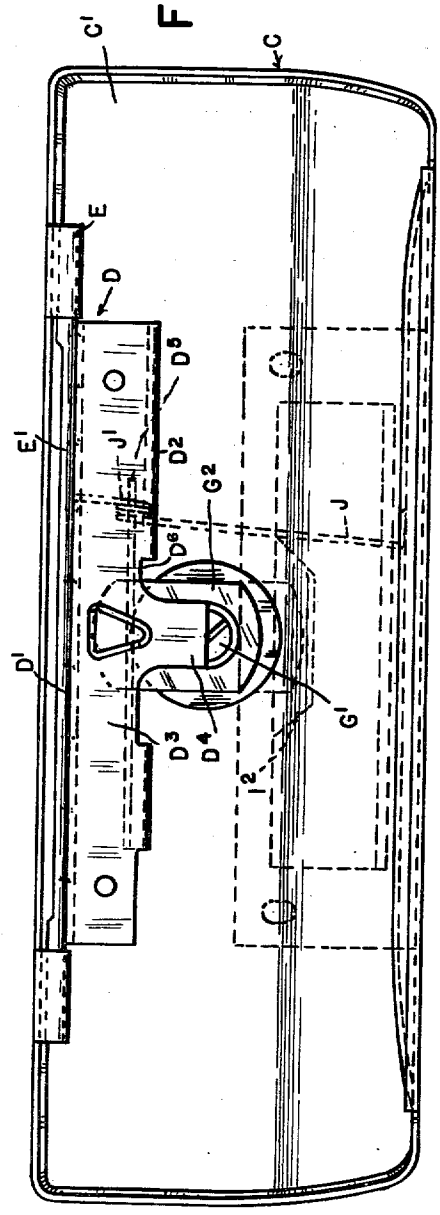


FIG.5.

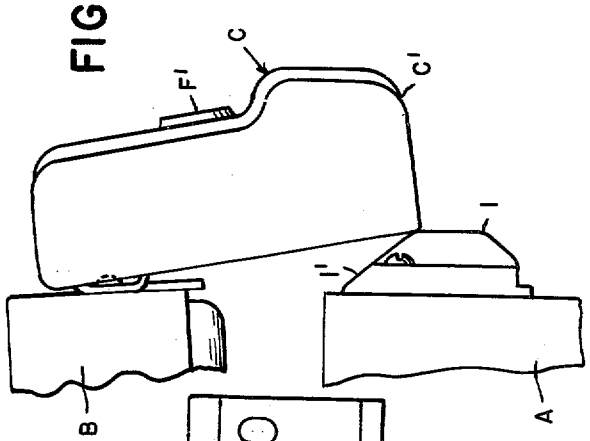
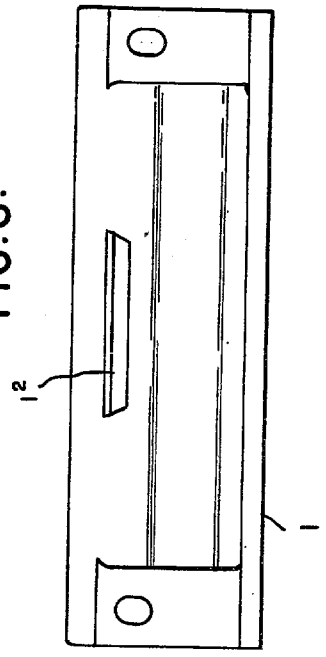


FIG.6.



INVENTOR.
HARLAND W. WHITMORE
BY
Whittemore Hulbert & Belknap
ATTORNEYS

Patented June 24, 1952

2,601,577

UNITED STATES PATENT OFFICE

2,601,577

LATCH AND HANDLE MECHANISM

Harland W. Whitmore, Kenosha, Wis., assignor to Motor Products Corporation, Detroit, Mich., a corporation of New York

Application September 29, 1947, Serial No. 776,747

5 Claims. (Cl. 70—9)

1

The invention relates to handles adapted for the operation of lid covers of refrigerator cabinets or the like.

It is the object of the invention to obtain a construction which is not only effective for the raising and lowering of the lid but also forms latching engagement with the cabinet when the lid is seated thereon. To this end the invention consists in the construction as hereinafter set forth.

In the drawings:

Fig. 1 is a vertical sectional elevation showing my improved latch handle in connection with a cabinet and closure lid and in the closed position of the latter;

Fig. 2 is a front elevation thereof;

Fig. 3 is a plan view;

Fig. 4 is a rear elevation of the handle detached, indicating by dotted lines the relative position of the keeper;

Fig. 5 is an elevation illustrating the latching engagement between the handle and the keeper;

Fig. 6 is a front elevation of the keeper.

The specific construction of the cabinet and the closure lid is not a part of the instant invention but, as diagrammatically shown, A is a portion of the front wall of the cabinet and B is the lid or cover for seating on said wall. It is to be understood that this lid is hinged to the cabinet upon the opposite or rear wall of the latter (not shown) so that in raising the lid it will swing in an arc of a circle. My improved latch handle C is secured to the outer edge of the lid B and depends therefrom to overlap the cabinet A where it has latching engagement with a keeper on the wall of said cabinet, the construction being as follows. C' is a pressed sheet metal oblong hollow member which constitutes the outer portion of the handle C. D is a bracket member extending longitudinally within the member C' adjacent to the upper edge portion thereof and hinged thereto by pintles E extending from the opposite ends of said member D. The member D is preferably channel shaped in cross section being formed of pressed sheet metal and having its upper flange D' secured to the pintles. Preferably this is accomplished by forming the pintles E at opposite ends of a rod E', which is flattened therebetween and secured to said flange by spot welding. The lower flange D^2 is centrally apertured for a purpose hereinafter described. The web portion D^3 of the member D has a depending tongue D^4. The flange D^2 is also inclined slightly upward as it extends inward and at one end of this flange is a longitudinally projecting tongue

2

D^5. F is a lock barrel having a head portion F' and a threaded shank portion F^2. The head F' is outside of the front wall of the member C' and the shank F^2 passes through an aperture in said wall and is secured thereto by a lock nut F^3. A key actuated rotary shank G is within the barrel F^2 and at its inner end has secured thereto by a screw G' a locking plate G^2. This in the unlocked position of the handle extends into the aperture D^6 formed by the cutaway portion of the flange D^2. The tongue D^4 extends over the end of the screw G' which forms an abutment limiting the rocking movement of the member C. The pintles E engage bearings on the member C' formed by projecting tongues C^2 on said member, which are bent around to embrace said pintles.

With the construction as thus far described the handle C is secured to the lid through the medium of the member D which latter has its web portion attached to the front face of the lid by screws H. This forms a hinge connection permitting the handle C to be swung outward on the pintles E. I is a keeper member secured to the wall of the cabinet so as to extend into the hollow member C' in the closed position of the lid. This keeper has an inclined upper face I' over which the lower edge portion of the member C' will ride when the lid is lowered by the swinging of said member on the pintles E. After passing the keeper the member C' will swing inward to engage a shoulder I^3 of said keeper and thereby form a latching engagement therewith. However, the handle may be disengaged from the keeper by swinging outward on the pintles until clearance is obtained. A spring J is provided for swinging the handle inward on the pintles, said spring having a central coil or loop J' engaging the tongue D^5 and with one end of the spring bearing against the member D and the other end against a shoulder on the lower portion of the member C'. This shoulder is formed by an upwardly pressed portion C^3, which also forms a finger grip recess in the bottom of the member C'.

From the above it will be understod that when the lid is lowered towards its seat, either by means of the handle C or otherwise, the member C' will ride over the keeper I into engagement with the shoulder I^3 to form a latching engagement with said keeper. If desired the handle may be locked in engagement with the keeper by turning the key actuated shank G until the plate G^2 turns into engagement with a slot I^2 in said keeper. When thus engaged the handle can not

be swung outward to clear the keeper and, therefore, the lid is locked from being opened.

When it is desired to provide a sealing engagement between the lid and cabinet, a hollow strip K or other resilient material is attached to the lid to be pressed thereby against the top of the cabinet wall.

What I claim as my invention is:

1. Latch and handle mechanism for a hinged cover normally closing an open topped cabinet, comprising a generally channel shaped bracket having a web and vertically spaced substantially horizontal top and bottom flanges, means in its web for securing said bracket to the front edge of the cover with the flanges of said channel extending horizontally and forwardly from the cover, mounting pins secured to the upper surface of the top flange and extending beyond the ends thereof, a latch handle of generally hollow rectangular shape having an outer wall, side walls, and top and bottom walls, the rear edge of said top wall having inwardly curved tongue portions embracing said pins to form a hinge connection between said handle and said bracket, a keeper including means for securing it to the front face of the cabinet directly below said bracket, said keeper having an outwardly and downwardly inclined top wall, and a horizontally extending bottom wall, the bottom wall of said handle constituting a latch portion directly engaged with the lower surface of the bottom wall of said keeper, resilient means urging said handle toward latching position, the outwardly and downwardly inclined top wall of said keeper constituting a camming surface to swing said handle outwardly over said keeper on closing movement of the cabinet cover, said keeper having a slot formed in its top wall, a key lock barrel carried by the outer wall of said handle, a rotary shank in said barrel, and a locking plate carried by said shank and extending into said slot for interlocking said handle and keeper and adapted to be removed from said slot by rotating said shank.

2. Latch and handle mechanism for attachment to the forward edge of a hinged cover normally closing an open topped box and for cooperation with a keeper located adjacent the front upper edge of the box and having a downwardly and forwardly inclined upper camming surface and a bottom generally horizontal latching surface, said latch and handle mechanism comprising a generally channel shaped bracket having a web and vertically spaced substantially horizontal top and bottom flanges, means in its web for securing said bracket to the front edge of the cover with its flanges extending forwardly from the cover, pivot pins carried by said top flange and extending beyond the ends thereof, a latch handle of generally

hollow rectangular shape having an outer wall, end walls, and a top and bottom wall, and being open at its rear, the rear edge of said top wall having downwardly and inwardly curved tongue portions embracing said pins to form a hinge connection between said handle and bracket, the inner edge of the bottom wall of said handle adapted to be positioned to engage the camming surface of the keeper on downward swinging of the cover of the box and to engage under the latching surface of the keeper when the cover is in closed position, and resilient means located within the hollow handle urging the handle for rocking movement about said pivot pins in a direction to cause the bottom wall of said handle to move inwardly.

3. Structure as defined in claim 2, said resilient means comprising a spring mounted intermediate its ends on the lower flange of said bracket, said spring having an upper portion engaging the upper flange of said bracket and a lower portion, the bottom wall of said handle having a spring abutment on its upper surface, the lower portion of said spring engaging said abutment.

4. Structure as defined in claim 3, said spring abutment comprising an upwardly shaped portion of the bottom wall of said handle forming a downwardly concave finger grip recess therein.

5. Latch and handle mechanism comprising a mounting bracket, a hollow handle pivoted to said bracket in position to enclose said bracket, the edge of said handle remote from the pivot connection between said handle and bracket constituting a latch surface, said handle having an inwardly pressed portion adjacent said latch surface forming a finger grip recess on the outside of said handle and a spring abutment on the inside thereof, and a spring having one end rigidly supported on said bracket and its other end engaging said spring abutment.

HARLAND W. WHITMORE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
356,915	Blust	Feb. 1, 1887
719,691	Peterson	Feb. 3, 1903
947,404	Andrazyk	Jan. 25, 1910
1,094,773	Beehler	Apr. 28, 1914
1,758,361	Frost	May 13, 1930
2,101,337	Komenak	Dec. 7, 1937
2,232,020	Bernhardt	Feb. 18, 1941
2,345,432	Schweller	Mar. 28, 1944
2,485,012	Palmer et al.	Oct. 18, 1949