Nov. 26, 1963 J. D. HUBER ETAL 3,112,133

REFUSE CAN LID LATCH

Filed Oct. 25, 1962

Fig. 1.

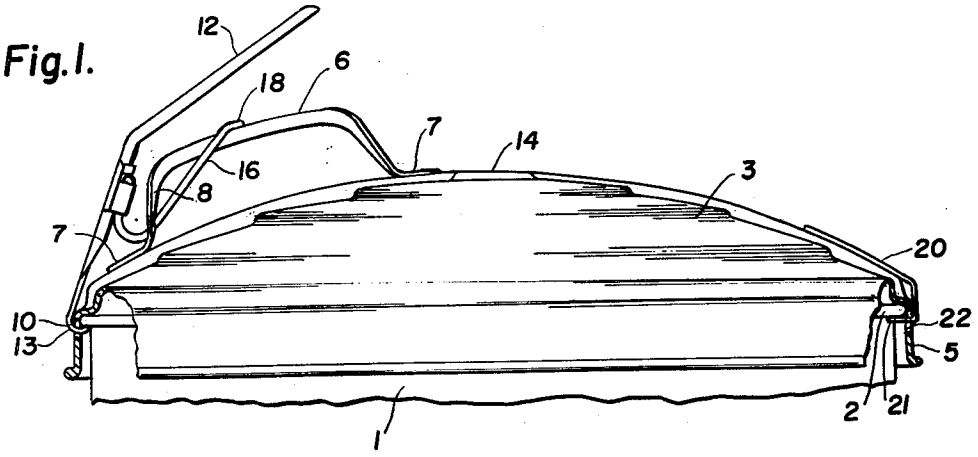


Fig. 2.

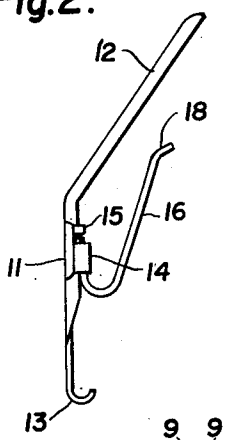


Fig. 3.

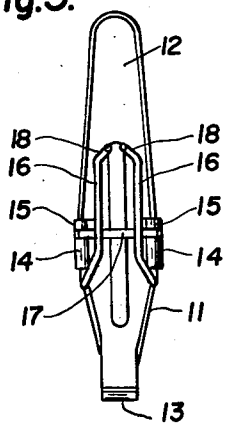


Fig. 5.

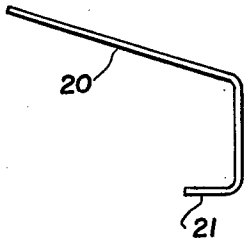


Fig. 4.

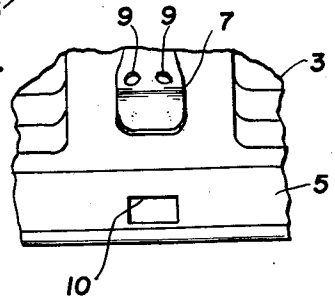
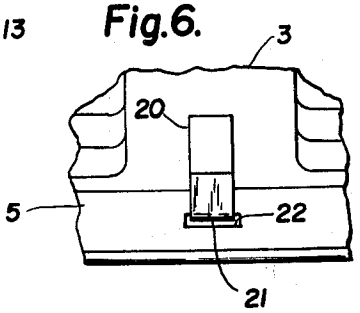


Fig. 6.



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3,112,133
REFUSE CAN LID LATCH

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This invention is concerned with latches for refuse or garbage can lids and is more particularly directed toward a spring latch which is associated with a can lid handle.

Conventionally, a refuse can lid is made with a depending skirt or side wall which fits over the rim of the can and is dimensioned for frictional engagement only. Such a lid may be easily removed when the can is jostled and is quite likely to be displaced if the can is overturned. It is an object, therefore, of our invention to provide a refuse can lid latch which positively holds the can lid in place and prevents its accidental removal. Another object is to provide a latch which is associated with the can lid handle so that the latch can be operated and the lid removed with one hand. Another object is to provide a demountable latch mechanism which can be removed to permit stacking of the can lids for shipping and reassembled with the lid when the can is ready for use without requiring the use of tools for either operation.

An embodiment of our invention presently preferred by us is illustrated in the following figures to which reference is now made.

FIGURE 1 is an elevation partly in section of the upper portion of a refuse can and a can lid embodying our invention.

FIGURE 2 is an elevation of the latch element of our invention.

FIGURE 3 is an inverted plan of the latch of FIGURE 2.

FIGURE 4 is an elevation of a portion of the can lid of FIGURE 1 showing the hole in the lid side wall through which the latch hook projects.

FIGURE 5 is an elevation of the detent shown in assembly in FIGURE 1.

FIGURE 6 is an elevation of the can lid of FIGURE 1 180° from that of FIGURE 4 showing the hole in the lid side wall through which the detent projects.

The can to which our invention is adapted has a conventional cylindrical side wall 1, which at its upper edge is formed into an outwardly rolled rim 2. The can is covered by a lid indicated generally by the reference character 3 which is circular in plan and has a more or less dome shaped top, which extends at its bottom into a cylindrical depending side wall 5. Side wall 5 is dimensioned to fit snugly over rim 2. An inverted U-shaped handle 6 is mounted on lid 3 near the edge thereof with its legs positioned along a radius of the lid. Each leg of handle 6 terminates in an outwardly turned tab 7 which is spot welded or otherwise fastened to lid 3. The leg 8 of handle 6 which is nearer the side wall 5 of lid 3 is provided with a pair of holes 9—9 positioned side-by-side near its tab end 7. In side wall 5 immediately below front leg 8 of handle 6 is an opening 10 of generally rectangular shape.

The latch mechanism comprises an elongated arcuate arm 11 formed at one end into a handle grip portion 12 which normally overlies lid handle 6, and at the other end into a latch hook 13. The arcuate arm 11 is conventionally formed from flat material such as steel. The arm 11 is provided intermediate its end with two pairs of opposed tabs extended downwardly from each side. The first pair of tabs 14—14 is spaced lengthwise of arm 11

from the second pair of tabs 15—15. Latch arm 11 is mounted on can lid 3 by a pair of resilient generally U-shaped wires 16—16 which are connected together at one end of each by a cross wire 17 so as to position the wires 16—16 generally parallel to each other. The spacing between the pair of tabs 14—14 and the pair of tabs 15—15 is sufficient to accommodate cross wire 17 and the U-shaped wires 16—16 are attached to latch arm 11 by tabs 14—14 which are bent around the wires 16—16 and against the underside of latch arm 11. Tabs 15—15 are likewise bent under arm 11 and prevent the U-shaped wires 16—16 from slipping out of place lengthwise of arm 11. That arm is attached to handle 6 by the U-shaped wires 16—16 which extend through the holes 9—9 in front leg 8 of handle 6 and upwardly toward the top portion of handle 6. The upper ends 18—18 of U-shaped wires 16—16 are bent over handle 6 from each side toward the center so as to keep latch arm 11 in place. However, the latch arm 11 can be removed from handle 6 by springing wires 16—16 to allow their ends 18—18 to clear handle 6 and withdrawing wires 16—16 from holes 9—9.

When latch arm 11 is attached to handle 6 in the manner above described, its hook end 13 projects inwardly through opening 10 in the side wall 5 of the can lid 3. The resilient U-shaped wires 16—16 bias the hook end 13 inwardly so that it engages the underside of rim 2 of the can when lid 3 is in place. The can lid at a point 180° from the location of latch arm 11 is provided with a detent 20 formed with inwardly directed hook end 21 which projects through an opening 22 in side wall 5 so as to engage the underside of can rim 2. Detent 20 is spot welded or otherwise permanently affixed to can lid 3.

The operation of our latch will be understood with reference to the figures and foregoing description. Latch arm 11 is removed from lid handle 6 in the way above described when the can lids are to be shipped so that they can be conveniently stacked. The latch arms 11 assembled with the U-shaped wires 16—16 are separately packed. When the can is to be used, latch arm 11 is assembled with handle 6 by pushing wires 16—16 through holes 9—9 in the way above described. The user grips lid handle 6 and at the same time presses downwardly on handle grip portion 12 of arm 11 which causes the latch arm 11 to twist the U-shaped wires 16—16 sufficiently to cause hook end 13 to clear the can rim 2. The can lid 3 can then be lifted off the can by raising the side carrying latch arm 11 first and slipping hook end 21 of the detent 20 from under rim 2. When the lid 3 is replaced on the can, the curved latch end 13 is forced outwardly by can rim 2 in the same way as conventional friction latches.

We claim:

1. A latch for a container provided with an outwardly rolled upper rim and a cover therefor having a depending side wall surrounding the rim and an inverted U-shaped handle attached to the cover, comprising an elongated arcuate arm one end of which is formed into a handle grip portion to overlie the U-shaped handle and the other end of which is formed into a latch hook, an opening in the cover side wall, a pair of holes in the U-shaped handle, a pair of resilient generally U-shaped wires each affixed at one end to the elongated arcuate arm intermediate its ends and extending below the arm and around toward the handle grip portion thereof through the holes in the inverted U-shaped handle and up over the top thereof, so as detachably to position the elongated arcuate arm above the U-shaped handle and bias its latch hook end toward the opening in the cover side wall and the underside of the rim.

2. A latch as in claim 1 in which the U-shaped wires are affixed to the arm by tabs bent from the outside edges of the arm around the ends of the wires and against the underside of the arm.

3. A latch as in claim 1 in which the U-shaped wires are joined by a cross piece at their ends affixed to the arm and the cross piece is positioned on each side of the arm between a first tab bent from the outside edge of the arm around the end of the wire against the underside of the arm and a second tab spaced from the first tab.

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