Aug. 10, 1954 R. A. KELLEY 2,685,983

RECEPTACLE CLOSURE

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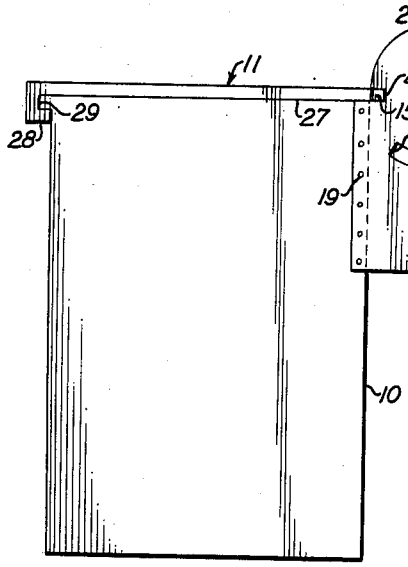


Fig. 1

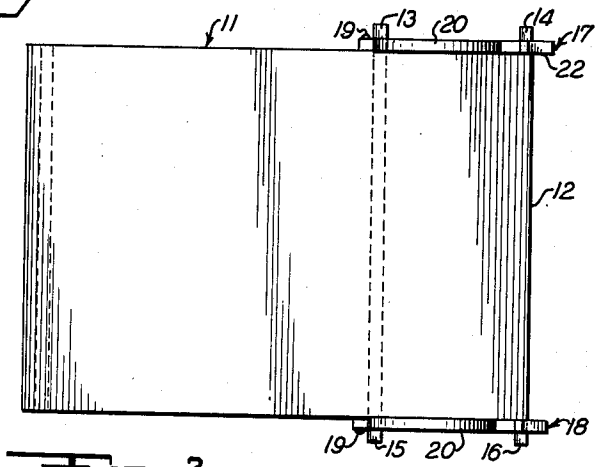


Fig. 2

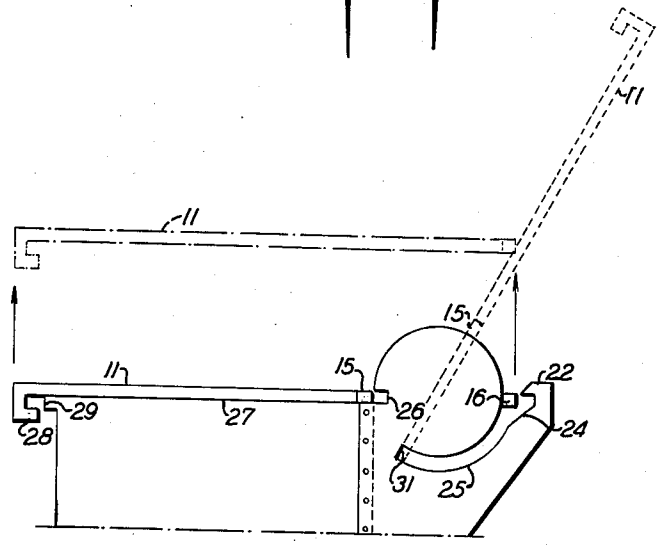


Fig. 3

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RECEPTACLE CLOSURE

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8 Claims. (Cl. 220—31)

1

This invention relates to receptacles and more particularly to a closure therefor which may be pivotally moved from a position closing the receptacle to a position affording convenient access to the contents thereof, or which may be entirely removed therefrom.

Heretofore, numerous devices of this nature have been purposed and utilized but many of these were relatively unsatisfactory due to difficulty and cost of manufacture, susceptibility to damage and convenience in use. Likewise, many of these prior art devices were rendered inoperative by accumulations of dirt or other debris and were of such construction that rapid wear of the parts contributed to a relatively short life.

It is therefore, an object of this invention to provide a closure for a receptacle together with mounting means for such closure which permits pivotal movement from closed to open position and also permits complete removal and replacement of the closure.

A further object of the invention is the provision of a combined receptacle and closure therefor in which means is provided to securely lock the closure in receptacle closing position and which at the same time, permits convenient pivotal movement of the closure to afford access to the contents of the receptacle or permits removal of the closure from such receptacle.

A still further object of the invention is the provision of a closure for receptacles together with mounting means permitting pivotal movement of the closure to a position allowing convenient access to the contents of the receptacle, such closure and mounting means being so constructed that there is little likelihood of an accumulation of dirt or other debris which might render the device inoperative.

Another object of the invention is the provision of a closure for a receptacle together with mounting means therefor, which closure and mounting means may be economically formed by simple die stamping operations and attached to a receptacle by spot welding or any other suitable means, thus providing a device which may be manufactured for sale in a highly competitive market.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawing wherein:

Fig. 1 is an elevational view of a closure and mounting means therefor constructed in accordance with this invention and attached to a receptacle with the closure in receptacle closing position;

2

Fig. 2 a top plan view of the receptacle closure and mounting means therefor shown in Fig. 1; and

Fig. 3 a fragmentary elevational view showing the closure of this invention in full lines just prior to pivotal movement thereof, or removal from the receptacle as well as showing in dotted lines, the position of the closure when fully opened and in dot dash lines the path of movement of the closure when removed from the receptacle.

With continued reference to the drawing there is shown a receptacle 10 which may be of rectangular cross-section but which also may be of any other desired cross-section with the closure to be described formed in accordance with such cross-section. The receptacle 10 may be utilized to receive trash, garbage or any other desired material and obviously it is highly desirable to provide a closure therefor which may be tightly locked in closed position, yet one which may be conveniently moved to a position affording complete access to the contents of the receptacle and also in order to facilitate cleaning of the receptacle and closure or for more convenient removal of the contents of the receptacle, it is also desirable that the closure be completely removable therefrom.

In accordance with this invention the closure 11 may comprise a relatively flat plate having substantially the same configuration as the cross-section of the receptacle 10, the plate 11 being somewhat larger than the receptacle 10 in order to overlap the edges or rim thereof to tightly close the same. The plate 11 may be provided with a rearwardly extending portion 12 having lugs 13 and 14 extending from one side thereof and lugs 15 and 16 extending from the opposite side edge.

Hinge mounting means in the form of ears 17 and 18 are secured to the receptacle 10 by spot welds 19 or if desired, screw threaded or any other fastening means may be utilized. Each of the ears 17 and 18 are provided with upstanding arcuate members 20 and rearwardly and upwardly extending portions 21 which terminate at their upper ends in overhanging portions 22 providing notches 23. From notch 23 an inclined surface 24 leads to an arcuate surface 25 spaced from a portion of the arcuate surface of members 20 to provide an arcuate slot in each ear 17 and 18, the purpose of which will be presently described. Arcuate members 20 are also provided with inwardly extending radial notches 26 which are adjacent the upper edge 27 of the receptacle 10.

The rearwardly extending portion 12 of the plate 11 is disposed between the ears 17 and 18 with the lugs 13 and 14 on one side of the portion 12 and the lugs 15 and 16 on the opposite side thereof received in the notches 26 and 23 respectively. The distance between lugs 13 and 14 and between lugs 15 and 16 is substantially equal to the diameter of the arcuate members 20. As will be seen from an inspection of Fig. 1, the lugs 13, 14, 15 and 16 received in the notches 26 and 23, prevent pivotal or other movement of the plate 11 with relation to the receptacle 10 and such relative movement is further prevented by an inwardly extending lug 28 on the plate 11 engaging beneath a lip 29, projecting outwardly from the receptacle 10 adjacent the upper edge 27.

When it is desired to open the receptacle 10 to afford access to the contents thereof, the plate 11 forming the closure may be moved forwardly to the position shown in full lines in Fig. 3 at which time, the lugs 13, 14, 15 and 16 will move out of the notches 26 and 23 respectively and the lug 28 will be disengaged from the lip 29. At this time, the lugs 14 and 16 will be in alignment with the arcuate slots 25 and pivotal movement of the plate 11 to the dotted line position shown in Fig. 3, is permitted by movement of the lugs 14 and 16 into the arcuate slots 25. The plate 11 is maintained in the dotted line position shown in Fig. 3 by engagement of the lugs 13 and 15 with the arcuate members 20 and by engagement of the lugs 14 and 16 with the end walls 31 of the arcuate slots 25. During pivotal movement of the plate 11 and in the event the lugs 14 and 16 do not exactly align with the open ends of the arcuate slots 25, these lugs are brought into alignment therewith by engagement with the inclined surfaces 24. When the contents of the receptacle 10 have been removed or when additional material has been placed therein, the plate 11 may be returned to closed position as shown in full lines in Fig. 3 and thereafter locked in such position by moving the same rearwardly to the position shown in Fig. 1 with the lugs 13, 14, 15 and 16 received in the notches 26 and 23 respectively and with the lug 28 engaging beneath the lip 29.

Should it be desired to completely remove the plate 11 from the receptacle 10 in order to facilitate cleaning or removal of the contents thereof, the plate 11 may be moved to the position shown in full lines in Fig. 3 and thereafter raised vertically away from the receptacle 10 as shown in dot dash lines in such figure. This movement is permitted by reason of the fact that in the position shown in full lines in Fig. 3, the lugs 13, 14, 15 and 16 are disengaged from the notches 26 and 23 respectively and the lug 28 is disengaged from the lip 29 and in this position it will therefore be obvious, that there is nothing to preclude such vertical upward movement of the plate 11. However, upon pivotal movement of the plate 11 and after the lugs 14 and 16 have entered the arcuate slots 25, the plate 11 may not be removed from the ears 18 and receptacle 10, since the lugs 14 and 16 engaging in the arcuate notches 25 together with engagement of the lugs 13 and 15 with the arcuate surfaces of the members 20 prevent such removal of the plate 11.

Obviously, the receptacle 10 may be of conventional construction and the plate 11 as well as ears 17 and 18 may be fabricated by relatively simple die stamping operations from readily available materials and the ears 17 and 18 may be attached to the sides of receptacle 10 if the same be rectangular in cross-section, or if the same be circular or some other configuration, the engaging portion of the ears 17 and 18 may be so formed as to lie flat against the surface of receptacle 10 and be attached thereto in any desired manner.

Obviously, if the receptacle 10 is of other than rectangular cross-section it will be necessary to form that portion of the closure plate 11 directly above the same, to the same or similar configuration, but the rearwardly extending portion 12 disposed between the ears 17 and 18 will still be generally rectangular.

It will be seen that by the above described invention there has been provided a relatively simple and inexpensive closure for a receptacle which permits the same to be pivotally moved to open position or completely removed, this closure when in receptacle closing position being firmly locked in place to prevent access to the contents thereof.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore, the invention is not limited by that which is shown in the drawing and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. In combination an open top receptacle, outwardly extending spaced ears secured to the side walls of said receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, an inclined surface on said portion between said notch and the open end of said arcuate slot, a substantially flat closure plate engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, an overhanging lug on said plate, a lip on said receptacle for engaging said overhanging lug to further lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said lip to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs entering said arcuate slots and with said last mentioned pair of lugs engaging the ends of said arcuate slots when in fully open position, said inclined surfaces serving to guide said pair of lugs into said arcuate slots during pivotal movement of said plate.

2. In combination an open top receptacle, outwardly extending spaced ears secured to the side walls of said receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced

from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, a substantially flat closure plate engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, an overhanging lug on said plate, a lip on said receptacle for engaging said overhanging lug to further lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches and said overhanging lug will be disengaged from said lip to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs entering said arcuate slots and with said last mentioned pair of lugs engaging the ends of said arcuate slots when in fully open position.

3. In combination an open top receptacle, outwardly extending spaced ears secured to the side walls of said receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, a substantially flat closure plate engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs entering said arcuate slots and with said last mentioned pair of lugs engaging the ends of said arcuate slots.

4. In combination an open top receptacle, outwardly extending spaced ears secured to the side walls of said receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, a notch in said portion in alignment with said radial notch, a substantially flat closure plate engaging the top of said receptable when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs entering said arcuate slots and with said last mentioned pair of lugs engaging the ends of said arcuate slots.

5. For use with an open top receptacle, a pivotally mounted and removable closure comprising spaced ears to be secured to a receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, an inclined surface on said portion between said notch and the open end of said arcuate slot, a substantially flat closure plate for engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, an overhanging lug on said plate for engaging a lip on said receptacle to further lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches and said overhanging lug will be disengaged from said lip to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs engaging the ends of said arcuate slots when in fully open position, said inclined surfaces serving to guide said pair of lugs into said arcuate slots during pivotal movement of said plate.

6. For use with an open top receptacle, a pivotally mounted and removale closure comprising spaced ears to be secured to a receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, a substantially flat closure plate for engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, an overhanging lug on said plate for engaging a lip on said receptacle to further lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches and said overhanging lug will be disengaged from said lip to permit upward vertical movement of said closure plate away from said receptacle or to

permit pivotal movement of said closure plate about said arcuate members with one pair of lugs engaging the ends of said arcuate slots when in fully open position.

7. For use with an open top receptacle, a pivotally mounted and removable closure comprising spaced ears to be secured to a receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, said portion terminating in an overhanging part providing a notch in alignment with said radial notch, a substantially flat closure plate for engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs engaging the ends of said arcuate slots when in fully open position.

8. For use with an open top receptacle, a pivotally mounted and removable closure comprising spaced ears to be secured to a receptacle adjacent the upper end thereof, an arcuate member on each ear, a radial notch in each arcuate member adjacent the upper end of said receptacle, an upwardly and outwardly extending portion on each ear spaced from said arcuate member to provide an arcuate slot, a notch in said portion in alignment with said radial notch, a substantially flat closure plate for engaging the top of said receptacle when in closed position and having a portion disposed between said ears, spaced pairs of lugs extending outwardly from opposite side edges of said plate, one pair of lugs being disposed in said radial notches and the other pair of lugs being disposed in said notches to lock said plate in closed position, the distance between said pairs of lugs being substantially equal to the diameter of said arcuate members whereby upon forward sliding movement of said plate said pairs of lugs will be disengaged from said notches to permit upward vertical movement of said closure plate away from said receptacle or to permit pivotal movement of said closure plate about said arcuate members with one pair of lugs engaging the ends of said arcuate slots when in fully open position.

No references cited.