

"REFUSE BINS"

5 This invention relates to refuse bins and is particularly applicable to bins for siting in public positions such as pavements, car-parks and other similar open spaces to receive litter.

10 A refuse bin comprising an open topped container for refuse, a shallow base having a bottom wall, an upstanding peripheral wall encircling the bottom wall and support means within the base disposed above the bottom wall to receive the container on the base both to support the container with the bottom end of the container spaced by a gap
15 above the bottom wall of the base and to hold the bottom end of the container against lateral movement with respect to the base, a one-piece removable cover for enclosing the open topped container, the cover being open at one end to engage the base and closed
20 at an opposing end to provide a closure over the open upper end of the container, the closed end of the cover projecting beyond the upper end of the container and the wall of the cover having at least one side aperture therein through which refuse may be
25 passed into the container within the cover, the peripheral wall of the base having further support means for the cover below an upper peripheral edge of the wall, and the open end of the cover being formed to engage the further support means to support the
30 cover on the base, and holding means being provided on the cover at said open end and the peripheral wall of the base to hold releasably the cover on the base.

35 The holding means between the cover and the base may be engaged and released by relative rotation between the cover and the base.

For example the holding means between the cover

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and base may comprise one or more bayonet and slot
action devices

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acting between the cover and the base. For example, the base may have an upstanding sleeve with which the lower part of the cover is concentric and the bayonet and slot devices may be provided between the sleeve and said lower part of the cover.

A locking device may also be provided between the bottom of the cover and the sleeve.

The following is a description of a specific embodiment of the invention reference being made to the accompanying drawings in which:

Figure 1 is a sectional view through a litter bin;

Figure 2 is a perspective view of a lower part of the bin; and

Figures 3 to 5 show an alternative construction.

Referring to the drawings, a litter bin is illustrated comprising a base or plinth 10 on which a container 11 for rubbish is mounted and a cover 12 enclosing the container and attached to the base 10.

The base 10 is a plastics injection moulding comprising an upstanding annular wall 13 which tapers slightly in a downwards direction and terminates in an integral bottom wall 14. The bottom wall 14 has a shallow central recess 15 to leave a narrow portion 14a of the bottom 14 extending around the lower edge of the annular wall 13 to bear on the ground.

Four radially extending lugs 16 are formed between the annular wall 13 and the base 14 at equi-spaced positions around the wall, the lugs terminating above the perimeter of the recess 15 in the bottom of the base.

- 5 The upper edge of each lug comprises a ramp 17 extending downwardly and inwardly from the annular wall 13 and terminating in a horizontally extending ledge 18. The lugs receive, locate and support the bottom of the inner refuse container 11 which is fabricated from sheet steel
- 10 and is of generally cylindrical form having an open top 19, a bottom wall 20 and a shallow peripheral skirt 21 encircling the bottom wall and resting on the ledges 18 of the lugs.

- The annular wall 13 of the base 10 is formed on its
- 15 outer side adjacent the upper periphery of the wall with an outwardly extending flange 22 the outer periphery of which is formed with an upstanding cylindrical outer wall 23 which projects a short distance above the upper edge of the wall 13. The inner periphery of the outer
- 20 wall 23 is formed with four equi-spaced downwardly facing bayonet action lugs 24. The outer cover 12 for the bin is a plastics rotational or injection moulding and comprises an annular side wall 25 having a lower open end 26 and tapering towards its upper end which is
- 25 formed with an integral dome top wall 27. The lower part of the wall 25 of the cover is formed with four equi-spaced

bayonet slots 28 dimensioned to receive an engage with the bayonet lugs 24 on the base. The cover is attached to the base by locating the open mouths of the slot 28 in the cover over the lugs 24

5 and then lowering the cover until the open end 26 of the cover engages the flange 22. The cover is then rotated to move the lugs 24 into the closed parts of the bayonet slots 28 out of alignment with the open ends of the slots to prevent the cover from being
10 lifted off the base. As best seen in Figure 2 of the drawings, the wall thickness of the cover 25 around the bayonet slots 28 is increased on the outer side of the cover to strengthen the cover to resist loads imposed on it by the bayonet lugs.

15 Referring again to Figure 1 of the drawings, it will be seen that the upper part of the cover 25 extends above the top of the inner container 11 and large rectangular ports 29 are formed in the upper part of the cover on either side thereof through which
20 rubbish can be fed into the inner container 19.

When the container 19 is full and is to be emptied, the cover 12 is released from the base by simply rotating the cover with respect to the base until the lugs 24 are aligned with the open mouths of the bayonet slots

28. The cover is then raised from the base over the inner container leaving the inner container exposed. The container can then be simply lifted from the base
5 and emptied. The problem of having to lift the full container out of a bin having an upstanding side wall formed integrally with the base with a detachable upper cover or head is therefore avoided.

Reference is now made to Figures 3 to 5 of the
10 drawings which show a further construction. Like parts of the bin as illustrated in Figures 3 to 5 have been given the same reference numerals as those of the embodiment illustrated in Figures 1 and 2. The base
15 of the bin of Figures 3 to 5 has an inwardly extending annular step 30 at the upper end of the outer wall 23 to receive the lower peripheral edge of the cover 12. This step is formed at its inner edge with an upstanding sleeve 31 to project inside the cover 12. The sleeve is formed
20 around its inner surface with four equi-spaced downwardly extending ribs 32 to guide and centralise the lower part of the container 11 which seats on the flange 22 of the base as best seen in Figure 5. The outer surface of the sleeve 31 is formed with a pair of bayonet slots or
25 recesses 33 at diametrically spaced locations around the sleeve and adjacent to one of the slots 33 there is a circular recess 34 in the outer surface of the sleeve. The upper edge portion of the sleeve is formed with a taper 35

to assist in locating the lower edge of the cover 12 on the base. The lower portion of the cover 12 is formed with two bayonet pegs 36 at diametrically spaced locations around the inside of the cover to engage in the bayonet slots 33 on the sleeve of the base to hold the cover to the base. In order to lock the cover to the base, a lock device 37 is mounted on the outer side of the cover adjacent one of the pegs 36 and has a spring loaded locking pin 38 which projects through the wall of the cover adjacent to one of the pegs 36. As the cover is lowered onto the base around the sleeve 31, the tapered edge portion 35 of the sleeve causes the spring loaded locking pin 38 to retract into the lock body. When the cover is rotated to engage the pegs 36 in the closed end parts of the bayonet slots 33, the spring loaded locking pin 38 moves into alignment with the circular recess 34 in the sleeve and projects into the recess to hold the cover to the base. A key 39 is provided engageable in the lock body to retract the spring loaded pin 38 when the cover is to be removed from the base.

In the embodiments described above, rigid walled containers are provided for the bins. The invention is, however, equally applicable to bins for holding flexible walled liners or sacks in which case a frame is mounted

on the base having an upper rim which is supported just below the openings 29 through the cover and means are provided for attaching the mouth of the bag or sack around the rim to suspend the bag from the rim and hold the bag mouth open to receive refuse. The arrangement is otherwise similar to those described above.

CLAIMS

1. A refuse bin comprising an open topped container for refuse, a shallow base having a bottom wall, an upstanding peripheral wall encircling the bottom wall and support means within the base disposed above the bottom wall to receive the container on the base both to support the container with the bottom end of the container spaced by a gap above the bottom wall of the base and to hold the bottom end of the container against lateral movement with respect to the base, a one-piece removable cover for enclosing the open topped container, the cover being open at one end to engage the base and closed at an opposing end to provide a closure over the open upper end of the container, the closed end of the cover projecting beyond the upper end of the container and the wall of the cover having at least one side aperture therein through which refuse may be passed into the container within the cover, the peripheral wall of the base having further support means for the cover below an upper peripheral edge of the wall, and the open end of the cover being formed to engage the further support means to support the cover on the base, and holding means being provided on the cover at said open end and the peripheral wall of the base to hold releasably the cover on the base.

2. A bin as claimed in claim 1 wherein the holding means between the cover and the base are engaged and released by relative rotation between the cover and the base.

3. A bin as claimed in claim 2 wherein the holding means between the cover and base comprise one or more bayonet and slot action devices acting



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between the cover and base.

4. A bin as claimed in claim 3 wherein the
base has an upstanding sleeve with which the lower
part

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of the cover is concentric and the bayonet and slot devices are provided between the sleeve and said lower part of the cover.

5 5. A bin as claimed in claim 4 wherein the upstanding sleeve is formed with one or more bayonet slots in its outer surface and the lower part of the container encircles the sleeve and is formed with a bayonet pin or pins to engage in the slot or respective
10 slots.

 6. A bin as claimed in claim 5 wherein the inner surface of the sleeve is formed with vertical ribs to align the holder on the base.

15 7. A bin as claimed in any of claims 4 to 6 wherein a locking device is provided for locking the bottom of the cover to the sleeve.

20 8. A bin as claimed in claim 7 wherein the locking device is mounted on the cover and has a spring loaded peg projecting inwardly of the cover to engage in a recess in the outer surface of the sleeve and means are provided on the locking device for withdrawing the
25 locking pin to permit the cover to be released from the base.



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9. A bin as claimed in claim 8 wherein the upper edge portion of the sleeve is formed with a taper to assist in guiding the lower part of the cover
5 onto the sleeve and to cause the locking pin to retract as the cover is located on the base before the pin projects into the recess in the sleeve.

10. A bin as claimed in claim 8 or claim 9
10 wherein two locking devices are provided at locations spaced around the cover and having projecting pins for engaging in respective recesses in the outer surface of the sleeve.

15 11. A refuse bin substantially as described with reference to and as illustrated in Figures 1 and 2 or 3 to 5 of the accompanying drawings.

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