

"MOULDS FOR PLASTIC CONTAINERS"

5 This invention relates to moulds for plastics containers and particularly although not exclusively to open topped containers to serve as litter bins.

10 The invention provides a mould for creating a plastics container with an external recessed handle, the mould having a cavity and a parting line encircling the mould to permit the mould to be opened for release of a moulded container therefrom, at least one projection extending into the mould from the side thereof to form a corresponding recess in the outer side of the moulded container, a throughway extending transversely through the projection at a location spaced to one side of the parting line to receive and support a handle or like component with the ends of the handle extending from the projection to be incorporated in the moulded container on either side of the recess, that part of the projection between the throughway and the parting line being separable from the remainder of the projection to facilitate extraction of the moulded container from the mould.

25 Thus the separable part of the projection can be detached from the mould prior to entrainment of the moulded container or can be extracted with the container and then separated from the container.

30 In a preferred embodiment of the invention the projection may be divided in a plane extending through the centre of the throughway and transversely to the adjacent side of the mould cavity.

35 It is also preferred that the projection reduces towards the parting line of the container.

In one particular arrangement the projection may terminate adjacent to the parting line of the container.

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In any of the above arrangements the separate part of the projection may be formed integrally with a part of the wall of the mould which is detachable from the mould with that part of the projection.

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In the latter case said detachable part of the mould may include a portion of said parting line of the mould.

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Also in any of the above arrangements the mould cavity may be stepped outwardly around the cavity adjacent to the parting line to form an enlarged rim encircling the top part of the container and at least a part of the projection including throughway being formed in said outwardly stepped part of the mould cavity.

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Furthermore the parting line may be disposed adjacent one end of the mould, the mould is closed at the opposite end thereof and the projection extends from a location adjacent the parting line along the mould at least part way towards said closed end.

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In the latter case the projection may extend the length of the mould from said location adjacent the parting line to the closed end.

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Again in any of the above arrangements said separable part of the projection may be freely detachable from the mould to permit the moulded container to be extracted from the mould with the

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separable projection therewith to be detached from the container subsequently.

5 Said separable part of the projection may be hinged to the mould to swing outwardly thereof to release the moulded container incorporating the handle from the mould.

10 In any of the above arrangements the mould may be formed with projections on both sides thereof to enable recessed handles to be incorporated in both sides of the mould.

15 The following is a description of some specific embodiments of the invention, reference being made to the accompanying drawings in which:

20 Figure 1 is a top perspective view of part of a mould for forming an open-topped container and lid for the mould;

Figure 2 is a similar view to that of Figure 1 showing the separation of an insert part of the mould from the main body of the mould;

25 Figure 3 is a perspective view of the container formed in the mould;and

Figure 4 is a diagrammatic view showing an alternative mould construction.

30 Referring firstly to Figures 1 to 3 of the drawings, there is shown a mould indicated generally at 10 for the manufacture of an open-topped container 11 as illustrated in Figure 3. The container has a main body part 12 the upper end of which is outwardly stepped to form an enlarged rim 13. The container is
35 of generally rectangular form as viewed in plan and has deep channels 14a extending down either side of

the container which run into the rim area 13 where they form recesses 14a in which handle 15 are provided the ends of which are moulded into the sides of the recesses. The recesses 14a terminate just below the top edge 16 of the rim.

The mould for forming the container by rotational moulding is illustrated in Figures 1 and 2 to which reference will now be made. The mould has a main cavity 17 in which the main body part of the container is formed having a rectangular shape corresponding to the required outer profile of the container. The cavity 17 has an outwardly extending step 18 towards its upper end to form an enlarged section 19 in which the rim portion 13 of the container is moulded. The section 19 terminates in an outwardly extending flange 20 to receive a lid 21 for closing the mould. The perimeter of the lid and flange are formed with apertures 22, 23 respectively for bolting the flange and lid together. The joint between the flange and lid provides the effective parting line for the mould where the mould is opened for removal of the moulded container therefrom.

To form the channels 14 extending down each side of the container the mould has rectangular section projections 24 extending up each side of the mould from the bottom of the mould past the shoulder 18 into the enlarged rim section 19. The projection terminate there in smoothly curved end faces 25 just below the flange 20. A cylindrical throughway 26 extends through each projection 24 above the shoulder 18 to receive and hold the handle 15 to be fixed at the recess with ends of the handle projecting on either side thereof to be incorporated in the wall of the moulded container. The part 24a of the projection

above the centreline of the throughway 26 is formed separately from the remaining part of the projection and an area of the mould wall to either side and
5 above the projection part 24a up to and including part of the flange 20 is formed integral with the projection and constitutes a separate mould insert 28. This is to facilitate removal of the moulded container from the mould, the insert being lifted out
10 of the mould with the container as indicated diagrammatically in Figure 2. The projection parts 24a at either side of the mould are then extracted from the recesses 14a which they have served to form. Thus the provision of separate projection parts or
15 inserts in the mould wall facilitates the incorporation of the recessed handle in the outer side of the mould and enables the moulded article to be readily extracted from the mould.

20 Figure 4 of the drawings shows a modified arrangement in which one separate part 24a of the projection is hinged at 30 about a horizontal axis positioned outwardly of the respective side of the mould to be swung outwardly from the mould and
25 thereby extracted from the recess 14a formed by the projection part in the rim section of the mould. The other part 24a on the other side of the mould is similarly hinged. Once the mould parts have been swung clear of the moulding, the moulded container
30 with its incorporated handle 15 can be readily extracted from the mould.

It will be appreciated that many other modifications may be made to the above described
35 embodiments without departing from the scope of the invention. For example the deep channels 14 in the

moulded container may be formed to stop short of the
bottom of the container by stepping the wall on
either side of the channels inwardly adjacent to the
bottom of the container. Also the projections 24 on
5 both sides of the mould may be detachable from the
mould to facilitate different forms of recesses to be
created.

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CLAIMS

1. A mould for creating a plastics container
5 with an external recessed handle, the mould having a
cavity and a parting line encircling the mould to
permit the mould to be opened for release of a
moulded container therefrom, at least one projection
10 extending into the mould from the side thereof to
form a corresponding recess in the outer side of the
moulded container, a throughway extending
transversely through the projection at a location
spaced to one side of the parting line to receive and
support a handle or like component with the ends of
15 the handle extending from the projection to be
incorporated in the moulded container on either side
of the recess, that part of the projection between
the throughway and the parting line being separable
from the remainder of the projection to facilitate
20 extraction of the moulded container from the mould.

2. A mould as claimed in claim 1 wherein the
projection is divided in a plane extending through
the centre of the throughway and transversely to the
25 adjacent side of the mould cavity.

3. A mould as claimed in claim 1 or claim 2
wherein the projection reduces towards the parting
line of the container.

30 4. A mould as claimed in claim 3 wherein the
projection terminates adjacent to the parting line of
the container.

35 5. A mould as claimed in any of the preceding
claims wherein the separate part of the projection is
formed integrally with a part of the wall of the



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mould which is detachable from the mould with that part of the projection.

5 6. A mould as claimed in claim 5 wherein said detachable part of the mould includes a portion of said parting line of the mould.

10 7. A mould as claimed in any of the preceding claims wherein the mould cavity is stepped outwardly around the cavity adjacent to the parting line to form an enlarged rim encircling the top part of the container and at least a part of the projection including throughway being formed in said outwardly stepped part of the mould cavity.

15 8. A mould cavity as claimed in any of the preceding claims wherein the parting line is disposed adjacent one end of the mould, the mould is closed at the opposite end thereof and the projection extends from a location adjacent the parting line along the mould at least part way towards said closed end.

20 9. A mould as claimed in claim 8 wherein the projection extends the length of the mould from said location adjacent the parting line to the closed end.

25 10. A mould as claimed in any of the preceding claims wherein said separable part of the projection is freely detachable from the mould to permit the moulded container to be extracted from the mould with the separable projection therewith to be detached from the container subsequently.

30 11. A mould as claimed in any of the preceding claims wherein said separable part of the projection is hinged to the mould to swing outwardly thereof to



release the moulded container incorporating the handle from the mould.

5 12. A mould as claimed in any of the preceding claims wherein the mould is formed with projections on both sides thereof to enable recessed handles to be incorporated in both sides of the mould.

10 13. A mould for forming a container with recessed handles substantially as described with reference to and as illustrated in Figures 1 to 3 or Figures 4 of the accompanying drawings.

15 14. A moulded container formed in the mould according to any of the preceding claims.

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