(12) UK Patent Application (19) GB (11) 2 269 309 (13) A

(43) Date of A Publication 09.02.1994

(21) Application No 9314690.0

(22) Date of Filing 15.07.1993

(30) Priority Data
(31) 9215936 (32) 27.07.1992 (33) GB

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(51) INT CL[5]
B65F 1/06 1/12

(52) UK CL (Edition M)
A4A AE AEX2 AEX4 AE2
U1S S1827

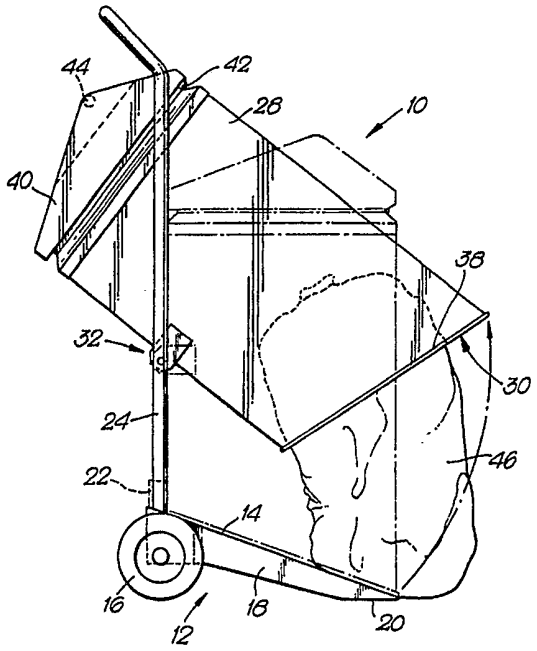
(56) Documents Cited
ZA 007804067 A

(58) Field of Search
UK CL (Edition L) A4A AE
INT CL[5] B65F
ONLINE DATABASE: WPI

(54) A waste receptacle trolley

(57) A trolley (10), for use in the storage, transport and disposal of bagged refuse (46), comprises a wheeled base (12) having a floor (14), and a container bin (28) having an open bottom (30), the bin (28) being hinged with respect to the base (12), and the floor (14) being sloped such that, in use, bagged refuse (46) is supported by an upper surface of the floor (14) when the bin (28) is in an upright storage position, whereas the bagged refuse (46) is encouraged off the upper surface of the floor (14) when the bin (28) is in a tilted disposal position. To improve stability, the base (12) is provided on its front end with a foot rest (20).

Fig.4.



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At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

Fig. 1.

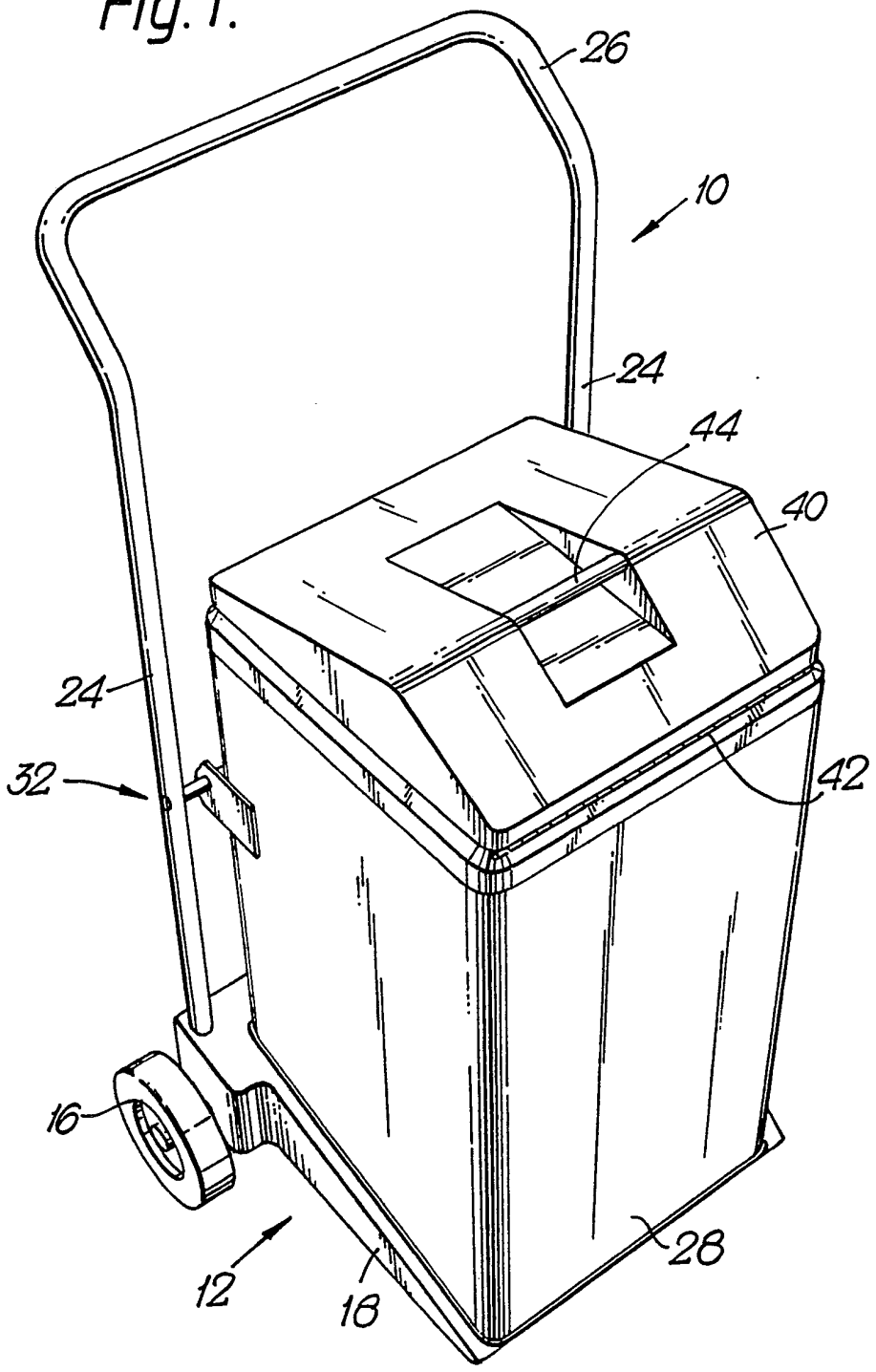


Fig.2.

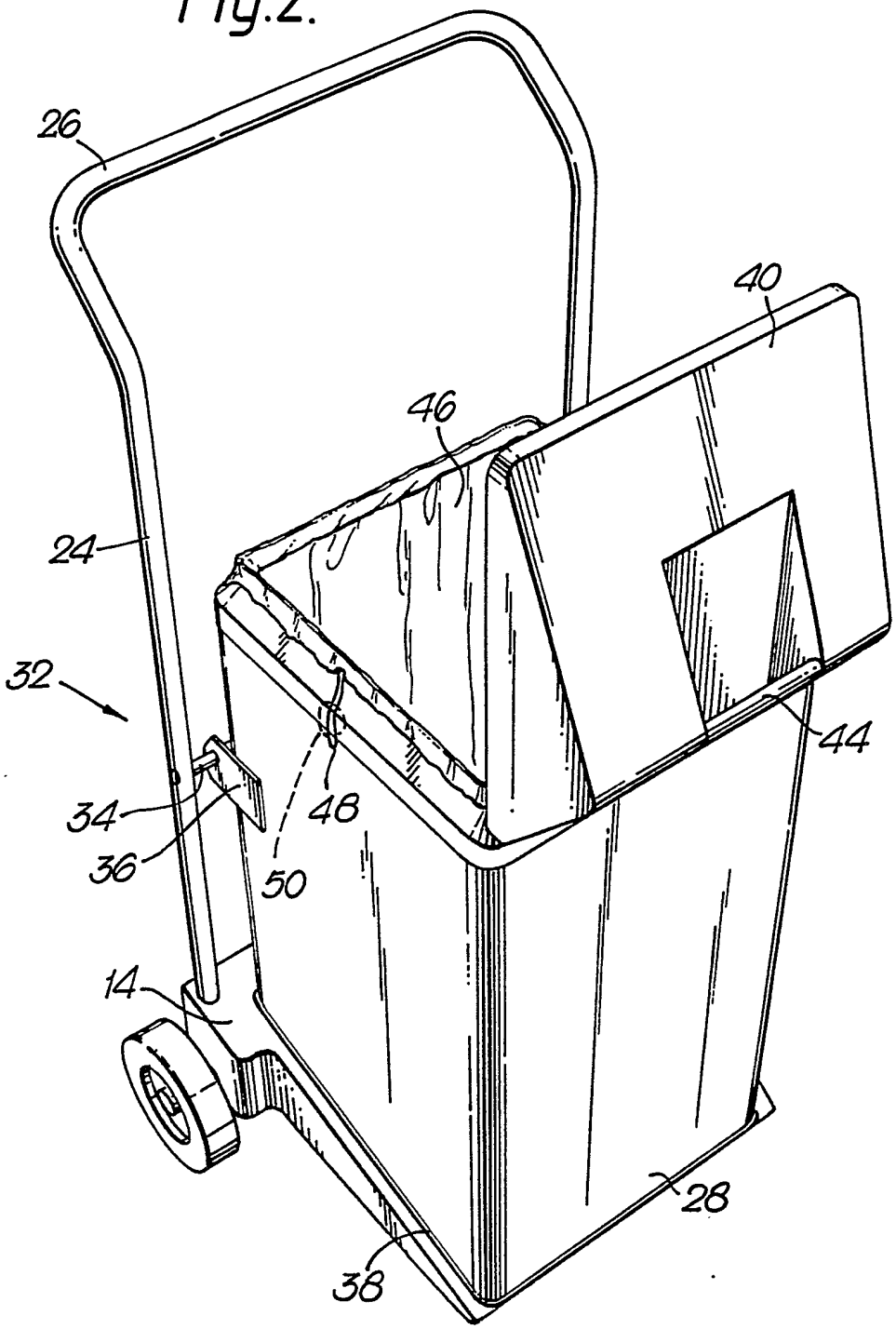


Fig. 3.

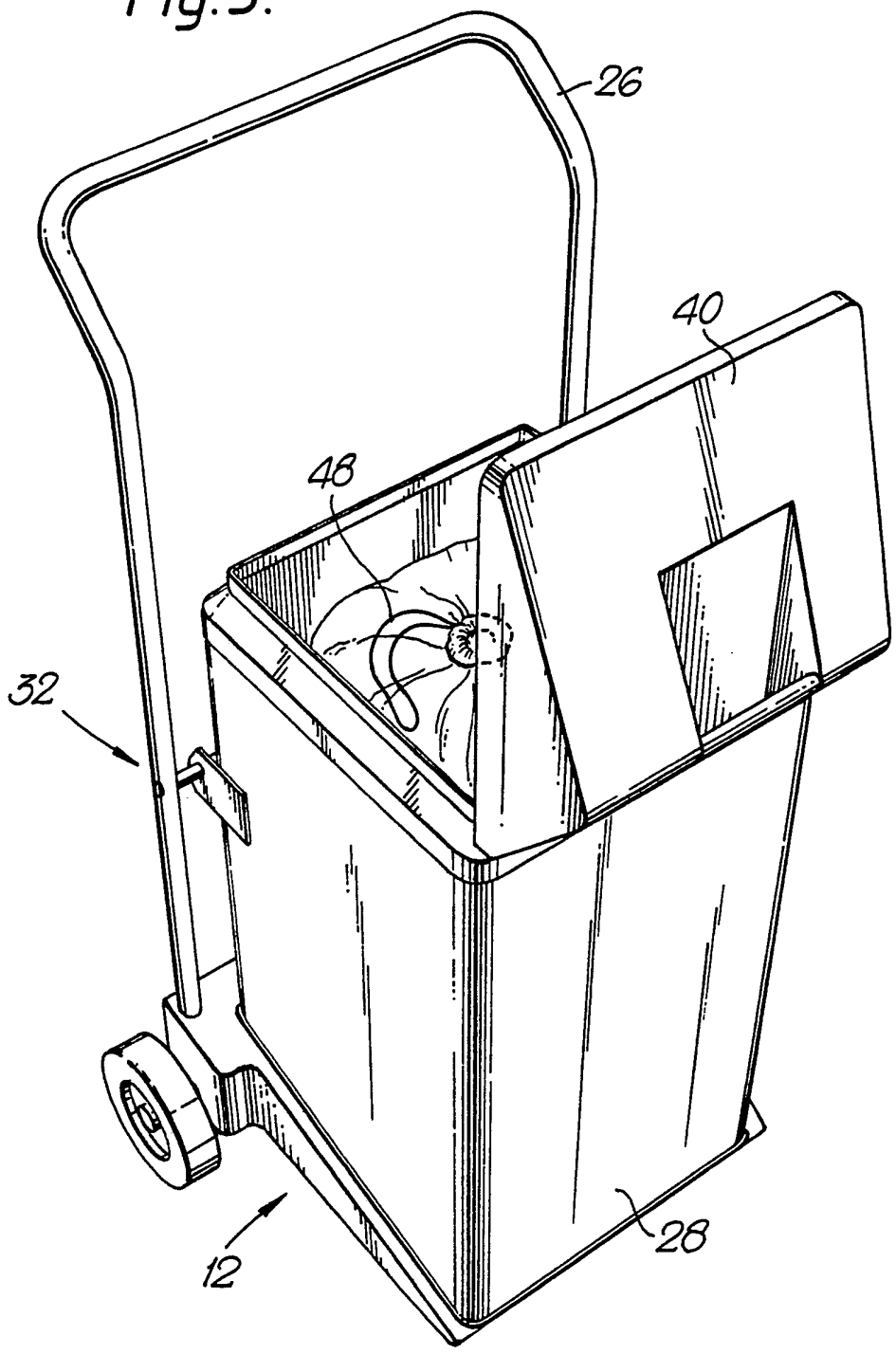
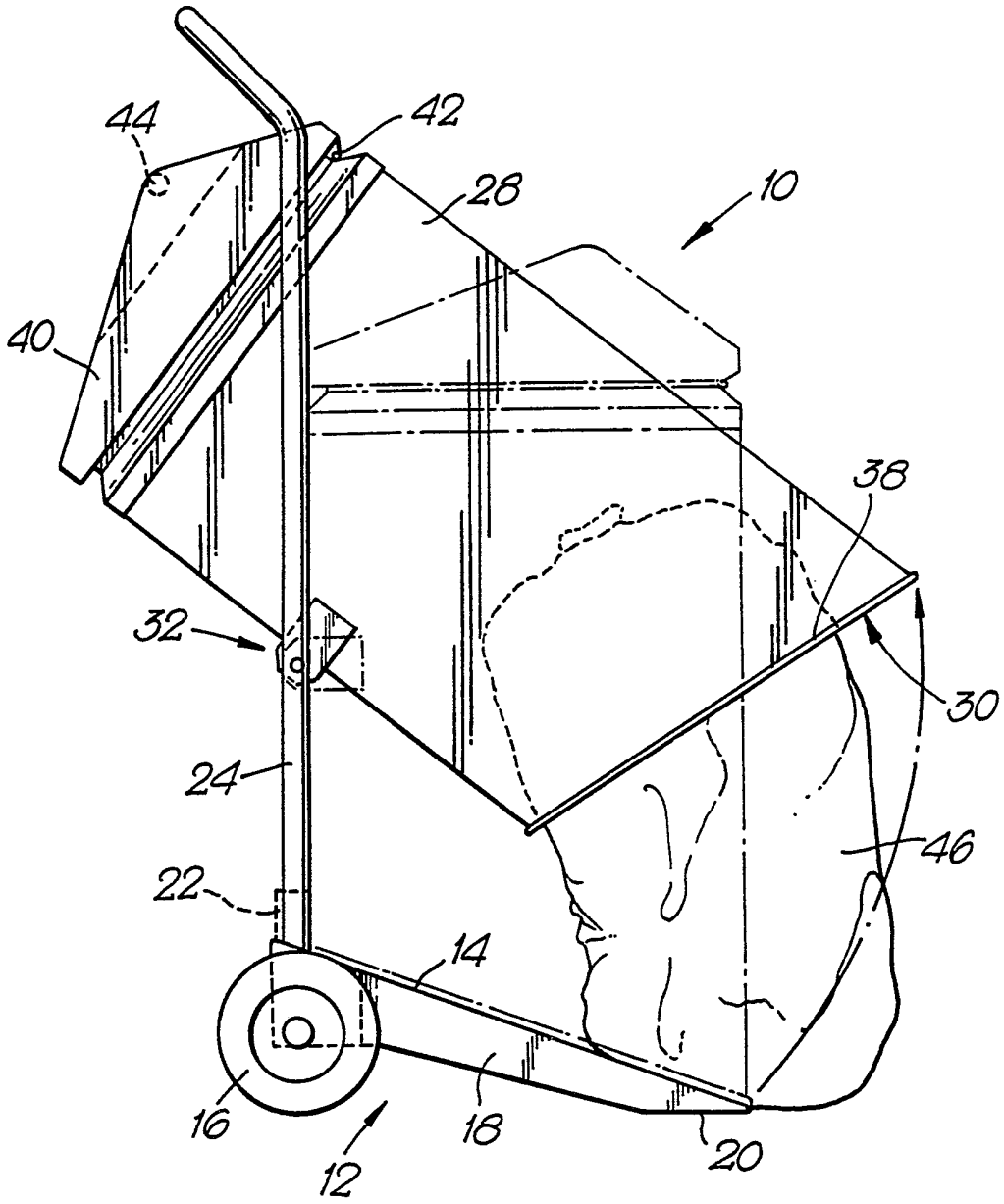


Fig.4.



TROLLEYS

This invention relates to trolleys which are especially but not exclusively suitable for use in the storage, transport and disposal of bagged refuse.

The existing and customary method of domestic refuse storage is in bags or sacks within metal or plastics dustbins. More recently, some dustbins have been provided with wheels to improve their manoeuvrability. In either case the strain to a user compelled to lift the filled bag vertically out of the dustbin when emptying and disposing of the refuse can be physically injurious. There is also the risk of cuts and lacerations to the user from sharp objects penetrating through the wall of the bag or sack.

Similar problems arise in other situations, such as in the handling of bagged refuse in hospitals and industrial premises.

It is known from ZA 7804067 for a container for a flexible waste bag to include a wheeled base and an enclosure which is open top and bottom and is located on and pivotally connected to the base for movement between a first position in which the open bottom of the enclosure rests on the base and a second position in which it is lifted from the base.

In use of the container of ZA 7804067, it is stated that pivoting the enclosure to its said second position leaves the waste bag sitting on the wheeled base, from which it still has to be removed by tipping or pulling, and the need for such tipping or pulling to move the waste bag from the wheeled base to the ground again involves the risk of physical injury as referred to hereinbefore.

According to the present invention, however, a trolley for use in the storage, transport and disposal of bagged refuse comprises a wheeled base having a floor, and a

container bin having an open bottom, the bin being hinged with respect to the base, and the floor being sloped such that, in use, bagged refuse is supported by an upper surface of the floor when the bin is in an upright storage position, whereas the bagged refuse is encouraged off the upper surface of the floor when the bin is in a tilted disposal position.

To improve stability, a front end of the base remote from the or each of its wheels may have a foot rest, with a lower surface of the foot rest being at an angle to the upper surface of the floor.

In one arrangement, a lower end of the bin includes an edge which rests upon the upper surface of the floor when the bin is in its said upright storage position.

In another arrangement, a lower end of the bin includes a lip which extends below the upper surface of the floor when the bin is in its said upright storage position, the lip possibly being in the form of a rebate overlapping a front and opposed sides of the floor.

Preferably, a rear end of the base adjacent the or each of its wheels has a pair of upright supports between which a rear end of the bin is pivotally suspended at a hinge located generally at a mid-part of the height of the bin.

In such a preferred arrangement: the pair of upright supports may be joined at upper ends thereof to form a generally U-shaped handle for use in pushing the trolley; an upper end of the bin may include a lid, which is hinged to a front end of the bin and has a handgrip for use in pivoting the bin away from its said upright storage position; and the rear end of the base may have an upright member against which the rear end of the bin abuts when the bin is in its said upright storage position.

The trolley of the present invention is not restricted to the provision of just a single bin because a plurality of the bins may be provided in association with just the one floor.

A trolley, in accordance with the present invention, will now be described in more detail, by way of example only, with reference to the accompanying drawings in which:-

Figure 1 is a perspective view showing the trolley in its storage mode;

Figure 2 is a perspective view showing the trolley with its lid hinged open;

Figure 3 is a perspective view showing the trolley with its bagged refuse tied and sealed; and

Figure 4 is a side view showing the trolley in its disposal mode.

The accompanying drawings show just one embodiment of a trolley 10 in accordance with the present invention.

The trolley 10 includes a wheeled base 12 having a sloping floor 14. More particularly, a pair of wheels 16 are mounted for rotation about a common shaft extending through, or separate shafts extending from, a pair of side walls 18 of the base 12. The wheels 16 may be replaced by a single cylindrical roller, or swivel castors, and may be located such that they do not touch the ground until the trolley 10 is tilted.

Front ends of the side walls 18, remote from the wheels 16, are formed with flat lower surfaces 20 constituting a foot rest. It will be noted that the foot rest is at an angle to the upper surface of the floor 14 with the floor 14 sloping downwards with increasing distance from the wheels 16. The side walls 18 of the base 12 may be strengthened by interconnecting webs, particularly if the base 12 is formed of a plastics material rather than a metal.

An upright member, such as bar 22 shown in dotted outline in Figure 4, may extend across the rear end of the base 12.

A pair of upright supports 24 may also extend from the rear end of the base 12, by the ends of the bar 22, the

upright supports 24 being joined at upper ends thereof to form a generally U-shaped handle 26.

A container bin 28 having an open bottom 30 is provided. A rear end of the bin 28 is shown pivotally suspended between the upright supports 24 at a hinge 32, and the hinge 32 is shown located generally at a mid-part of the height of the bin 28. The hinge 32 may take the form of a rod 34 fixed to the upright supports 24 and extending through brackets 36 fixed to the bin 28.

The bin 28 may again be formed from metal, or a plastics material, and may taper outwardly towards the bottom 30, rather than being of a regular square, rectangular or indeed other cross-section.

A mechanical catch (not shown) may be provided, for example between the bar 22 and the bin 28, to hold the bin 28 in its closed position, rather than relying on gravity.

A lower end of the bin 28 includes an edge in the form of an enlarged rim 38 which can rest upon the upper surface of the floor 14. An upper end of the bin 28 includes a lid 40, which is hinged by any suitable means at 42 with respect to a front end of the bin 28 and has a handgrip 44.

The trolley 10 is intended for use with a waste bag 46 such as a flexible plastics sack.

The lid 40 may trap an open end of the waste bag 46 between itself and the upper end of the bin 28 and/or the waste bag 46 may be provided with a drawstring 48 for tightening about the upper end of the bin 28. The drawstring 48 may engage in a groove formed at the upper end of the bin 28. Alternatively, or additionally, the upper end of the bin 28 may be provided with other engagement means, such as a pair of outwardly extending opposed studs having enlarged heads 50, one of which is shown in dotted outline in Figure 2. The headed studs may be engaged by exposed loops in the drawstring 48, or just by the material of the waste bag 46, to hold the waste bag 46 in position during filling thereof with refuse.

The manner of use of the trolley 10 in accordance with the present invention will be clear from the accompanying drawings.

It should be mentioned in particular, however, that the waste bag 46 is first positioned as shown in Figure 2, and when full is closed as shown in Figure 3. The trolley 10 is wheeled to a disposal point by tipping onto the wheels 16 and pushing on the handle 26. To remove the filled and sealed waste bag 46 from the bin 28, the handgrip 44 is pulled so that the bin 28 moves in the direction of the arrow from the dotted line position of Figure 4 to the full line position of Figure 4. The user may press down on the bar 22 with his foot to steady the trolley 10. The bottom 30 of the bin 28 is thus moved away from the floor 14 and in so doing the rear end of the bin 28 can assist the action of gravity by pushing the waste bag 46 down the floor 14 onto the ground. There is a tendency for the waste bag 46 to remain standing particularly if the handgrip 44 is pulled smoothly and slowly. Finally, the trolley 10 is withdrawn and the bin 28 is allowed to swing closed under gravity.

It will thus be appreciated that the present invention provides a trolley 10, for use in the storage, transport and disposal of bagged refuse 46, comprising a wheeled base 12 having a floor 14, and a container bin 28 having an open bottom 30, the bin 28 being hinged with respect to the base 12, and the floor 14 being sloped such that, in use, bagged refuse 46 is supported by an upper surface of the floor 14 when the bin 28 is in an upright storage position, whereas the bagged refuse 46 is encouraged off the upper surface of the floor 14 when the bin 28 is in a tilted disposal position.

CLAIMS

1. A trolley, for use in the storage, transport and disposal of bagged refuse, comprises a wheeled base having a floor, and a container bin having an open bottom, the bin being hinged with respect to the base, and the floor being sloped such that, in use, bagged refuse is supported by an upper surface of the floor when the bin is in an upright storage position, whereas the bagged refuse is encouraged off the upper surface of the floor when the bin is in a tilted disposal position.

2. A trolley according to claim 1, in which a front end of the base remote from the or each of its wheels has a foot rest, with a lower surface of the foot rest being at an angle to the upper surface of the floor.

3. A trolley according to claim 1 or claim 2, in which a lower end of the bin includes an edge which rests upon the upper surface of the floor when the bin is in its said upright storage position.

4. A trolley according to claim 1 or claim 2, in which a lower end of the bin includes a lip which extends below the upper surface of the floor when the bin is in its said upright storage position.

5. A trolley according to any preceding claim, in which a rear end of the base adjacent the or each of its wheels has a pair of upright supports between which a rear end of the bin is pivotally suspended at a hinge located generally at a mid-part of the height of the bin.

6. A trolley according to claim 5, in which the pair of upright supports are joined at upper ends thereof to form a generally U-shaped handle for use in pushing the trolley.

7. A trolley according to claim 5 or claim 6, in which an upper end of the bin includes a lid, which is hinged to a front end of the bin and has a handgrip for use in pivoting the bin away from its said upright storage position.

8. A trolley according to any one of claims 5 to 7, in which the rear end of the base has an upright member

against which the rear end of the bin abuts when the bin is in its said upright storage position.

9. A trolley according to any preceding claim, in which a plurality of the bins are provided in association with just the one floor.

10. A trolley substantially as hereinbefore described with reference to the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under Section 17 (The Search report)

Application number
GB 9314690.0

Relevant Technical Fields

(i) UK Cl (Ed.L) A4A (AE)

(ii) Int Cl (Ed.5) B65D

Search Examiner
DR C L DAVIES

Date of completion of Search
29 OCTOBER 1993

Databases (see below)
(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii) ON-LINE DATABASES: WPI

Documents considered relevant following a search in respect of Claims :-
1-10

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages	Relevant to claim(s)
A	ZA 7804067 (MASON) see figure and Claim 1	1

Databases: The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).