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(71) Applicant(s):
David Parnaby
6 Farnborough Avenue, Oldham, OL4 3HG,
United Kingdom

Warren Gatley
69 Beech Avenue, Greenfield, Oldham, OL3 7HW,
United Kingdom

(72) Inventor(s):
David Parnaby
Warren Gatley

(74) Agent and/or Address for Service:
Patent Outsourcing Limited
1 King Street, BAKEWELL, Derbyshire, DE45 1DZ,
United Kingdom

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JPH1025001
USD439718

(58) Field of Search:
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Other: **WPI, EPODOC**

(54) Title of the Invention: **A scoop attachment configured for use with a flexible bucket**
Abstract Title: **Chute mountable to flexible bucket**

(57) A scoop is suitable to attach to a flexible bucket to receive waste like a dustpan. The scoop has two joined 50 planar walls 30, 40 with a straight slot 60 therebetween to receive the rim of the bucket. An extension 10 of wall 30 forms the ramp of the scoop. Upwardly projecting wings 80 can be provided on one or both sides of the ramp. The wings can be provided with hand holds 110. There can be holes 120 where the walls join 50 to prevent material compaction there. The walls can taper towards or away from where they join and there can be teeth 70 within the slot. The walls and slot can extend the full width of the scoop. The front lip 90 of the ramp can be tapered and made of rubber. The device can be moulded from plastic or folded from a sheet of plastic or metal. The ramp could pivot relative to the walls forming the slot. The scoop can be made by folding a sheet in half and folding one of those halves in half again to make an extended N shape.

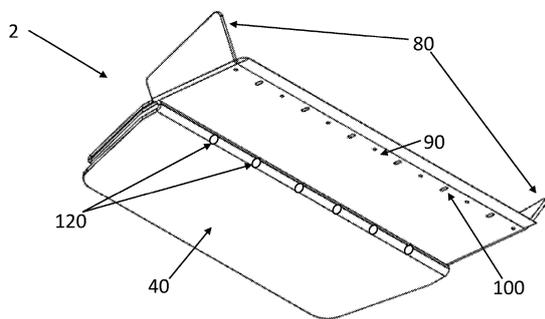


Figure 11

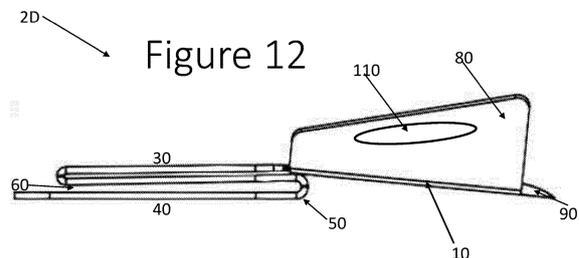


Figure 12

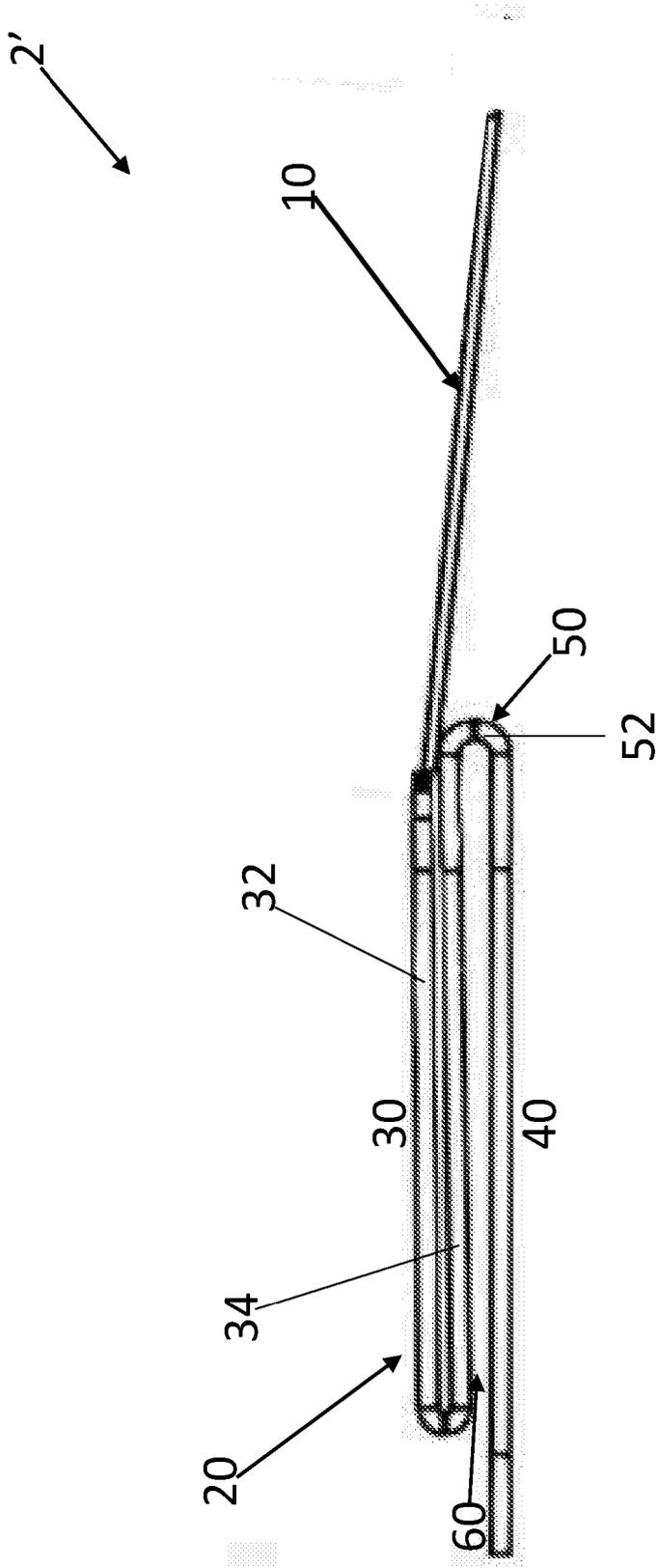


Figure 1

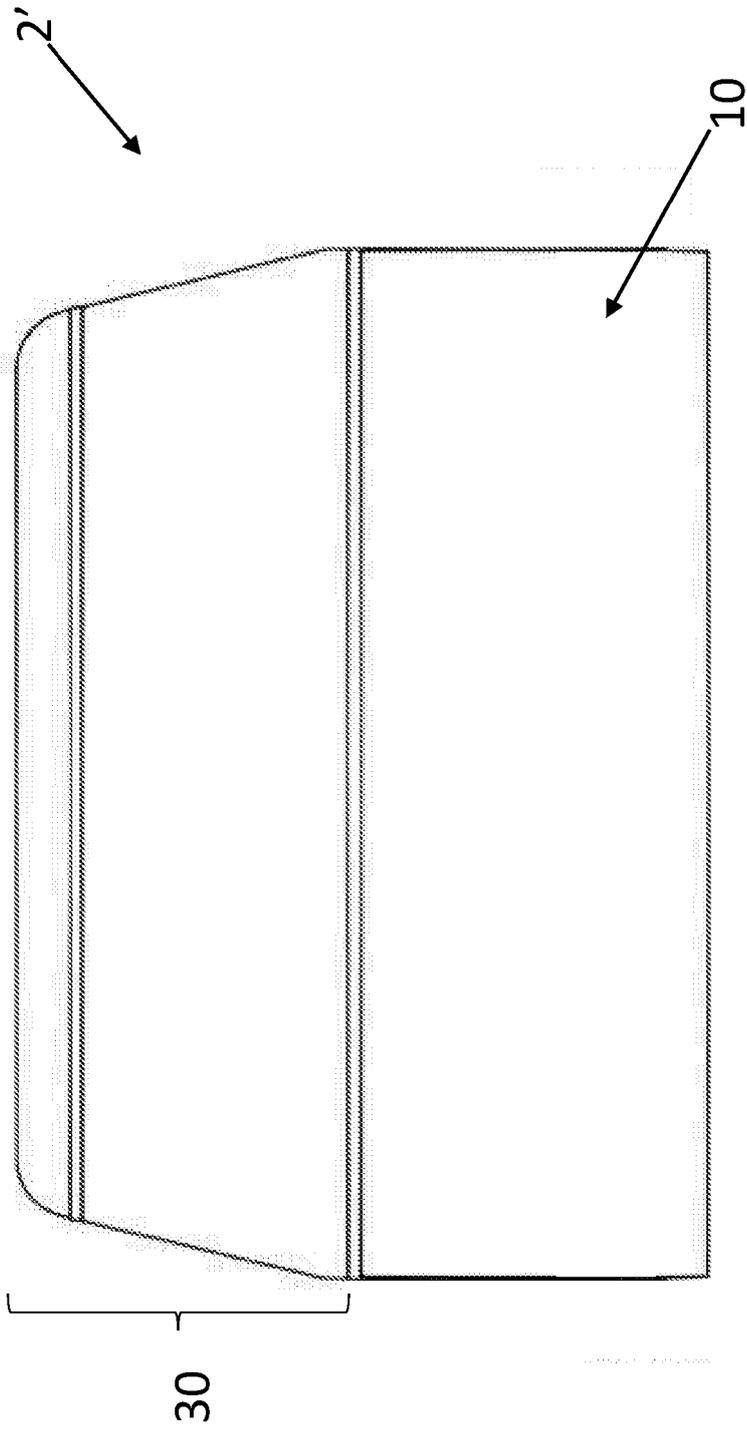


Figure 2

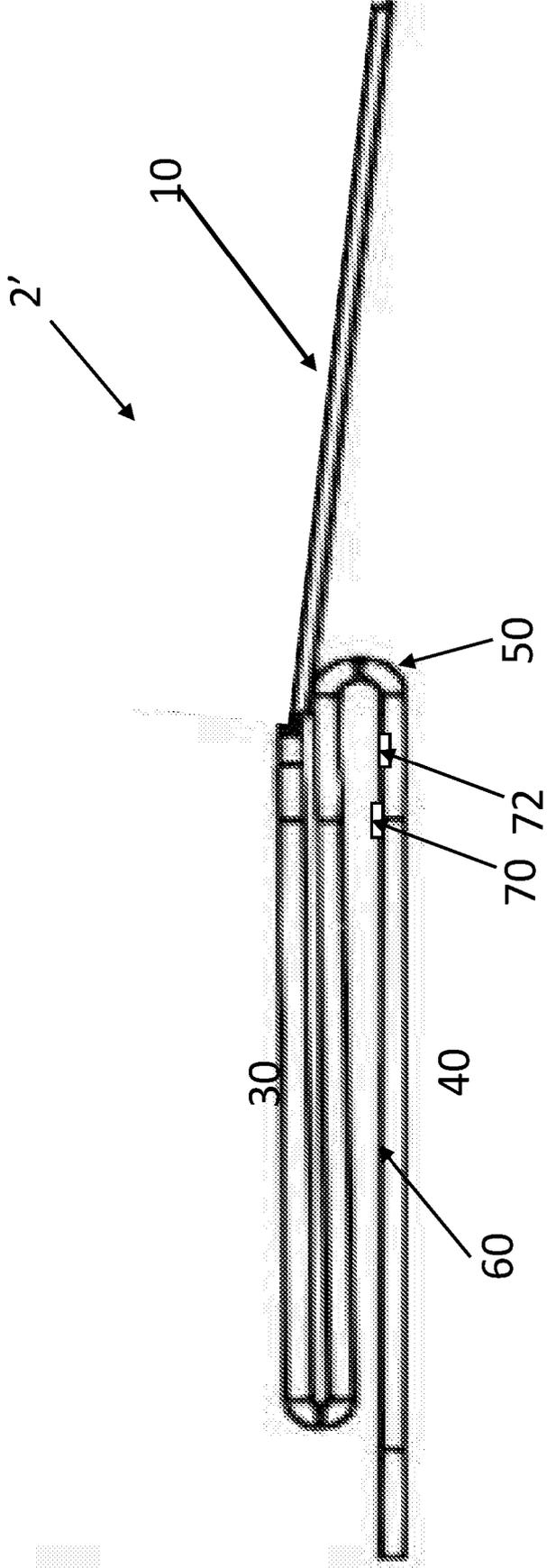


Figure 3

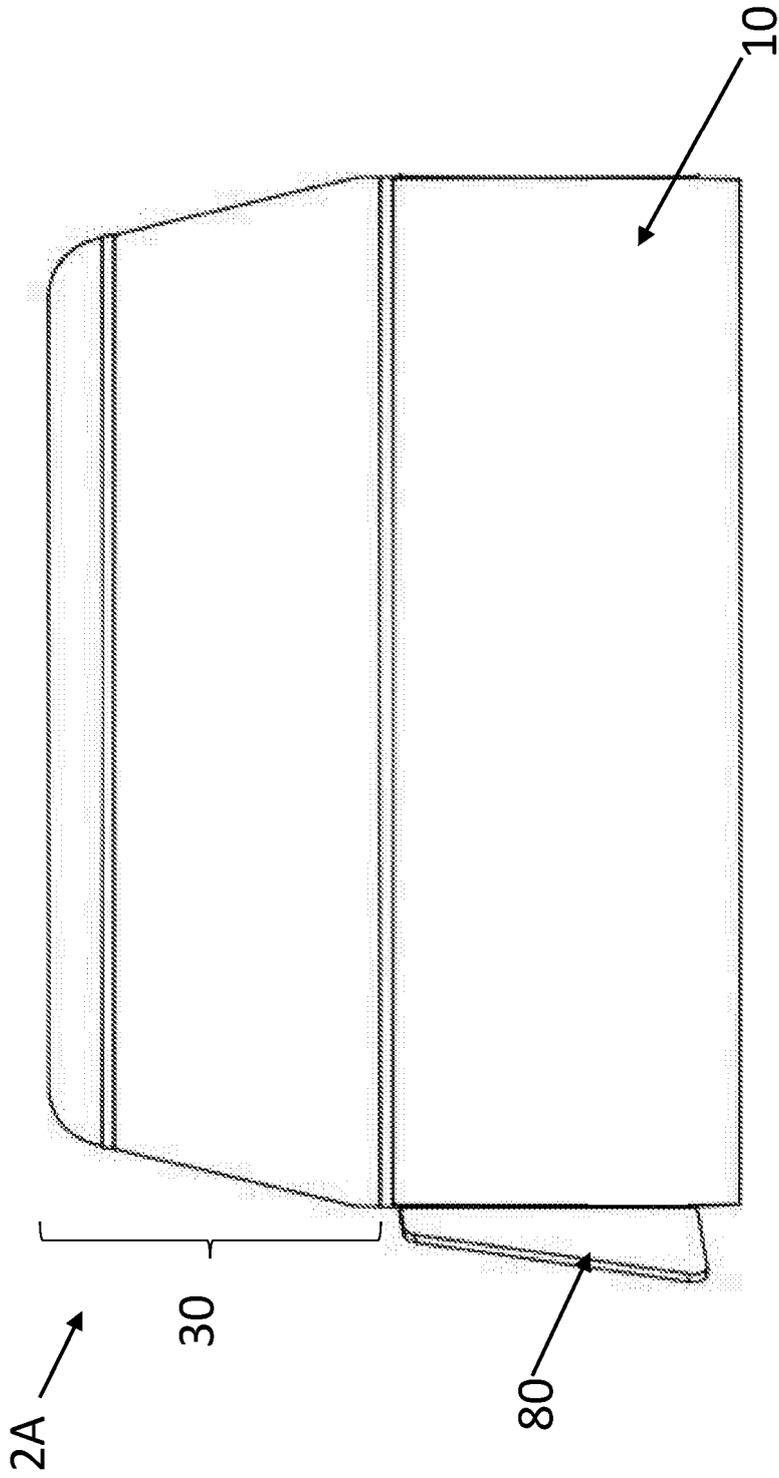


Figure 4

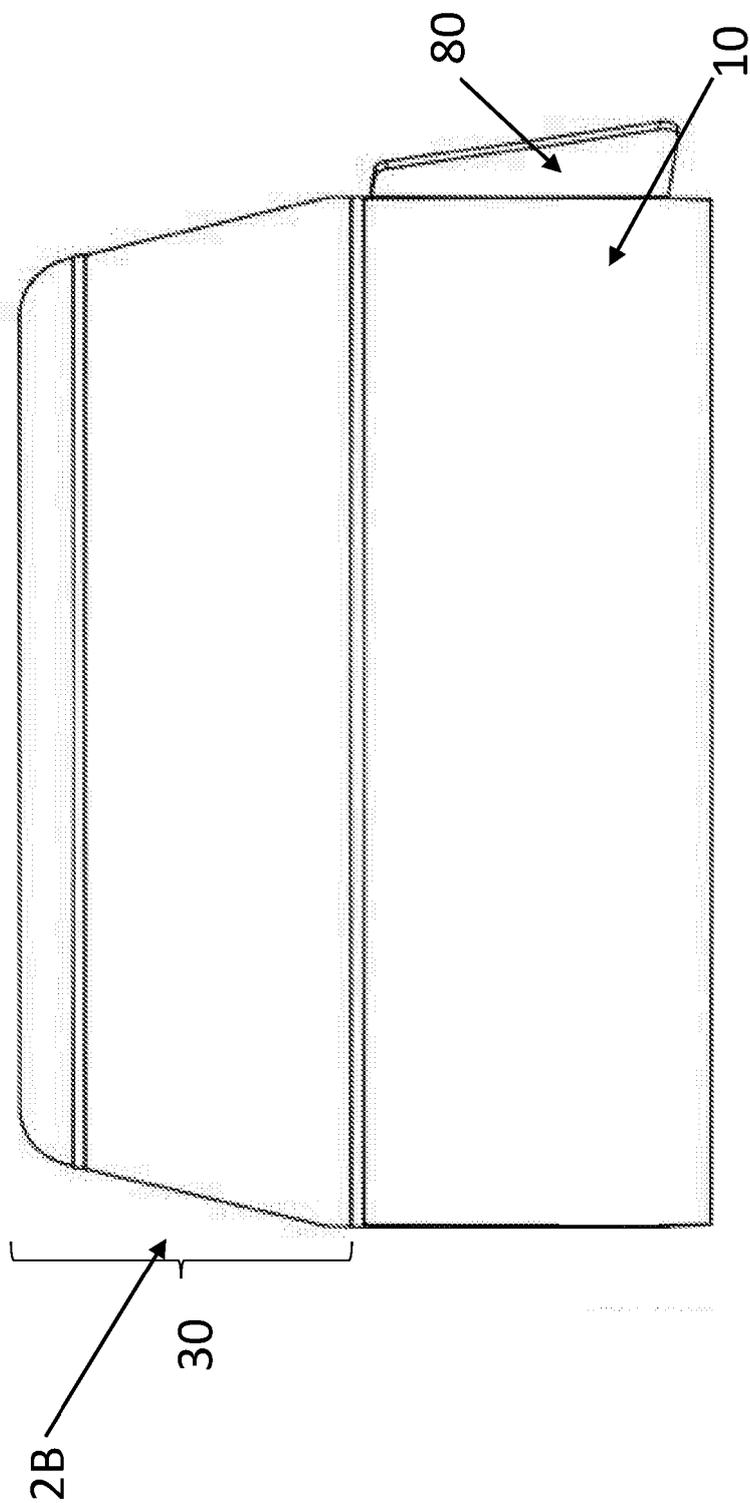


Figure 5

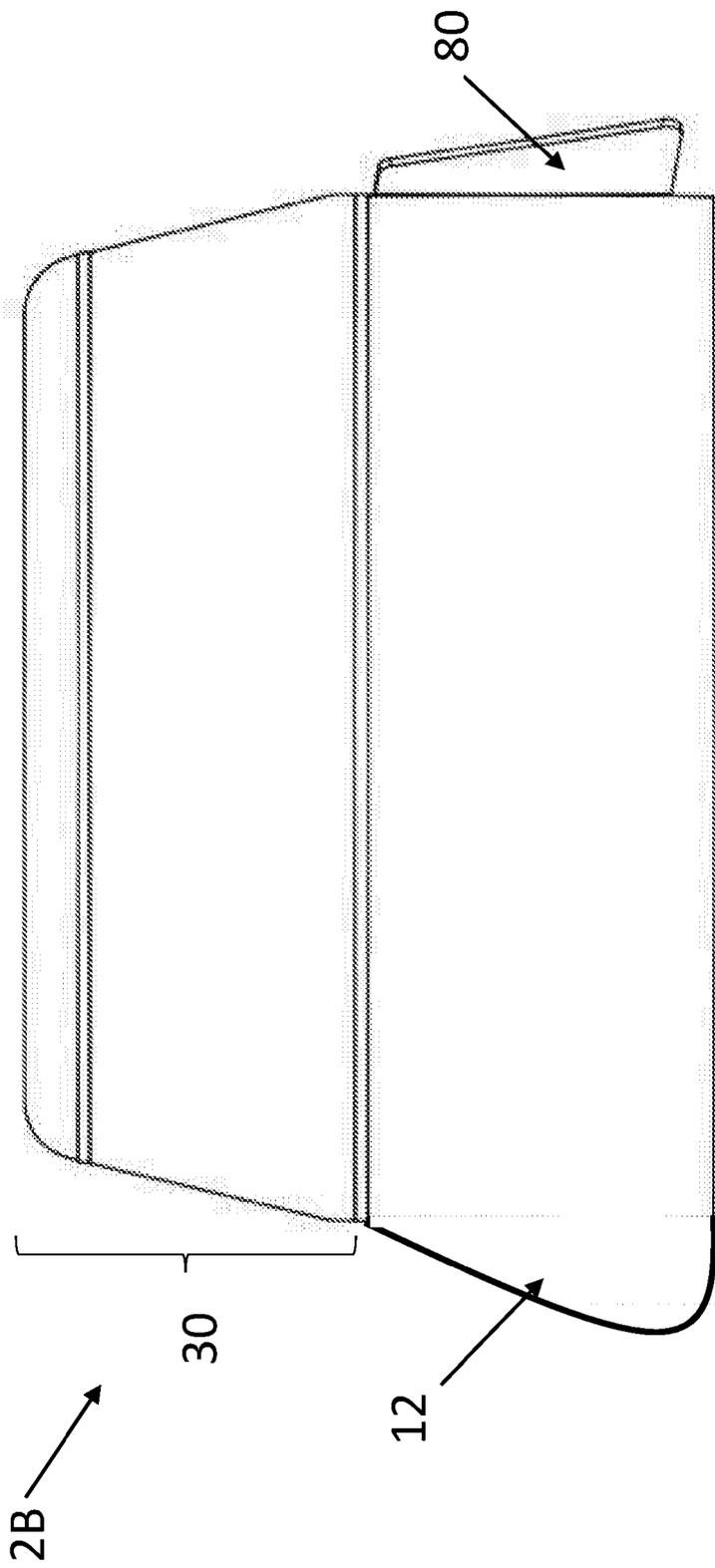


Figure 5A

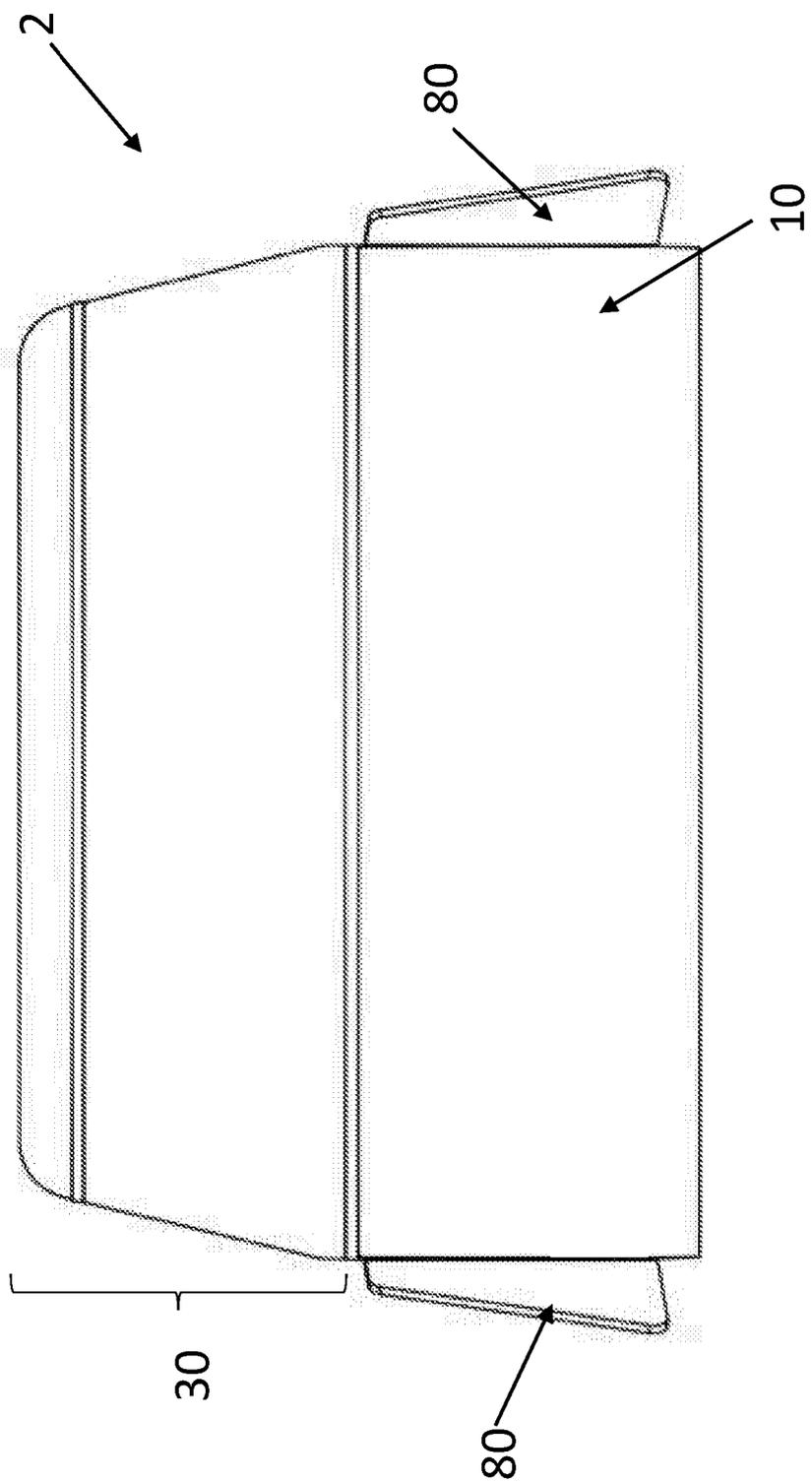


Figure 6

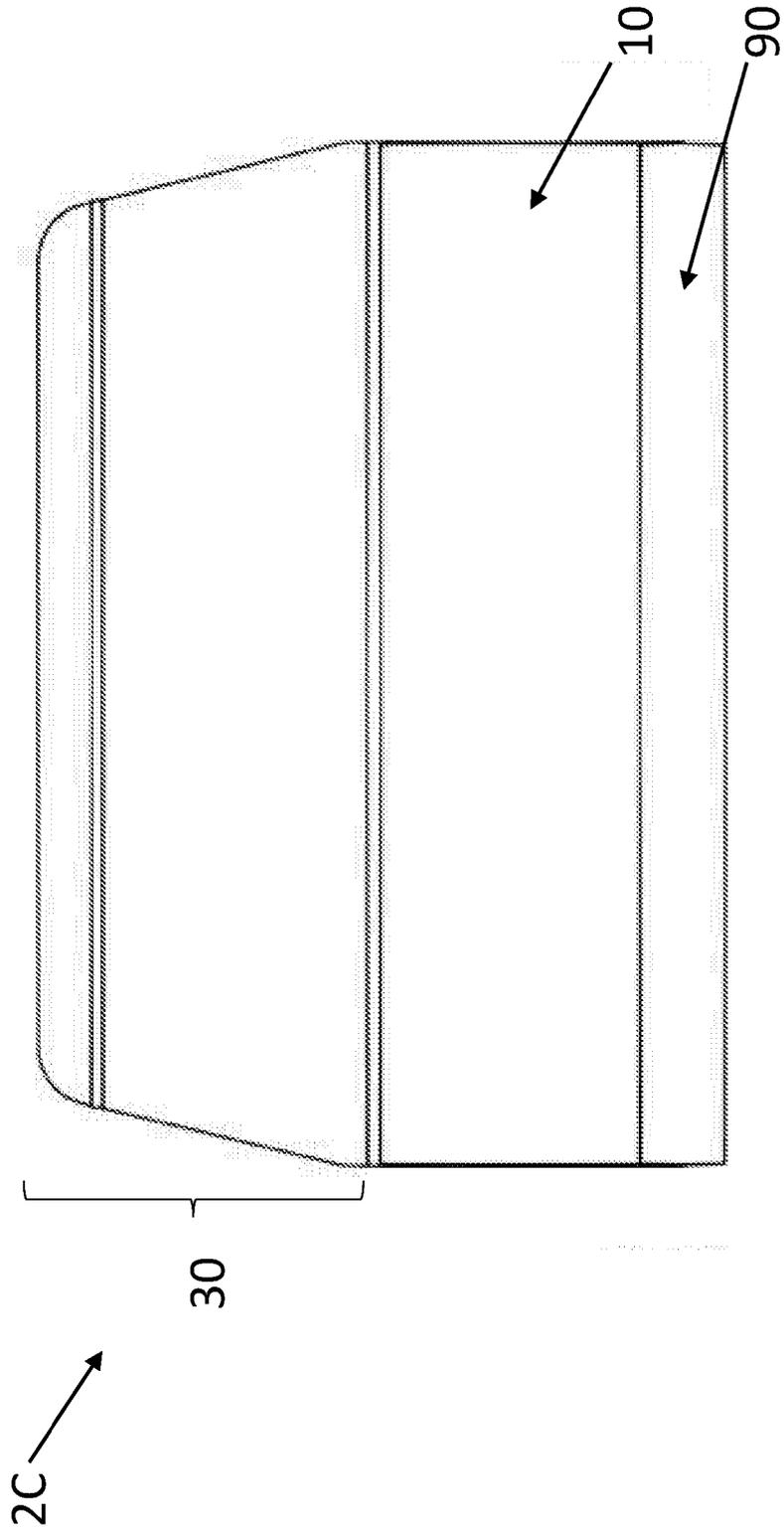


Figure 7

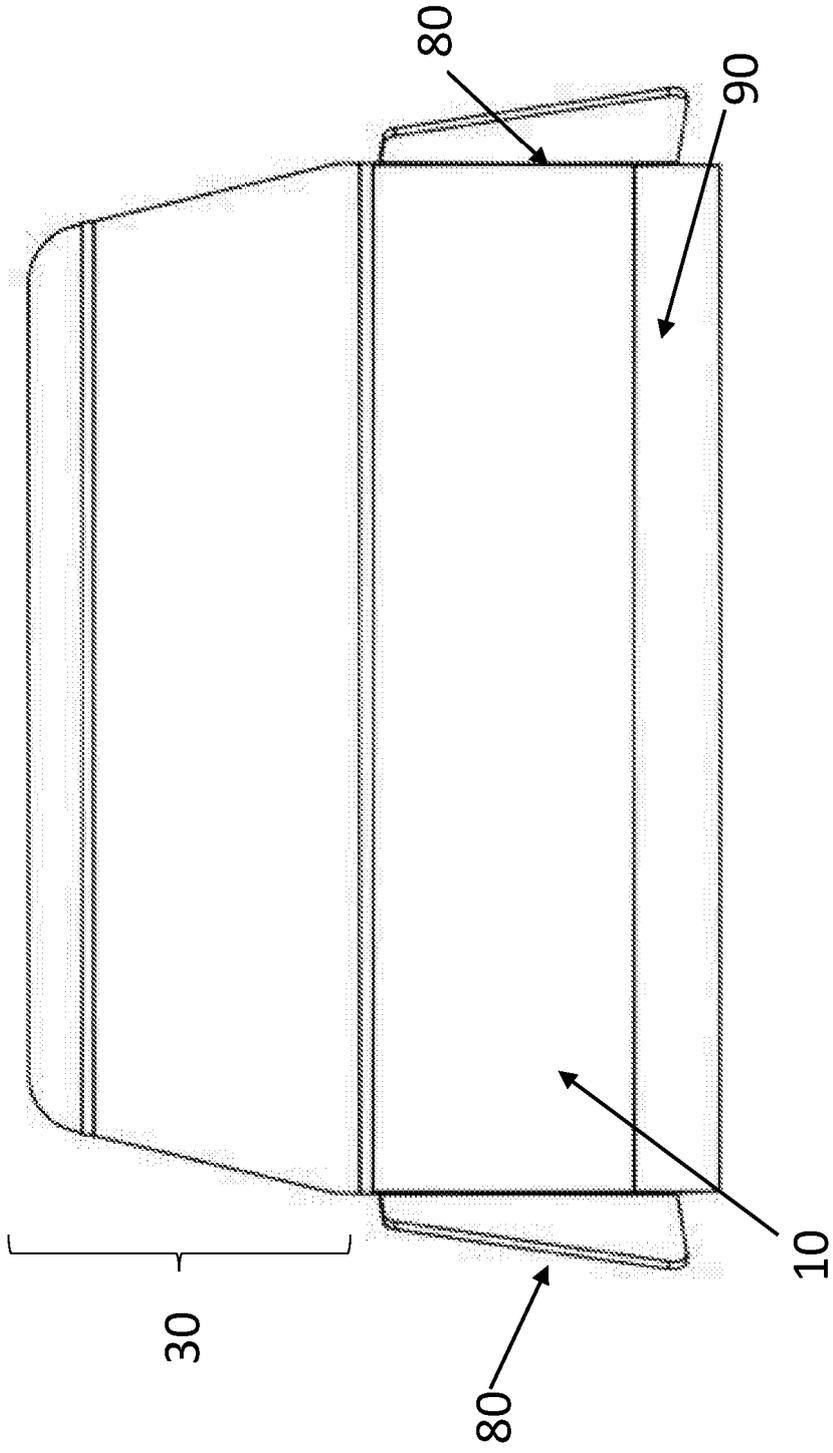


Figure 8

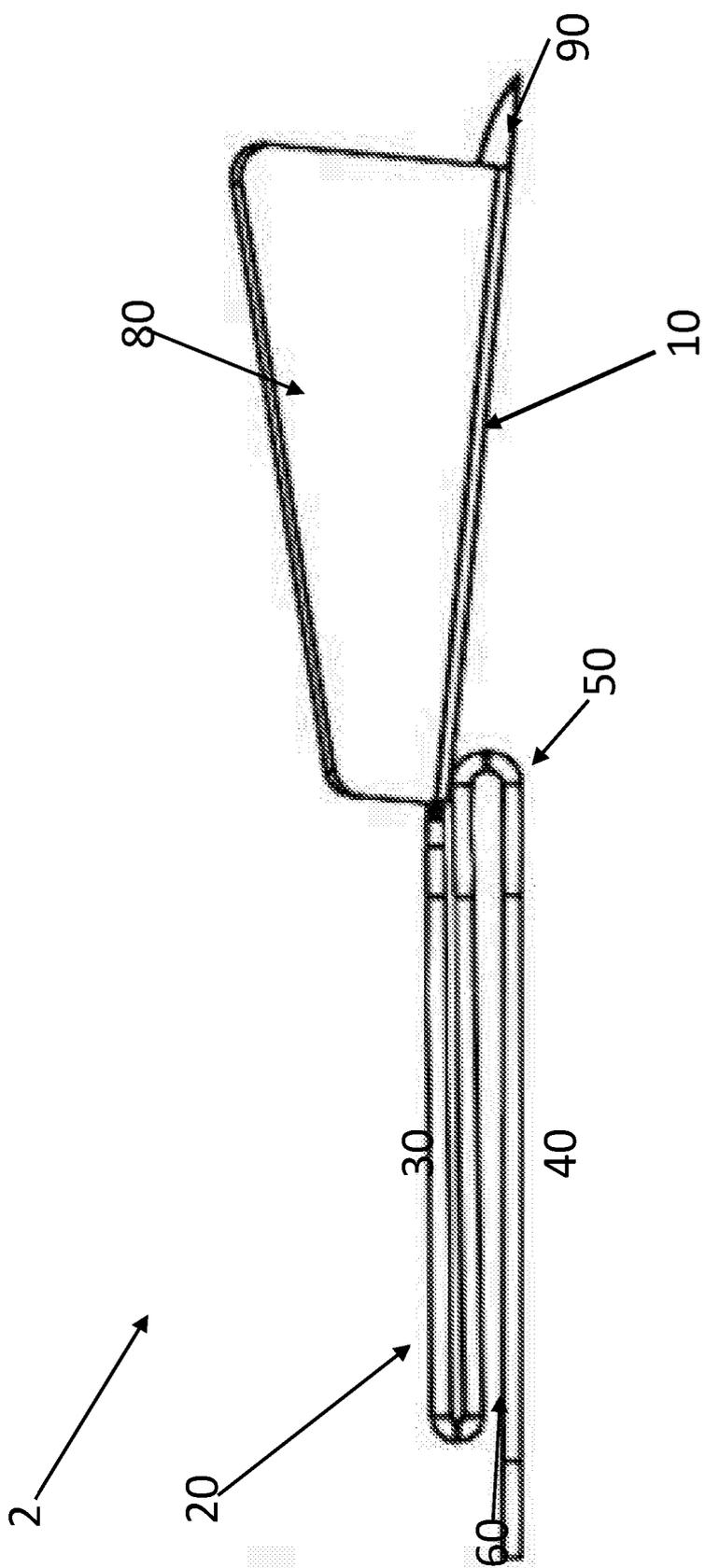


Figure 9

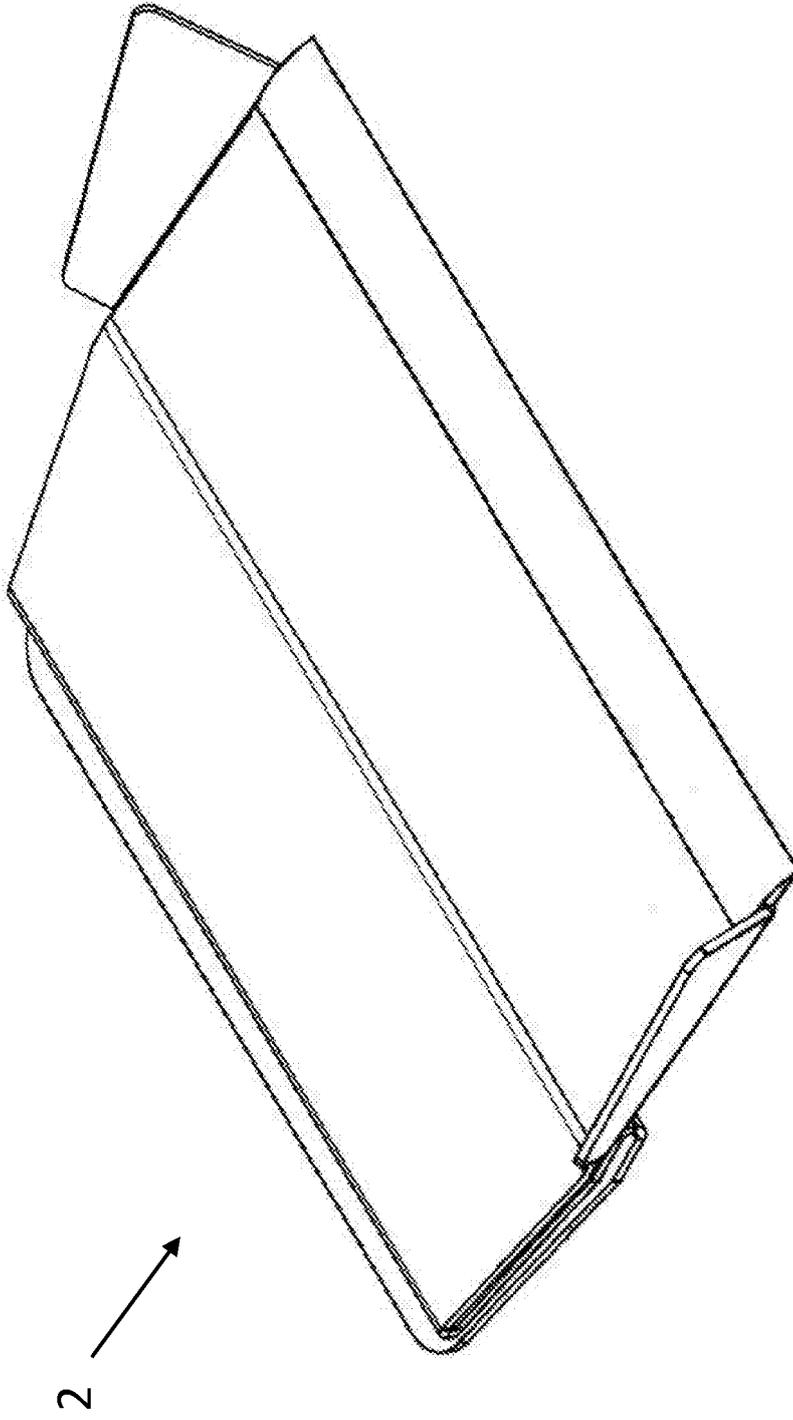


Figure 10

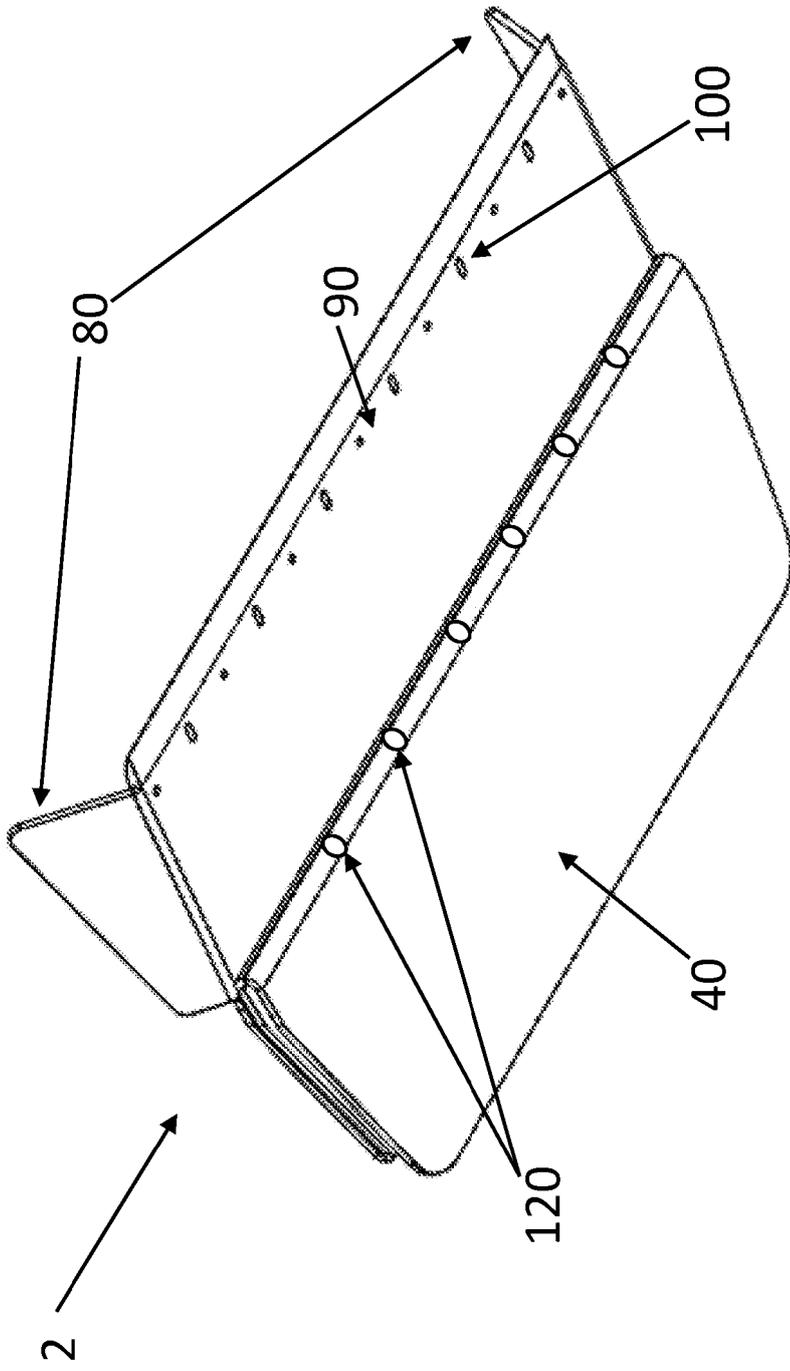


Figure 11

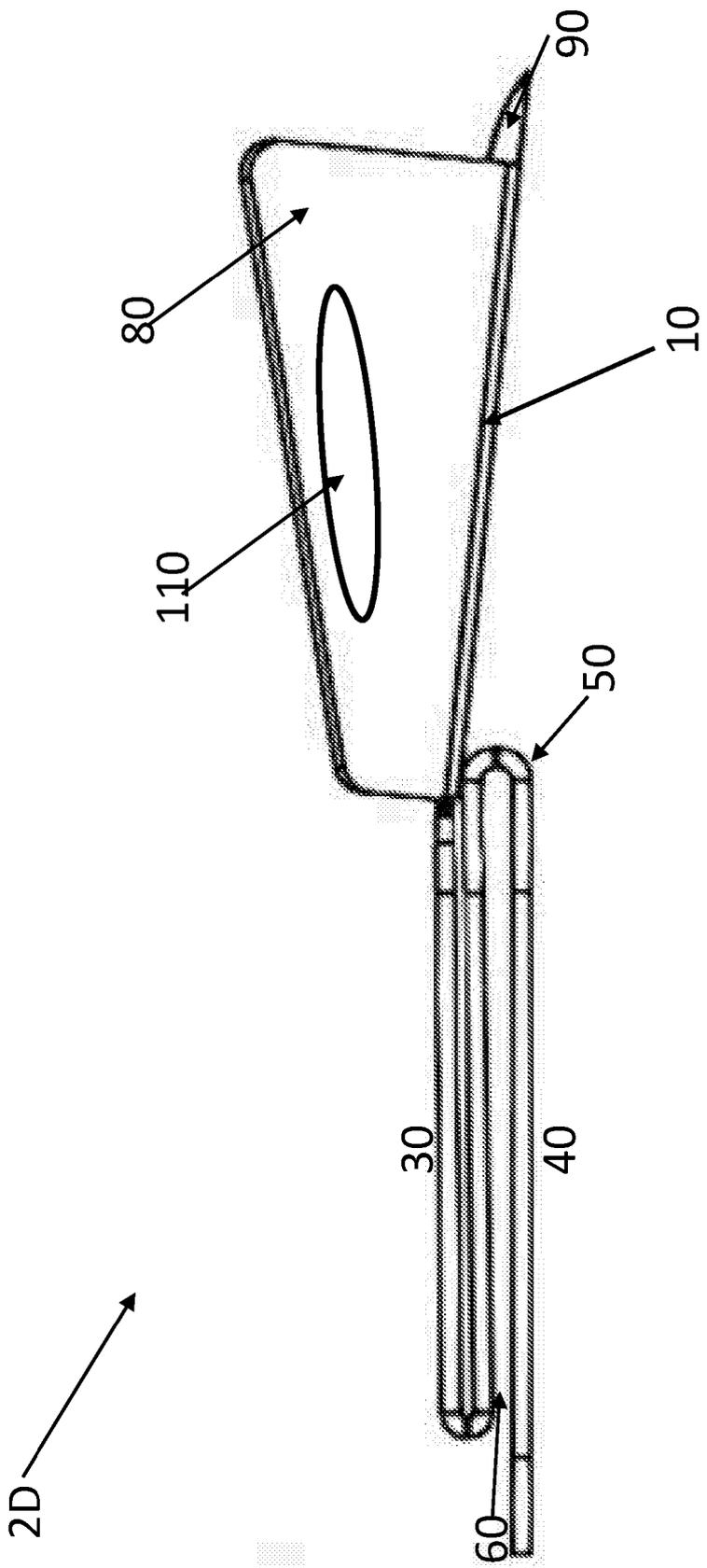


Figure 12

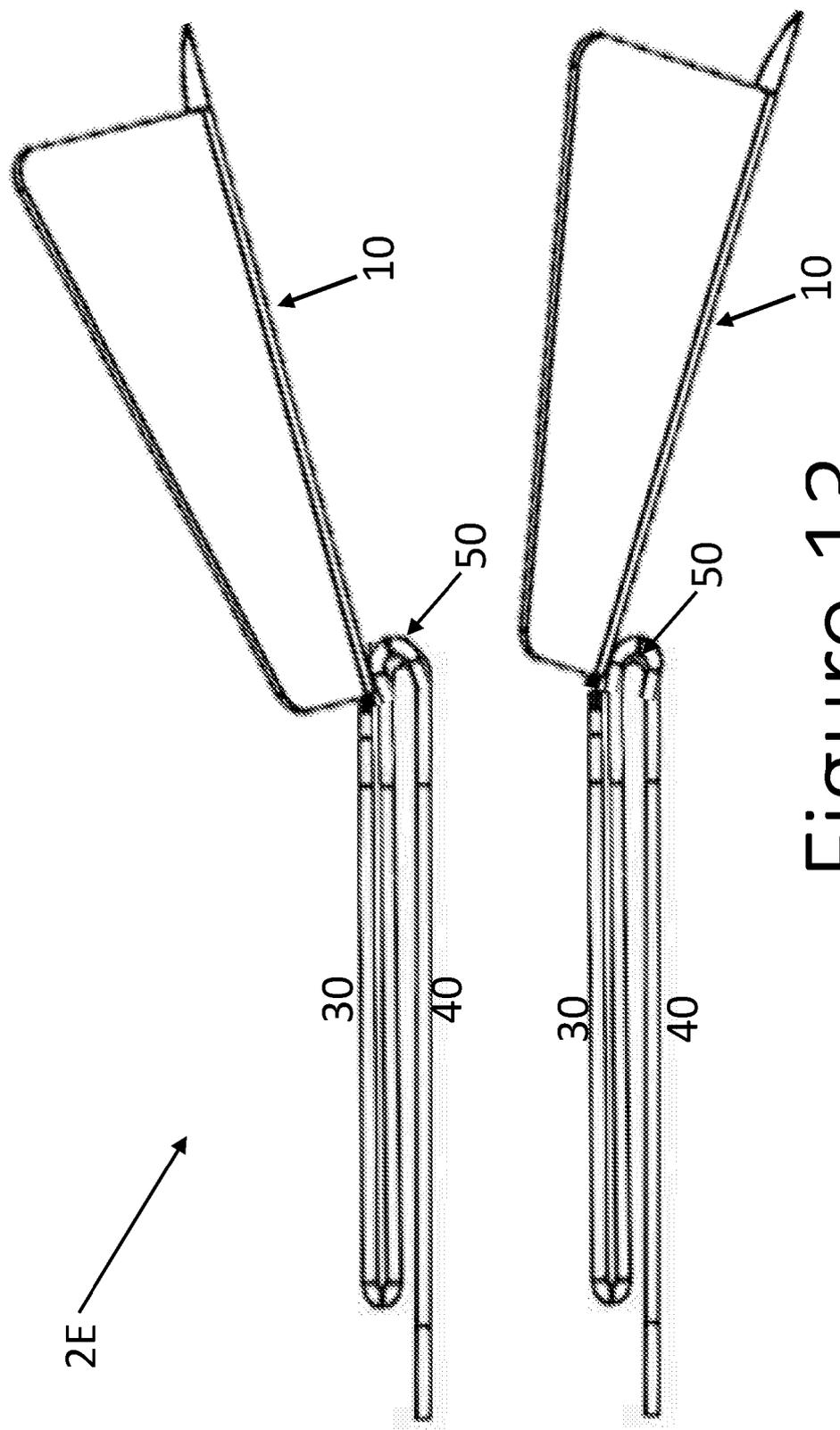


Figure 13

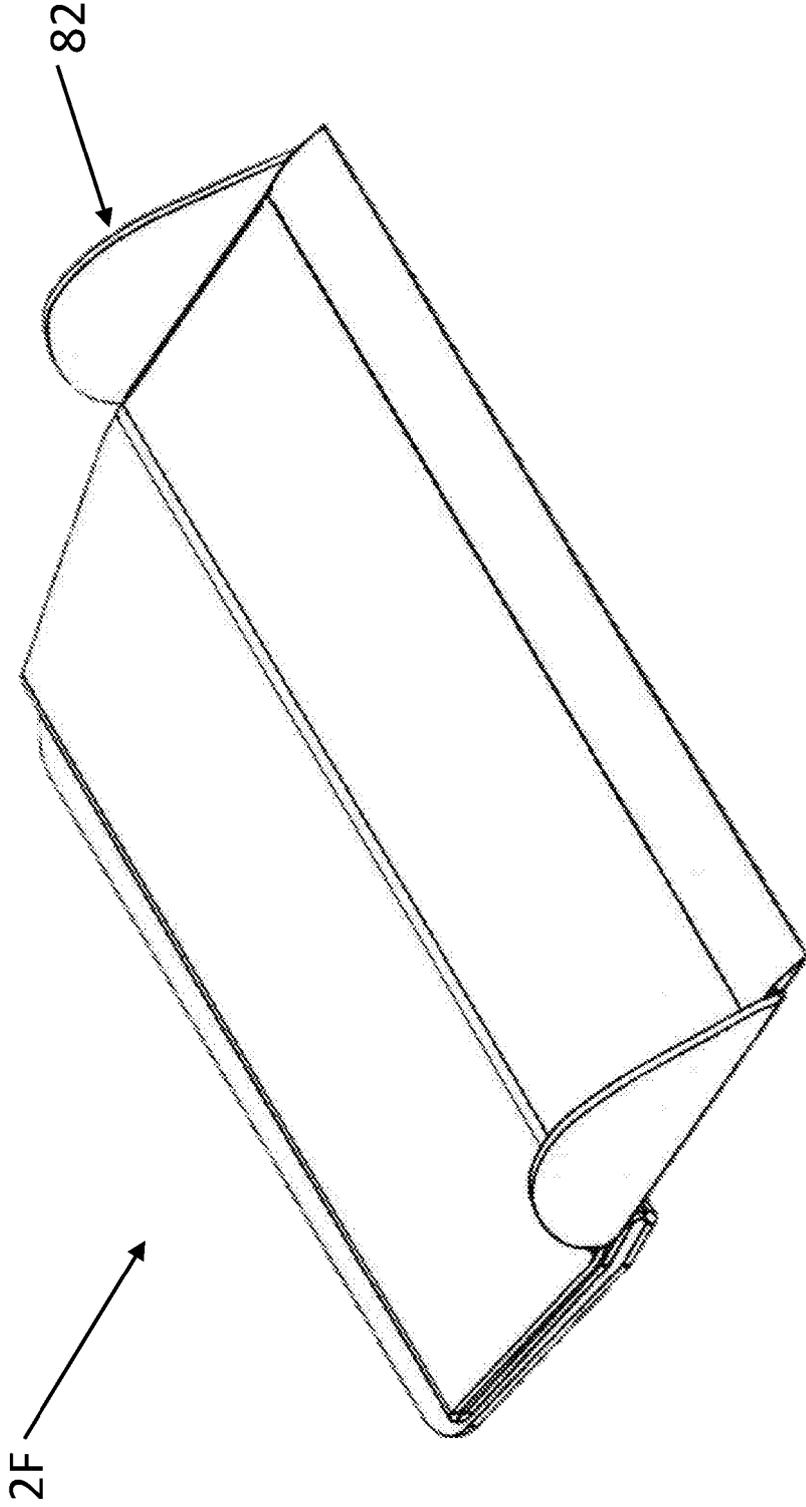


Figure 14

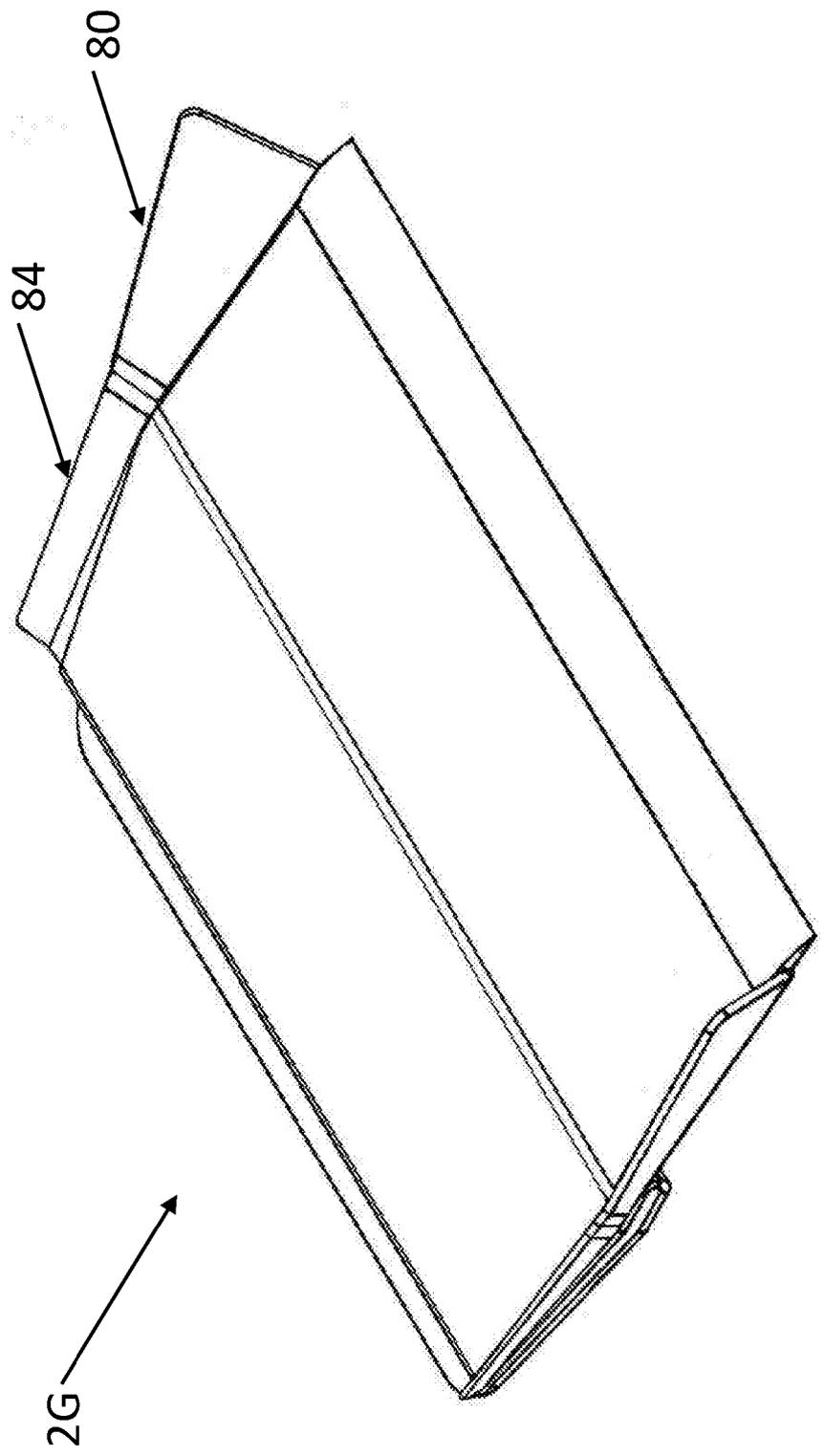


Figure 15

A scoop attachment configured for use with a flexible bucket

BACKGROUND

5 In many working environments, such as building sites and warehouses, there is a need for workers to collect dust, debris and other unwanted materials into a receptacle, so that they can be removed from the site. Typically, these materials would be removed from surfaces, most likely the floor, and placed within a bucket or other suitable receptacle. And though this process can be achieved using separate tool, such as a dustpan, there have been attempts to create scoops which could attach directly to the receptacle and serve the same function as the dustpan. For using such a device would reduce the risk of dropping the unwanted material. 10 With these scoops being configured to couple to the rigid edge of the receptacles opening.

However more recently working environments, such as building sites, have started using flexible buckets as a means of gathering these unwanted materials. As these flexible buckets have a reduced chance of breaking when transporting sharp or heavy materials, such as debris. Current scoop attachments are not configured to couple to flexible receptacles, such as the above-mentioned flexible buckets, which can deform during use. Therefore, there is a need for a scoop which is capable of coupling directly to a flexible receptacle, and preferably also being usable with rigid receptacles. There is a need for a bucket scoop that is less manufacturer specific. 15

20 Examples of currently used systems can be found in the following:

US10301109, which discloses a curved filling ramp attachment for a bucket, or rigid receptacle, which comprises connection portions that couple to the rim of the bucket, via a separate pair of connectors via pins within the ramp, or by inserting pins into holes/sockets within the rim of the bucket.

25 US20050056649, which discloses a sweep ramp attachment designed to be coupled with a specifically designed container, with a rim the same shape as the attachment, via a ring component that couples to both the attachment and the container, or a series of blades on the rim of the container or a handle on the ramp. It is noted that the ramp attachment could couple to other containers, using an appropriate coupling component. However, in this invention each possible container must be rigid with at least one flat side, so that it can maintain its position when placed on its side, and to ensure the rim of said container is the same shape as the attachment. 30

US4312531, which discloses a flexible filling attachment, which comprises a ramp coupled to a split elongated tubular sleeve, designed to be inserted into a rigid container. The split within the tubular structure allows the ends of the tube to overlap or come apart to adjust the diameter of the tubular sleeve to match that of the container it is inserted into. Note that in this invention the container must be rigid as resiliently couple to the flexible tubular sleeve.

US4907714, which discloses a resilient paint can attachment, comprising a frustrum stir skirt and pour spout, which can be coupled to the rim of a resilient paint can, via a ring on the lower periphery of the invention which couples to the inner lip of the paint can. The purpose of this invention is to prevent loss of paint when stirring the paint within, or pouring paint out of, the attached paint can.

US8291543, which describes an adaptor attachment for a bucket, or pale, which couples directly to the lip of said pale. Said adapter is configured so that a specifically designed curved ramp attachment can be coupled to the disclosed adaptor, and in turn be coupled to the pale. In this invention the adaptor configured to be coupled to the handle of the pale, however such a (separate) handle, as opposed to hand holds, is not known to be present on flexible buckets, as the flexible buckets typically have handhold as part of the rim of the bucket.

US6708742, which discloses a chute apparatus which comprises a rigid 4-sided chute, with a ramp structure on to the top end of the chute. Wherein the top end of the chute further comprises a set of clips, configured to couple the chute to lip of a collection bag, when the rigid chute is inserted into said collection bag.

BRIEF SUMMARY

The present invention provides a scoop attachment, configured to be coupled to a flexible bucket. The attachment comprises a tray portion and a connection portion. The connection portion having an elongate substantially linear slot defined by first and second walls joined at junction remote from the entrance to the slot. With the first wall being extended to form a tray portion. The slot is designed so that, in use, a flexible bucket upper rim can be resiliently deformed for insertion into the slot for being resiliently retained in the slot, such that the tray portion extends outward from the rim of the bucket to form a scoop.

Wherein the scoop attachment enables flexible bucket to be readily filled with material, such as by brushing or shoveling, without having to lift the material being placed in the bucket above the rim of the bucket in a typical vertical bucket position. The scoop enables the bucket to rest on one side and using a resilient bucket with a scoop attachment having a rigid or substantially rigid slot provides a retaining mechanism for keeping the bucket in the slot whilst enabling the

scoop attachment to be readily attached and removed by pushing or pulling the scoop of respectively in relation to the edge of the bucket.

5 The scoop attachment may further comprise side panel and/or a lip to help better guide material into the attached bucket. And may also include an adjustable tray portion to allow the attachment to function on a wider range of surfaces, due to the adjustable angle, and can allow the tray portion to be used as a means to prevent materials escaping the bucket.

10 The scoop attachment in one embodiment is made of rigid material such that it resists the resilient restorative force of a flexi-bucket inserted into the slot and so provides a gripping mechanism, to retain the two items, bucket and scoop, in union. In another embodiment the scoop attachment is itself constructed of a resiliently deformable material such that it can resiliently deform so as to attach to a rigid bucket (or similar receptacle) and the resilient restorative force of the scoop inserted over the bucket rim provides a gripping mechanism to retain the bucket, to retain the two items, bucket and scoop, in union.

15 The side walls (in all variants) are preferably of the same width (i.e. lateral). This provides the best securing of a flexible bucket. A narrower first/top wall is disadvantageous as it reduces the strength of the attachment, by resilient bucket distortion to the circumference of a flexible bucket. A narrower second/bottom wall is possible, though this too would reduce the strength of the connection when attached. Though this would also improve the ease of unblocking the slot if filled with debris. It is also preferable that the scoop comprises a single second/bottom wall, for if the invention was to have multiple second walls, or a segmented second wall, this could weaken the connection with the bucket, but also having a single second wall can allow the wall to be curved, without distortion, allowing the size or shape of the connection slot to be changed to a preferable design, by changing the shape of said side wall.

25 The preferred flexi-bucket or flexible bucket differs from standard buckets, which have a small amount of flexibility in being capable of bringing opposite edges of a rim of the bucket together without damaging the bucket. This feature enables rim located handles to be brought together and gripped in one hand.

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings in the application comprises the following parts:

30 2. Scoop attachment

2'. Scoop attachment where side walls 80 are omitted (either for clarity of view as regards version 2 or as a separate variant)

2A. – 2G. Scoop attachment variants

- 10. Tray portion
- 12. Alternative tray portion with tapered side
- 20. Connecting portion
- 30. First wall, optionally having two parts, an outer wall and an inner wall,
- 5 32. Outer first wall
- 34. Inner first wall
- 40. Second wall
- 50. Junction
- 52. Bend
- 10 60. Connection slot
- 70. Ridge
- 72. Channel or recess
- 80. Side walls
- 82. Alternative side wall profile
- 15 84. Extended wall profile, forming tray walls
- 90. Lip
- 100. Grip
- 110. Handhold
- 120. Aperture

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The present invention will now be illustrated by means of the following figures in which like numerals represent like features.

Figure 1 depicts a side view of the present invention, showing a scoop attachment comprising both a tray portion and a connection portion.

25 Figure 2 depicts a plan view of the scoop attachment depicted in Figure 1.

Figure 3 depicts a side view of the scoop attachment, which incorporates a ridge into the connection slot, for improved grip.

Figure 4 depicts a plan view of a scoop attachment further comprising a left side-wall for assist right-handed users.

Figure 5 depicts a plan view of a scoop attachment further comprising a right side-wall for assist left-handed users.

- 5 Figure 5A depicts a plan view of the scoop attachment of Figure 5 wherein the tray portion tapers away from the side edge with the side wall.

Figure 6 depicts a plan view of a scoop attachment further comprising two side walls.

Figure 7 depicts a plan view of a scoop attachment further comprising a lip on the tray portion.

Figure 8 depicts a plan view of a scoop attachment further comprising both a lip and side walls.

- 10 Figure 9 depicts a side view of the scoop attachment depicted in Figure 8.

Figure 10 depicts a perspective view of the scoop attachment depicted in Figure 8.

Figure 11 depicts an underside view of the scoop attachment depicted in Figure 8.

Figure 12 depicts a side view of the scoop attachment depicted in Figure 8, further comprising a handhold, in the form of an opening within the side wall.

- 15 Figure 13 depicts a scoop attachment wherein the tray portion is pivotable relative to the connection portion, showing the tray portion both raised and lowered relative to the connection portion, as depicted in the upper and lower diagrams respectively.

Figure 14 depicts the scoop attachment of figure 8 with alternative side wall profile.

Figure 15 depicts a scoop attachment variant with extended side walls.

- 20 Figures 1 and 3 can be taken as a cross section at a mid-position of variants or as a side view without side wall 80 for clarity or without side walls 80 as a further variant (inclusive or).

DETAILED DESCRIPTION

- The present invention relates to a scoop attachment which is configured to be coupled directly to a flexible bucket. The scoop attachment enables flexible bucket to be readily filled with material, such as by brushing or shoveling, without having to lift the material being placed is the bucket above the rim of the bucket in the typical vertical position. The scoop enables the bucket to rest on one side and using a resilient bucket with a scoop attachment having a rigid or substantially rigid slot provides a retaining mechanism for keeping the bucket in the slot whilst enabling the scoop attachment to be readily attached and removed by pushing or pulling the scoop of respectively in relation to the edge of the bucket. The type of bucket most relevant
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- 30

to the present invention is often referred to using the tradename "Gorilla bucket" TM and is widely used.

The scoop attachment also facilitates use of the bucket in the form of a scoop in its own right such that the whole arrangement could be plunged into loose material and used to scoop material up into the bucket, the scoop attachment enabling more material to be skipped in whilst in the lateral position such that when the bucket is placed in a conventional upright position the bucket will be fuller than otherwise. Suitable materials for such uses include sand, grain, and coarse particulate materials.

Figures 1 and 2 depict such a scoop attachment, wherein the scoop attachment comprises a tray portion (10) and a connection portion (20). The connection portion having an elongate substantially linear slot (60) defined by first and second walls (30, 40) joined at junction (50) remote from the entrance to the slot (60). With the first wall (30) being extended to form a tray portion (10). The slot (60) is designed so that a flexible bucket upper rim can be resiliently deformed for insertion into the slot (60), being resiliently retained within the slot (60) such that the tray portion (10) extends outward from the rim of the bucket to form a scoop.

The side walls (in all variants) are preferably of the same width (i.e. lateral). This provides the best securing of a flexible bucket. A narrower first wall (30) is disadvantageous as it reduces the attachment, such as by resilient bucket distortion to the circumference of a flexible bucket. A narrower second wall (40) is possible, whilst it reduces strength it also reduced the ease of unblocking the slot if filled with debris.

In the particular embodiment shown in Figures 1 and 2, the scoop attachment is made using a single sheet of material that is folded appropriately, to form the above-mentioned slot (60), for the connection portion (20), and the tray portion (10). The slot (60) being form by folding the material over itself to form the first and second wall (30,40) that define the slot (60), with the fold forming the junction (50). The material is then folded over itself a second time, wherein a length of the material extends past the junction (50) forming the tray portion (10). This method of manufacture is advantageous as it provides a final product from a single piece starting material in sheet form. Should sidewalls (80) be required, they can also be provided within the single sheet form with an additional stage to raise the sidewalls (80) relative to the tray/first wall. The material used to form the scoop can be any appropriate material, such as a single piece of folded sheet metal, a single piece of folded plastic, such as ABS or polycarbonate, or a single piece injection molded plastics material, such as polyethylene or polypropylene. By forming the scoop in this fashion, the construction of the scoop is made simple and minimizes the number of parts and materials required. Further by having the tray portion (10) be an extension of the connection portion (20), there is a reduce risk of the tray

portion (10) coming detached from the connection portion (20), and prevents material becoming stuck between the tray and connection portion. This process can also ensure that the walls of the connection portion (20) are relatively rigid compared to the rim of the flexible bucket, allowing the scoop to retain the bucket with the slot (60), while also allowing the slot (60) to be reshaped, via expanding or compressing the junction (50), to accommodate for different bucket thicknesses.

Further it is noted that even though the depicted embodiment shows the first and second wall (30,40) being parallel across the length of the slot (60), in other embodiments the first and second wall (30,40) may diverge or converge over the length of the slot (60), as they move away from the junction (50). It is also noted that in all embodiments the junction (50) between the first and second wall (30,40) can further comprise one or more, preferably a multiplicity of apertures 120, which allows materials that have entered the slot (60) to be released. This is especially useful when the scoop is in repeated use, as the insertion of the bucket rim can lead to compacted debris in the slot (60) thus limiting the effectiveness of coupling of the scoop to a bucket, however this is obviated by the apertures enable such debris to be released from the slot (60) through the junction (50).

When the first and second wall (30,40) diverge, it allows the bucket wall to be more readily guided into the slot through the enlarged entrance and guided towards the junction (50) where it is secured by the resilient nature of the bucket against the surfaces of the first and second walls (30,40) defining the slot (60). This feature is best used when the junction (50) includes apertures (120) as this configuration of the first and second wall (30,40) could guide debris into the slot (60).

In the embodiments wherein the first and second wall (30,40) converge, the possibility of debris being guided into the slot (60) is reduced, and if any debris is guided into the slot (60) it may readily exit laterally so as not to block the slot (60). This feature is particularly beneficial when the scoop is intended for building work where debris of varying sizes may be present.

Additionally, in some embodiments the second wall (40) may be curved, so that when viewing the slot (60) in the longitudinal plane, towards the junction (50), the center of the second wall bends towards the first wall (30), while the outer ends of the second wall may curve away from the first wall (30). In this design the bucket rim can be inserted into the slot (60) more easily, by first inserting the rim into one of the wider end portions of the slot, then using the curved second wall to guide, and/or deform, the bucket rim into the rest of the slot. And may also be removed easily by turning the scoop sideways, as most of the retaining force will be at the center of the scoop where the first and second walls converge.

Figure 3 shows an embodiment wherein the surface of the second wall (40) within the slot (60) can include one or more ridges (70), or a plurality of teeth, to improve the grip of the slot deformable bucket rim. Note that such ridges could also be present on the surface of the first wall (30) within the slot (60), and can be incorporated into any of the other embodiments of the invention. These ridges (70) may also help to reduce the amount of material that enters into the connection slot (60). As an alternative, or in addition ridges (70) may be replaced by or supplemented with a channel or recess (72). The ridge (70) and/or slot (72) are preferably approximate the junction (50) such that the rim of any bucket, in use, when inserted into the slot 60 latches over the ridge and/or into the slot (72). This aids retention of the bucket in the slot. In the form of a channel or recess it can further provide an enlargement so that material which is pushed into the slot may more readily access apertures (110), hence the preferable combination, to avoid blockage of the slot.

Figure 4 shows an embodiment in which the left side of the tray portion (10) includes a side panel, or side wall (80), that extends upwards, perpendicular to the surface of the tray portion (10). This is particularly useful for right-handed users, as it provides lateral guidance but without obstructing access to the bucket given that using a shovel or brush to place material onto the scoop attachment will typically be carried out in a diagonal, relative to the long axis of the scoop.

Figure 5 shows a similar scoop attachment to the one in Figure 4, except that it is the right side of the tray portion (10) that has the side wall (80). This provides the same benefit described above but for a left-handed user, by providing a lateral guidance but without obstructing access to the bucket.

Figure 5A shows a variation of the scoop depicted in Figure 5, wherein the side of the tray portion (12) remote from the side wall (80) is tapered, so that debris can be sweep, or other wised pushed, onto the tray from the side edge in addition to the outer edge. This provide a larger area on which the tray can collect debris and other particles, especially in light of the previously mentioned diagonal sweeping direction. It is noted that the same tapered side edge could also be applied to all the other scoop embodiments, with one or both sides of the tray portion (10) being tapered.

Figure 6 depicts a scoop attachment wherein both sides of the tray portion (10) includes a side wall (80). Which can provide better guidance for material being pushed into the bucket using the scoop, and can provide additional weight for the scoop so as to retain the bucket's positioning when in use.

Though the depicted side walls (80) are shown as being perpendicular to the surface of the tray portion (10), it is noted that, the side walls (80) may be convergent or divergent by

changing the size of the angle formed between the tray portion (10) and the side wall (80), though it is preferably for the side walls (80) to be parallel. Convergent sides enable material to be better directed whereas the diverging sides allows more material to be placed into the bucket whilst on a lateral, tipped over, position.

- 5 It is also noted that the sides of the first wall (30) of the connection portion (20) could be similarly extended, to form further side walls, referred to herein as tray walls (84), as can be seen depicted in Figure 15. This would provide better guidance for material being pushed into the bucket. These tray walls (84) would also reduce ingress of debris into the slot (60), thus enabling the bucket to be more readily released, by reducing clogging within the slot (60).
10 Again, the design may choose to include only the left or right-side tray wall (84), instead of both, to account for the diagonal sweeping, or shoveling, direction for a right-handed and left-handed user respectively.

Further it is noted that in some embodiments the aforementioned side walls (80) and tray walls (84) may be merged. In doing so the scope can provide the combined benefits of the side walls (80) and tray walls (84) as described above, without the risk of materials being spilled or
15 clogged within the gaps between the walls.

Figure 7 depicts a scoop attachment wherein the outer edge of the tray portion (10), that being the edge furthest from the first wall (30), includes a lip (90). The lip (90) may be formed by tapered the outer edge, or by attaching a resilient rubberized or rubber strip. A tapered lip
20 provides easier access onto the scoop when brushing up using a broom, especially when the bucket is used on a planar surface. This is particular advantageous in domestic use were fine material may be present, as the lip can help reduce the ground clearance of the tray portion (10), and thus reduces the risk of materials passing under the scoop. While, the rubber lip has the additional benefit of providing resilience to the tray portion outer edge, as it can potentially
25 reduce any damage caused by impacts. Further, such a strip may be easily replaced when damaged.

Figures 8, 9 and 10 show a top down view, a side view and a perspective view, of a preferable embodiment of the scoop attachment that combines both the side walls (80) and lip (90) described above, thereby providing the combine benefits of those features as described
30 above. And though it is not depicted, it is noted that this embodiment may also include the above-mentioned tray walls and fused side and tray walls for improved guidance. Further this embodiment may have the walls on one side removed to account for the diagonal sweeping directions of left-handed and right-handed users as described above.

Figure 11 shows the underside of the embodiment shown in figures 8 and 9, this view displays a grip (100) that can be incorporated into the outer edge of the tray portion (10) to couple the aforementioned resilient rubberized or rubber strip, to form the lip (90).

5 Figure 12 depicts an embodiment, wherein one or more of the side walls (80) include a handhold (110), that can be used to provide a handhold. This provides an improved means for lifting the bucket when in use. Especially as the buckets typically use with the invention comprise a looped handle along the rim of the bucket and the scoop attachment being latched over the rim will be spaced apart from such handles, thereby providing handholds for lifting the scoop and bucket combination in use and therefore making the scoop more ergonomic. It is also noted that such a handhold (110) could be incorporated into the tray walls or merged continuous side wall also. It is also noted, that even though the side walls (80) in the drawings show one preferred shape, other shaped side walls (80), tray walls and merged walls, can also be used with the handhold being reshaped to better suit the specific shape of the wall.

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Figure 13 shows an embodiment of the scoop attachment, wherein the tray portion (10) can pivot relative to the connection portion (20), specifically the tray portion (10) can be raised or lower relative to the plane of the first wall (30). This can be achieved by incorporating a hinge between the first wall (30) and the tray portion (10), or by adding an addition fold between the first wall (30) and the tray portion (10).

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By raising the tray portion (10) of the scoop attachment, the tray portion (10) can be used as a barrier to prevent the material within the bucket from spilling out. Further if the material must be shovel and lifted off of the surface, the lifted tray can still provide guidance to the bucket when the material is dropped in, without the need to reposition the buck from a lateral position. By lowering the tray portion (10), the tray may provide better guidance for the material by reducing the tray portion's ground clearance, especially on uneven surfaces, preventing materials from sliding under the outer edge of the tray potion (10). It may also prove useful when handling small or liquid materials, as lowering the tray portion (10) would in turn raise the connection portion (20), and the bucket it is coupled to. In doing so the bucket will no longer be lateral, but instead would have an incline that would help prevent materials running, or spiling, out of the bucket.

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Figure 14 shows a variation of the scoop attachment depicted in Figure 8, wherein the side walls (82) have a different profile. It is noted that the side walls of the scoop attachment could have a range of different profiles in addition to the ones depicted, such as rectangular or semicircular. Regardless of the profile used

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It will be appreciated that outer first wall (32) and the inner first wall (34) may be combined into a single first wall (30), this will be facilitated by manufacturer using injection molding for

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example, and potentially uses less material to form the first wall (30). However the use of the inner and outer wall provides a degree of resilience, centered around the bend (52), since the user will tend to use tray (10) as a lever when inserting a bucket into slot (60) and this can provide considerable stress at the junction between the inner end of the tray (10) and the first wall and junction (50) which are all at the same position and potentially liable to breakage.

It will be appreciated that the various variations of the invention, termed embodiments herein, provided in the figures may be combined. For example, the right and left-handed variants (figures 4 and 5) may be combined with apertures in the junction (50) as depicted only in figure 10. Similarly, the lip (90) may be used in the other variants.

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CLAIMS

1. A scoop attachment for a flexible bucket, the scoop attachment comprising a connection portion (20) comprising an elongate substantially linear slot (60) defined by first and second walls (30,40) joined at junction (50) remote from the entrance to the slot (50);
5 the first wall (30) being extended to form a tray portion (10);
 wherein, in use, a flexible bucket upper rim can be resiliently deformed for insertion into the slot (60) for being resiliently retained in the slot (60), such that the tray portion (10) extends outward from the rim of the bucket to form a scoop.
10
2. The scoop attachment of claim 1, wherein one or more edges of the tray portion (10), substantially perpendicular to the slot entrance, extend away from the plane of the tray portion (10) and away from the second wall (40) to form one or more side walls (80).
- 15 3. The scoop attachment of claim 2, wherein there is one side wall (80), that is upward and to the left when viewed from the plane of the scoop attachment, which is viewed towards the tray and first wall side.
4. The scoop attachment of claim 2, wherein there is one side wall (80), that is upward
20 and to the right when viewed from the plane of the scoop attachment, which is viewed towards the tray and first wall side.
5. The scoop attachment of claim 2 wherein there are two sides walls (80).
- 25 6. The scoop attachment of claim 1 or claim 2 were one or more of the edges of the first wall (30), forming the slot (60), extend away from the edge of the first wall (30) and out of the plane of the connection portion (20) to form respective edges of the tray wall.
7. The scoop attachment of claim 6 wherein there is one edge of the tray wall and this is
30 upward and to the left when viewed from the edge of the tray portion (10) remote from the first wall (30).
8. The scoop attachment of claim 6 wherein there is one edge of the tray wall and this is
35 upward and to the right when viewed from the edge of the tray portion (10) remote from the first wall (30).

9. The scoop attachment of claim 6 wherein there are two edges of the tray walls.
10. The scoop attachment of any of claims 2 to 6 wherein said one or more side walls (80) is merged with said tray walls to provide a continuous up stand along the scoop side or sides.
11. The scoop attachment of any of claims 2 to 9 wherein one or more of said side walls (80), tray walls or continuous stand-up comprises a handhold (120).
12. The scoop attachment of any preceding claim wherein the junction (50) comprises a plurality of apertures (110) for, in use, stopping material being compacted within the slot (60) on insertion of the bucket rim.
13. The scoop attachment of any preceding claim wherein the first and second walls diverge away from the junction (50).
14. The scoop attachment of any of claims 1 to 11 wherein the first and second walls converge away from the junction (50).
15. The scoop attachment of any preceding claim wherein the outer edge of the tray portion (10), remote from the first wall (30), is tapered to form a lip (90).
16. The scoop attachment of claim 14 wherein the lip (90) is formed of a resilient rubberised or rubber strip.
17. The scoop attachment of any preceding claim wherein the attachment is formed from a single piece of folded sheet metal.
18. The scoop attachment of any preceding claim wherein the attachment is formed from a single piece of folded plastic, such as ABS or polycarbonate.
19. The scoop attachment of any preceding claim wherein the attachment is formed from a single piece injection moulded plastics material, such as polyethylene or polypropylene.
20. The scoop attachment of any preceding claim, wherein the tray portion (10) can rotate relative to the junction (50), moving perpendicular to the plane on the first wall (30).

- 5
21. The scoop attachment of any preceding claim, wherein the surface of the first wall (30) and/or second wall (40) that define the slot (60), further comprise one or more ridges (70) or teeth.
- 10
22. The scoop attachment of any preceding claim, wherein the elongate substantially linear slot (60) defined by first and second walls (30,40) joined at junction (50) remote from the entrance to the slot (50); extends the whole or substantially the whole width of the tray portion (10).
- 15
23. The scoop attachment of claim 22, wherein the first and second walls (30,40) defining the elongate substantially linear slot (60) are of the same or substantially the same width.
- 20
24. A method of manufacture of a scoop attachment according to any preceding claim the method comprising the steps:
- providing an elongate predominantly rectangular sheet of deformable material, bending that sheet back on itself in a first fold approximately halfway along the sheet, to form a bend (52);
 - 20 bending the sheet back on itself again approximately halfway along one half of the sheet and parallel to the first fold to form a junction (50); and
 - were present bending sidewalls (80) upward from the plane of the sheet.
- 25
25. The method of manufacture of claim 24 wherein the sheet of deformable material is a sheet of metal or of plastics material.
26. The matter of manufacture of claim 25 wherein the sheet of deformable material is an ABS plastic.
- 30
27. A kit of parts comprising the scoop of any preceding claim and a flexible bucket for use with said scoop.

Amendment to the claims have been filed as follows

CLAIMS:

1. A method of manufacture of a scoop attachment

for a flexible bucket, the scoop attachment comprising a connection portion (20) comprising an elongate linear slot (60) defined by first and second walls (30,40), that are planar and parallel, joined at a junction (50) remote from the entrance to the slot (60);

the first wall (30) being extended to form a tray portion (10);

wherein, in use, an upper rim of a flexible bucket can be resiliently deformed and inserted into the slot (60) for being resiliently retained in the slot (60), such that the tray portion (10) extends outward from the rim of the bucket to form a scoop;

wherein the junction (50) further comprises a plurality of apertures (120) for, stopping material being compacted within the slot (60) on insertion of the bucket rim, the method comprising the steps:

providing an elongate predominantly rectangular sheet of deformable material, bending that sheet back on itself in a first fold approximately halfway along the sheet, to form a bend (52);

bending the sheet back on itself again approximately halfway along one half of the sheet and parallel to the first fold to form a junction (50).

2. The method of manufacture of claim 1, wherein one or more edges of the sheet are bent upwards from the plane of the sheet to form a sidewall (80), a tray wall (84) or a continuous stand-up..

3. The method of manufacture of claim 2 wherein the sheet of deformable material is a sheet of metal or of plastics material.

4. The method of manufacture of claim 3 wherein the sheet of deformable material is an ABS plastic.

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Claims searched: 1-27

Date of search: 7 April 2021

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-15, 20, 22, 23	US2003/214141 A MORRIS A scoop comprising two joined walls with a slot therebetween; the extension of one wall forming a tray. (abstract, figs 7, 8)
X	1-12, 14, 15, 17-21	US4802258 A JENSEN A scoop comprising two joined walls 28, 29; 34, 36 with a slot therebetween; the extension 24 of one wall forming a tray 23. (abstract, figs)
X	1-11, 13-15, 17-19, 21-27	US8152019 A MILLER A scoop 800 comprising two joined walls 810, 820 with a slot therebetween; the extension of one wall forming a tray. (abstract, figs 25-33)
X	1-11, 13-16, 18-20, 22, 23, 27	JP2005246038 A NAKAI A scoop 1 comprising two joined walls 3 with a slot therebetween; the extension of one wall forming a tray. (abstract, figs)
X	1-11, 13, 15, 21-23, 27	JPH1025001 A SHIMOKAWA A scoop 5 comprising two joined walls 5a with a slot therebetween; the extension of one wall forming a tray. (abstract, figs)
X	1-11, 13-15, 21-26	CN201597961 U1 ANHUI A scoop 5 comprising two joined walls 2 with a slot therebetween; the extension of one wall forming a tray. (abstract, figs)
X	1-11, 13-15, 19, 22, 23, 27	US6052860 A ARCOA A scoop 49 comprising two joined walls 43, 45 with a slot therebetween; the extension of one wall forming a tray. (abstract, figs)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:



Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

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Worldwide search of patent documents classified in the following areas of the IPC

B65F

The following online and other databases have been used in the preparation of this search report

WPI, EPODOC

International Classification:

Subclass	Subgroup	Valid From
B65F	0001/14	01/01/2006