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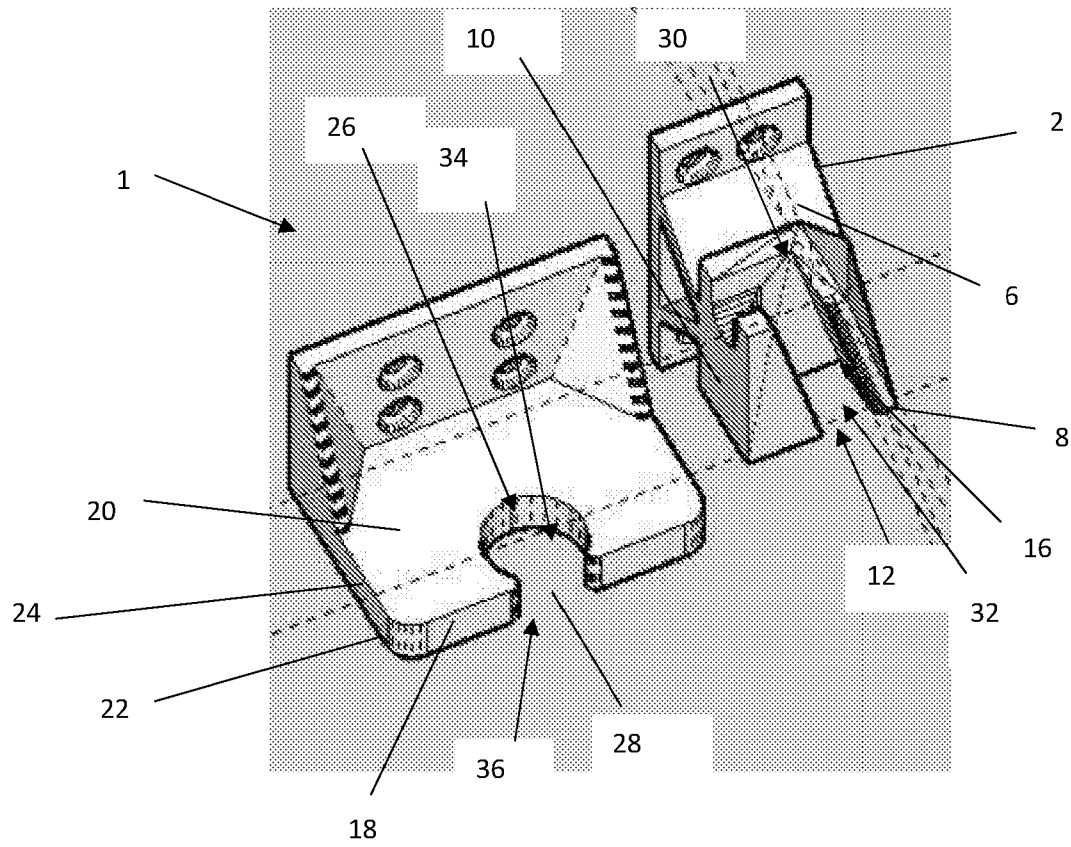


FIGURE 1

SUPPORT APPARATUS

The present invention relates to a support apparatus for retaining a dispensing apparatus for receiving a tubular container, in particular a dispensing apparatus for receiving a tubular container comprising media used in construction. In particular, the present invention relates to a support apparatus for retaining a dispensing apparatus, such as for example a caulking gun or sealant gun.

BACKGROUND OF INVENTION

Building materials and tools, including DIY materials and tools, take up a considerable amount of room within sheds and garages. Furthermore, tradespeople often store and transport multiple containers of tools and construction media within their vehicles. There is often limited space available within the sheds, garages and vehicles in order to store all of the materials and equipment required.

There is a need for a support apparatus which helps to maximise the storage capability for building materials and tools. There is a need for a support apparatus which is versatile enough to be able to be used on any support surface.

Construction media, such as for example silicone and caulk, is conventionally provided in tubes. These tubes are often stored within dispensing apparatus such as dispensing guns. Tubular containers, and associated dispensing apparatus, can be difficult to store efficiently and can move during transportation. There is therefore a need for a support apparatus which is capable of efficiently storing, and maximising the storage capability for dispensing apparatus for retaining tubular containers.

SUMMARY OF INVENTION

According to a first aspect of the present invention, there is provided a support apparatus for retaining a dispensing apparatus for tubular containers on a support surface, the apparatus comprising:

a first engagement portion mountable on a support surface, in which the first engagement portion comprises a first end, an opposed second end, and a side portion extending therebetween, and in which an first channel defining a first longitudinal axis extends between the first and second ends thereof, in which the first channel is configured to receive a portion of a dispensing apparatus at or adjacent a first end thereof, and in which the side portion defines a first slot in communication with the first channel and extending between the first and second ends of the first engagement portion, in which the first slot extends at an angle to the first longitudinal axis of the first channel; and

a second engagement portion mountable on a support surface, in which the second engagement portion comprises a first end, an opposed second end and a side portion extending

therebetween, and in which a second channel, defining a second longitudinal axis, extends from a first end towards the second end thereof, in which the second channel is configured to receive a portion of a dispensing apparatus at or adjacent a second end thereof, and in which the side portion defines a second slot in communication with the second channel and extending in a direction substantially parallel to the second longitudinal axis thereof from the first end towards the second end of the second engagement portion,

in which the first and second engagement portions are aligned in use such that the first longitudinal axis of the first channel is aligned with the second longitudinal axis of the second channel.

According to a further aspect of the present invention, there is provided a method of installing an apparatus as claimed in any preceding claim, comprising:

- a. obtaining a first engagement portion and mounting the first engagement portion on a support surface;
- b. obtaining a second engagement portion and mounting the second engagement portion on the support surface such that the first longitudinal axis of the first channel is aligned with the second longitudinal axis of the second channel.

The term “aligned with” is used herein to mean that the first longitudinal axis of the first channel extends along the same axis as the second longitudinal axis of the second channel.

The first engagement portion is preferably positioned in use, at a height above (spaced apart from) the second engagement portion. The first end of the first engagement portion may, in use, be located at or adjacent a first end of the dispensing apparatus. The second end of the first engagement portion may, in use, be aligned with and spaced apart from (for example may extend substantially parallel to) the first end of the second engagement portion.

In one embodiment, the first and second ends of the first engagement portion extend substantially parallel to each other. In one embodiment, the first and second ends of the second engagement portion extend substantially parallel to each other. It is however to be understood that the angle and shape of the first and second ends of the first and/or second engagement portion may vary.

The first channel provides a first opening at the second end of the first engagement portion. In one embodiment, the first channel is an open ended channel providing a first opening at the first end of the first engagement portion and a second opening at the second end of the first engagement portion.

The first and second openings may have the same shape and/or dimensions. In one embodiment, the first opening has a different shape and/or dimensions to the second opening of the first engagement

portion. In one embodiment, the first opening at the first end has smaller cross-sectional dimensions than the second opening at the second end of the first engagement portion.

The second channel provides a first one opening at the first end of the second engagement portion. The second end of the second engagement portion may receive a second end of the dispensing apparatus. The second channel may be open ended, such that the second end of the second engagement portion provides a second opening. In one embodiment, the second channel may have a closed end at or adjacent the second end of the second engagement portion. The second engagement portion may therefore provide a recess for receiving a second end of the dispensing apparatus therein. In one embodiment, the second channel is an open ended channel providing a first opening at the first end of the first engagement portion and a second opening at the second end of the second engagement portion.

In one embodiment, the openings provided at the (or each) end of the corresponding channel provides a close or tight fit with the corresponding portion of the dispensing apparatus retained within the channel.

The first end of the first engagement portion may comprise a recess or groove extending at an angle to the first channel, and configured to support a portion of the dispensing apparatus thereon.

The first slot preferably extends between a first opening defined by an outer surface of the side portion of the first engagement portion and a second opening defined by an inner surface of the side portion defining the first channel. At least a portion of the first slot at or adjacent the outer surface of the side portion preferably extends at an angle to the first longitudinal axis of the first channel. For example, at least a portion of the first slot at or adjacent the first opening of the first slot extends at an angle to the first longitudinal axis of the first channel. In one embodiment, the angle defined by the first slot relative to the first longitudinal axis of the channel alters between the first and second openings of the slot. For example, at least a portion of the first slot at or adjacent the second opening of the first slot extends substantially parallel to the first longitudinal axis of the first channel. The second opening of the first slot may have reduced dimensions compared to the first opening of the first slot. The first slot may act as a guide to direct the corresponding portion of the dispensing apparatus into the first channel of the first engagement portion.

The support apparatus is configured to restrict, and preferably prevent, any unintentional axial movement of the dispensing apparatus retained within the channels of the engagement portions. The support apparatus is preferably configured to restrict, and preferably prevent, any unintentional

movement of the dispensing apparatus retained within the channel in directions extending substantially parallel to and perpendicular to the longitudinal axes of the channels.

The first and second engagement portions are preferably configured to prevent unintended movement of the dispensing apparatus in a direction extending substantially parallel to the first and second longitudinal axes such that the dispensing apparatus does not become separated from the support apparatus during storage and/or transportation. In particular, at least one of the first and/or second engagement portions, preferably each of the first and second engagement portions, may provide a lateral abutment surface, extending at an angle to the longitudinal axis of the corresponding channel (for example extending inwardly towards the channel), configured to abut an adjacent portion of the dispensing apparatus so as to prevent movement of the dispensing apparatus in a direction extending substantially parallel to the first and/or second longitudinal axes of the first and/or second channels. In one embodiment, the first engagement portion provides a first lateral abutment surface at or adjacent the first end thereof. In one embodiment, the first engagement portion provides a first lateral abutment surface at or adjacent the second end thereof. In one embodiment, the second engagement portion provides a second lateral abutment surface at or adjacent the second end thereof.

At least a portion of the side portion of the first engagement portion preferably acts as or provides a longitudinal abutment surface for abutment with an adjacent portion of the dispensing apparatus received within the first channel. In particular, at least a portion of the side portion of the first engagement portion (for example at or adjacent a first opening of the first slot) extends at an angle to the longitudinal axis of the first channel thereby providing a longitudinal abutment surface for abutment with the adjacent portion of the dispensing apparatus received within the first channel. The longitudinal abutment surface provided by the side portion of the first engagement portion preferably prevents unintended removal of the adjacent portion of the dispensing apparatus from the first engagement portion in a direction extending at an angle to (for example perpendicular to) the longitudinal axes of the channel. As such, the longitudinal abutment surface of the side portion of the first engagement portion preferably acts to securely retain the adjacent portion of the dispensing apparatus within the support apparatus, for example during storage and/or transportation.

The side portion(s) of the first and/or second engagement portions may be configured to be mounted to a support surface, such as a panel or wall of a vehicle or building, by any suitable means, including for example by adhesive or by fixation means. The side portion(s) of the first and/or second engagement portions may comprise at least one engagement feature for securing the engagement

portion(s) to a support surface (such as for example a wall (interior or exterior), panelling, support surfaces of vehicles (such as for example vans or lorries).

The first and/or second longitudinal axes of the first and/or second channels are preferably configured in use to extend substantially parallel to, at least a portion of, the support surface.

- 5 The side portion(s) of the first and/or second engagement portions may comprise a corresponding first and/or second mounting surface configured to be positioned adjacent and mounted on a support surface.

The first and/or second mounting surface of the corresponding first and/or second engagement portions may provide at least one engagement feature, such as for example one or more openings to
10 receive threaded screw members for mounting to a support surface.

In one embodiment, the first engagement portion comprises a mounting surface and an opposed front surface. In one embodiment, the first slot is provided on or adjacent the front surface of the first engagement portion. The first engagement portion may further comprise a pair of side surfaces extending between the mounting surface and the opposed front surface. In one embodiment, the
15 first slot may be provided on or adjacent a side surface of the first engagement portion.

In one embodiment, the second engagement portion comprises a mounting surface and an opposed front surface. In one embodiment, the second slot is provided on or adjacent the front surface of the second engagement portion. The second engagement portion may further comprise a pair of side surfaces extending between the mounting surface and the opposed front surface. In one
20 embodiment, the second slot may be provided on or adjacent a side surface of the second engagement portion.

The support apparatus may further comprise a backing surface extending between the first and second engagement portions. The backing surface may be mounted or mountable on a support surface, such as for example a wall (exterior or interior), panelling, support surfaces of vehicles (such
25 as for example vans or lorries), by any suitable means such as by adhesive and/or by fixation means. The backing surface preferably further comprises at least one engagement feature for securing or engaging the support member to a support surface. The engagement feature(s) may be provided at any suitable location on the backing surface. The engagement feature(s) may be an opening shaped and dimensioned to receive a fixing member, such as for example a screw

30 In one embodiment, the backing surface comprises a first face configured to contact a support surface, and a second opposed face configured in use to contact or abut a portion of a dispensing apparatus.

The engagement feature(s) may be an opening extending between the first and second faces of the backing surface.

The support apparatus may be composed of any suitable material. Preferably, the support apparatus may be composed of polymer and/or metal. The support apparatus may be formed by machining, casting or injection moulding.

Embodiments of the present will now be described in further detail with reference to the accompanying Figures:

BRIEF DESCRIPTION OF FIGURES

Figure 1 is a schematic illustration of a perspective view from above of the support apparatus according to one embodiment of the present invention.

DETAILED DESCRIPTION

With reference to the Figure, the support apparatus 1 comprises a first engagement portion 2 mountable on a support surface 4. The first engagement portion 2 comprises a first end 6, an opposed second end 8 and a side portion 10 extending therebetween. The first engagement portion 2 comprises a first channel 12 defining a first longitudinal axis extending between the first 6 and second 8 ends thereof. The first channel 12 is configured to receive a portion of a dispensing apparatus 14 at or adjacent a first end thereof. In the illustrated embodiment, the dispensing apparatus is a caulking gun. It is to be understood that the support apparatus is suitable for storing any suitable apparatus comprising a tubular member (such as for example a sealant gun).

The side portion 10 of the first engagement portion 2 further defines a first slot 16 in communication with the first channel 12 and extending between the first 6 and second 8 ends of the first engagement portion 2. The first slot 16 extends at an angle to the first longitudinal axis of the first channel 12. The first slot 16 can be seen to extend at an angle of approximately 20 degrees relative to the first elongate axis of the channel 12. It is however to be understood that the slot 16 may extend at any suitable angle, preferably less than 90 degrees, preferably less than 45 degrees, for example less than 30 degrees relative the first elongate axis defined by the first channel 12.

The first slot 16 extends between a first opening 17 defined by an outer surface of the side portion 10 of the first engagement portion 2 and a second opening (not shown) defined by an inner surface of the side portion 10.

The support apparatus 1 further comprises a second engagement portion 18 mountable on a support surface. The second engagement portion 18 comprises a first end 20, an opposed second end 22 and

a side portion 24 extending therebetween. The second engagement portion 18 comprises a second channel 26, defining a second longitudinal axis, extending from the first end 20 towards the second end 22 thereof. The second channel 26 is configured to receive a portion of a dispensing apparatus 14 at or adjacent a second end thereof. The side portion 24 defines a second slot 28 in communication
5 with the second channel 26 and extending in a direction substantially parallel to the second longitudinal axis thereof from the first end 20 towards the second end 22 of the second engagement portion 18.

The first 2 and second 18 engagement portions are aligned in use such that the first longitudinal axis of the first channel 12 is aligned with the second longitudinal axis of the second channel 26.

10 The first engagement portion 2 can be seen to be positioned at a height above (spaced apart from) the second engagement portion 18. The first end 6 of the first engagement portion 2, in use, is located at or adjacent a first end of the dispensing apparatus 14. The second end 8 of the first engagement portion 2, in use, is aligned with and spaced apart from, and in the illustrated embodiment extends substantially parallel to, the first end 20 of the second engagement portion 18.

15 It can be seen in Figure 1 that the first 6 and second 8 ends of the first engagement portion 2 extend substantially parallel to each other. Furthermore, the first 20 and second 22 ends of the second engagement portion 18 extend substantially parallel to each other. It is however to be understood that the angle and shape of the first and second ends of the first and/or second engagement portion may vary depending on the particular requirements.

20 As shown in Figure 1, the first channel 12 is an open ended channel providing a first opening 30 at the first end 6 of the first engagement portion 2 and a second opening 32 at the second end 8 of the first engagement portion 2.

The second channel 26 is an open ended channel providing a first opening 34 at the first end 20 of the second engagement portion 8 and a second opening 36 at the second end 22 of the second
25 engagement portion 8.

As shown in Figure 1, the first end 6 of the first engagement portion 2 further comprises a recess 38 extending across the first end 6 in a direction away from and at an angle to the first channel 12.

The support apparatus 1 is configured to restrict, and prevent, any unintentional axial movement of the dispensing apparatus 14 retained within the channels 12, 26 of the engagement portions 2, 18 in
30 directions extending substantially parallel to and perpendicular to the longitudinal axes of the channels 12, 26. This is achieved by, in the illustrated embodiment, the first end 20 of the second engagement portion 18 being configured to abut the dispensing apparatus 14. The angled slot 12 of

the first engagement portion 2 provides a longitudinal abutment surface for abutment with the adjacent portion of the dispensing apparatus 14 received within the first channel 12. The longitudinal abutment surface provided by the side portion 10 of the first engagement portion 2 adjacent the slot 16 prevents unintended removal of the adjacent portion of the dispensing apparatus from the first engagement portion 2 in a direction extending at an angle to (for example perpendicular to) the longitudinal axes of the channel 12.

Each of the first and second engagement portions 2, 18 comprise four holes extending through a mounting surface thereof and sized to receive threaded screws for mounting of the apparatus to a support surface.

In use, the first and second engagement portions 2, 18 are aligned in position, spaced apart from, adjacent a support surface. The longitudinal axes of the channels 12, 26 are aligned with each other. Screws are inserted through each of the holes provided by the engagement portions 2, 18 to secure them in position.

The handle of the dispensing apparatus 14 is inserted into the first slot 16 of the first engagement portion as shown in Figure 3. The longitudinal axis of the dispensing apparatus, at this stage of mounting, extends at an angle to the longitudinal axes of the channels of 12, 26 of the first and second engagement portions 2, 18.

The handle of the dispensing apparatus 14 is inserted further through the slot 16 and into the corresponding channel 12 of the first engagement portion 2 as shown in Figure 4. The longitudinal axis of the dispensing apparatus, at this stage of mounting, extends substantially parallel to the longitudinal axes of the channels 12, 26 of the first and second engagement portions 2, 18.

The nozzle at the opposed end of the dispensing apparatus 14 is then inserted through the second channel 26 of the second engagement portion 18 as shown in Figure 5. It can be seen that the handle portion of the dispensing apparatus 14 is securely held in place within the channel 12 of the first engagement portion 2 without risk of being removed unintentionally in a direction extending substantially parallel to the longitudinal axis of the channel 12 due to the abutment surface provided by the slot 16. Furthermore, nozzle end of the dispensing apparatus 14 rests against the first end of the second engagement portion under the action of gravity.

The support apparatus of the present invention therefore provides a means of improving, preferably maximising, the storage efficiency for dispensing apparatus within for areas such as sheds, garages or vehicles such as trade vans. The support apparatus also ensures that the dispensing apparatus will not become displaced during transportation (such as within a van).

CLAIMS

1. A support apparatus for retaining a dispensing apparatus for tubular containers on a support surface, the apparatus comprising:

5 a first engagement portion mountable on a support surface, in which the first engagement portion comprises a first end, an opposed second end, and a side portion extending therebetween, and in which an first channel defining a first longitudinal axis extends between the first and second ends thereof, in which the first channel is configured to receive a portion of a dispensing apparatus at or adjacent a first end thereof, and in which the
10 side portion defines a first slot in communication with the first channel and extending between the first and second ends of the first engagement portion, in which the first slot extends at an angle to the first longitudinal axis of the first channel; and

 a second engagement portion mountable on a support surface, in which the second engagement portion comprises a first end, an opposed second end and a side portion extending therebetween, and in which a second channel, defining a second longitudinal axis, extends from a first end towards the second end thereof, in which the second channel is configured to receive a portion of a dispensing apparatus at or adjacent a second end thereof, and in which the side portion defines a second slot in communication with the second channel and extending in a direction substantially parallel to the second longitudinal axis thereof from
15 the first end towards the second end of the second engagement portion,

 in which the first and second engagement portions are aligned in use such that the first longitudinal axis of the first channel is aligned with the second longitudinal axis of the second channel.

2. An apparatus as claimed in claim 1, in which the first channel is an open ended channel providing a first opening at the first end of the first engagement portion and a second opening at the second end of the first engagement portion.
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3. An apparatus as claimed in either of claims 1 and 2, in which the second channel is open ended providing a first opening at the first end of the second engagement portion and a second opening at the second end of the second engagement portion.
- 30 4. An apparatus as claimed in any preceding claim, in which the first end of the first engagement portion further comprises a recess or groove extending at an angle to the first channel, and configured to support a portion of the dispensing apparatus thereon.

5. An apparatus as claimed in any preceding claim, in which at least one of the first and/or second engagement portions comprises a lateral abutment surface, extending at an angle to the longitudinal axis of the corresponding channel configured to abut an adjacent portion of the dispensing apparatus so as to prevent movement of the dispensing apparatus in a direction extending substantially parallel to the first and/or second longitudinal axes of the first and/or second channels.
6. An apparatus as claimed in any preceding claim, in which at least a portion of the side portion of the first engagement portion provides a longitudinal abutment surface for abutment with an adjacent portion of the dispensing apparatus received within the first channel.
7. An apparatus as claimed in claim 6, in which the longitudinal abutment surface is provided by at least a portion of the side portion adjacent the first slot of the first engagement portion.
8. An apparatus as claimed in any preceding claim, in which each of the first and/or second engagement portions further comprises at least one engagement feature for mounting the corresponding engagement portion to a support surface.
9. An apparatus as claimed in claim 8, in which the engagement portion comprises adhesive and/or fixation means.
10. An apparatus as claimed in any preceding claim, in which the support surface is a wall (interior or exterior), panelling, and/or support surfaces of vehicles (such as for example vans or lorries).
11. An apparatus as claimed in any preceding claim, in which the first and second longitudinal axes of the first and second channels extend substantially parallel to at least a portion of the support surface.
12. An apparatus as claimed in any preceding claim, further comprises a backing surface extending between the first and second engagement portions.
13. A method of installing an apparatus as claimed in any preceding claim, comprising:
- Obtaining a first engagement portion and mounting the first engagement portion on a support surface;
 - Obtaining a second engagement portion and mounting the second engagement portion on the support surface such that the first longitudinal axis of the first channel is aligned with the second longitudinal axis of the second channel.