1999 PAPER P3 - SAMPLE SCRIPT A

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Note to Examiner

I have realised that there are 2 patentably distinct device inventions present in what the client has discovered.

i) a resiliently-biased, one-handed dispenser.
ii) a one-tablet-at-a-time dispensing device which need not be resiliently biased.

I have therefore drafted 2 independent device claims and I would advise the client that a divisional will need to be filed in respect of one of these inventions should he/she wish to protect both inventions.

Claims

1. A tablet dispensing device comprising:

   a tablet reservoir housing having a dispensing apparatus actuating means for releasing tablets through the dispensing aperature being mounted within the tablet reservoir housing;

   and discharge means for releasing a defined number of tablets from the housing being coupled to the actuating means, and defining a dispensing portion and a guide portion;

   wherein in use the actuating means is reversibly moveable from a closed position, where the defined number of tablets to be dispensed are allowed to enter the dispensing portion by the guide portion, to an open position where the tablets in the dispensing position are released through the dispensing aperature, and the guide portion blocks the passage of further tablets from entering the dispensing portion.

2. The tablet dispensing device of Claim 1, wherein the actuating means is resiliently biased towards the closed position.

3. The tablet dispensing device of Claim 2, wherein the actuating means is resiliently biased with a spring acting between the actuating means and a detent on the tablet reservoir housing.

4. The tablet dispensing device as claimed in any one of claims 1 to 3, wherein the dispensing portion has a downwardly-depending base to facilitate the removal of tablets from the dispensing portion at the open position of the device.

5. The tablet dispensing device as claimed in any one of claims 1 to 4, wherein the dispensing portion is deep enough only to accommodate the defined number of tablets.

6. The tablet dispensing device as claimed in any one of claims 1 to 5, wherein the tablets enter the dispensing portion edge on.

7. The tablet dispensing device as claimed in any one of claims 1 to 6, wherein the defined number of tablets is a single tablet.

8. The tablet dispensing device as claimed in any one of claims 1 to 7, wherein the guide portion has a neck portion which, in the open position of the device, forms a gap which is smaller than the width of a tablet.

9. A tablet dispensing device capable of one-handed operation comprising:

a tablet reservoir housing having a dispensing aperature;

actuating means for releasing tablets through the dispensing aperature being mounted within the tablet reservoir housing; and

discharge means coupled to the actuating means wherein the actuating means is resiliently biased towards a closed position, wherein in use the discharge means does not permit the passage of tablets through the dispensing aperature, and is moveable to an open position, wherein in use tablets are released through the dispensing aperature.

10. The tablet dispensing device of claim 9, wherein the actuating means is resiliently biased with a spring acting between the actuating means and a detent on the tablet reservoir housing.

11. The tablet dispensing device of any preceding claim wherein the open position of the actuating means is defined by a stop projecting from the actuating means or the discharge means which engages with a detent on the tablet reservoir housing at the open position.

12. The tablet dispensing device as claimed in any preceding claim, wherein the actuating means is prevented from being removed from the housing by retaining means acting between the actuating means or discharge means and the tablet reservoir housing.

13. The tablet dispensing device as claimed in claim 12, wherein the retaining means comprises a retaining lip on the discharge means engaging a second lip along one edge of the dispensing aperature.

14. The tablet dispensing device as claimed in any preceding claim, wherein the actuating means and discharge means are integrally formed.

15. The tablet dispensing device as claimed in any preceding claim, wherein the actuating means and the discharge means are slidably mounted within the tablet reservoir housing.

16. A tablet dispensing device as hereinbefore described, with reference to and as illustrated by Figures 2 to 6.

DISPENSING DEVICE

The present invention relates to the field of tablet dispensing devices, particularly dispensing devices for sweets.

Known dispensers for sweets comprise a “flip-top” as shown in figure 1. Such dispensers have also been used for artificial sweeteners.

All such boxes have a releasably closeable aperature which is opened directly by the consumer to allow its contents to be discharged through the open lid by tipping up the dispenser (as can be seen in Figure 1).

Figure 1 shows one such box comprising a generally rectangular plastics box, in an open end of which is secured a plastics top or plug having a hinged lid which can be clicked open and shut with manual pressure.

There are many disadvantages associated with such dispensers. The two main disadvantages are:

1) the operator of such dispensers needs to use two hands for reliable dispensing of contents.

2) as the dispenser is tipped up in use, it is difficult for the operator to control the number of items to be dispensed. This is of particular concern to the use of such dispensers by elderly or infirm people, particularly because the items to be dispensed are in themselves often very small. An additional drawback is that if too many items are dispensed, an attempt is normally made by the operator to return the excess items to the dispenser, which can be both troublesome and unhygienic.

Accordingly the present invention provides two inventions which can alleviate each of the above problems, respectively, and the features of which may be combinable to produce a dispenser with neither of the above problems.

In a first aspect, the invention provides a tablet dispensing device... (AS CLAIM1)

The defined number of tablets that are dispensed can be adjusted depending on the size of the dispensing portion, and the dimensions of the tablet.

Preferably a single tablet is dispensed.

The tablet may be a sweet, or a consumer product such as a sweetener. The tablet may also be a drug tablet.

In a preferred embodiment, the dispenser has a moulded plastics tablet reservoir housing open at one end to accommodate the actuating means, and having a dispensing aperature at the other end.

Preferably the actuating means and the discharge means form an integral hopper which is slidably mounted in the housing and can be depressed to go from a closed to an open position in order to dispense an item from the dispenser.

The hopper preferably has a down-wardly dispensing portion which is open along one edge and

which, in combination with the adjacent side wall of the housing, defines a channel of such a width that only a defined number (preferably one) item at a time engages its base wall, which is inclined upwardly.

The depth of the channel (from front to back) is preferably just larger that the depth of the items to be dispensed, so that items can only enter the channel (in the dispensing portion of the discharge means) “edge-on”.

Several tablets can be stacked on top of each other further up the channel beyond the guide means.

Preferably the actuating means is reversably moveable within the housing such that it is depressed to an open position and raised to a closed position.

Preferably a spring or other mean of resilient bias, are provided to return the actuate means from the open to closed position.

The hopper can be prevented from sliding out of its housing by means of a retaining lip on the dispensing portion, which engages underneath a second lip along one edge of the dispensing aperature.

The resilient nature of the assembly allows a reliable one-handed and hygienic dispensing of individual articles.

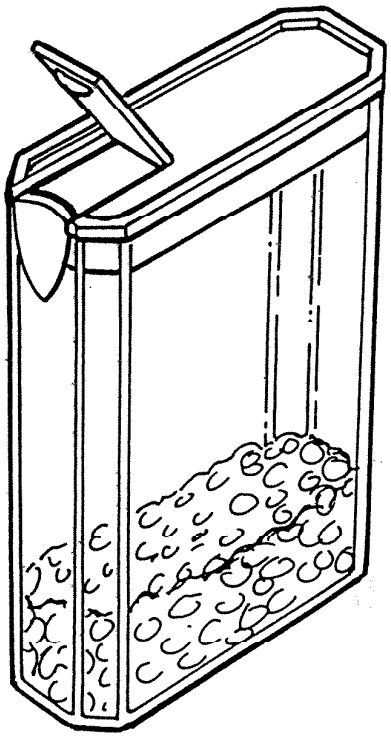
Another aspect of the invention is a tablet dispensing device ..... (AS REST OF CLAIM 9)

Such a dispenser has the advantage of providing a reliable, one-handed device for dispensing a number (preferably a single) tablet.

All designs can be assembled from only two mouldings (the actuating means and discharge means being integral).

The specific embodiments of the invention will now be described in greater detail by way of example, with reference to the accompanying drawings, wherein:

* * * * * * * * * *



PRIOR ART

Fig. 1

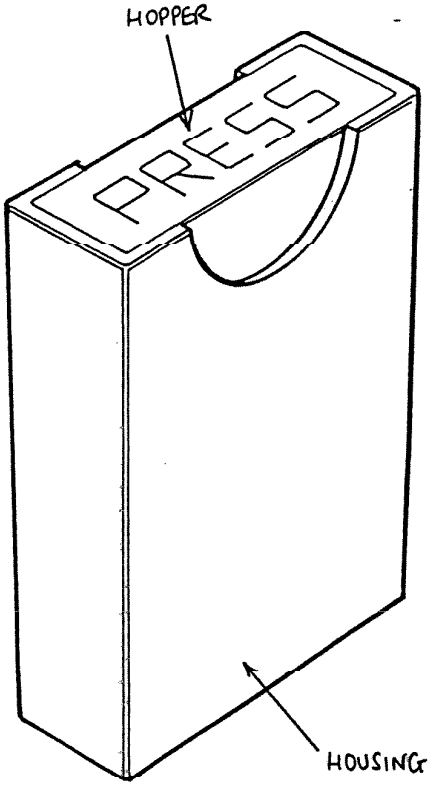


Fig. 2

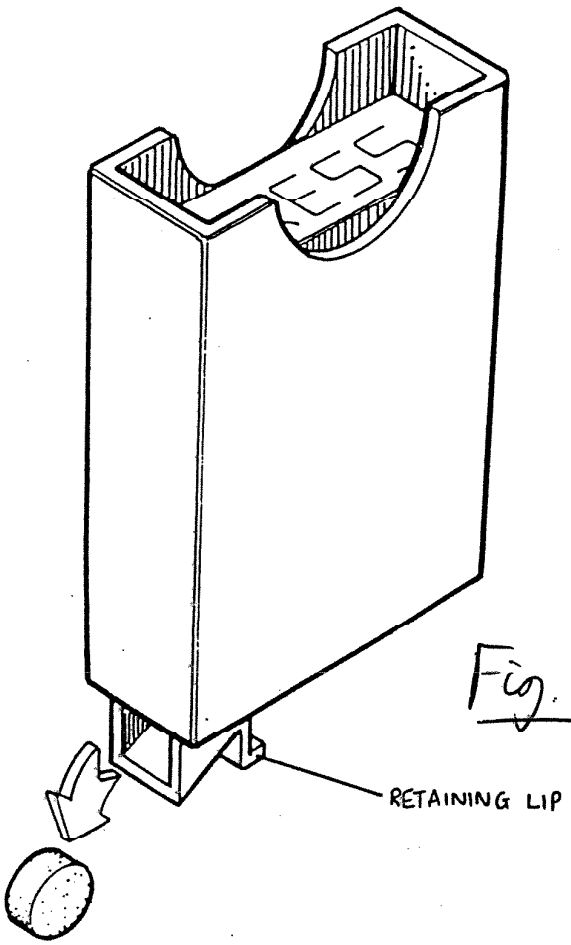


Fig. 3

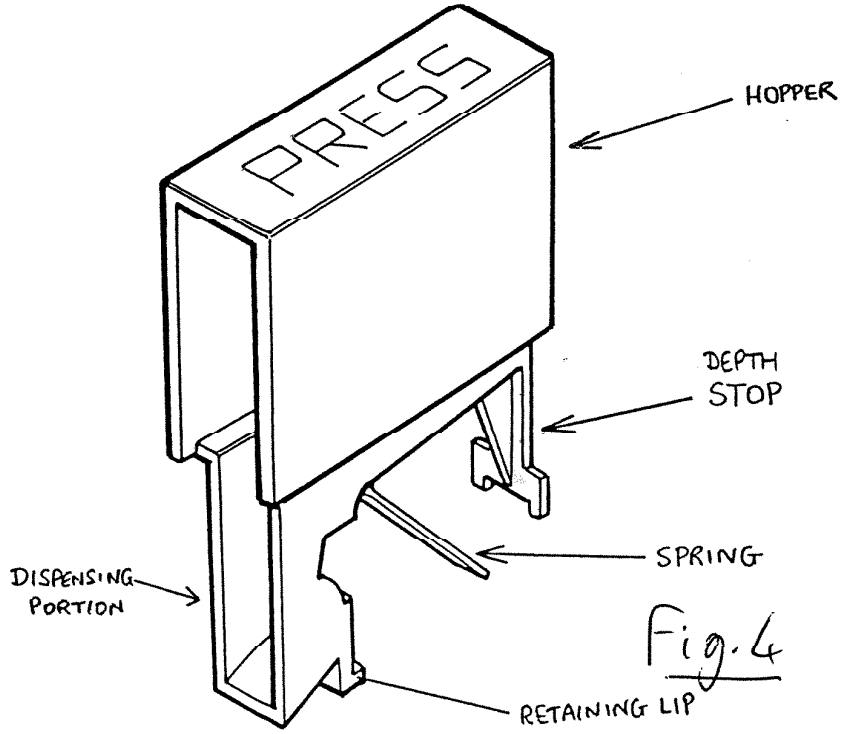

PRESS
HOPPER
DEPTH
STOP
SPRING
DISPENSING
PORTION
RETAINING LIP

Fig. 4

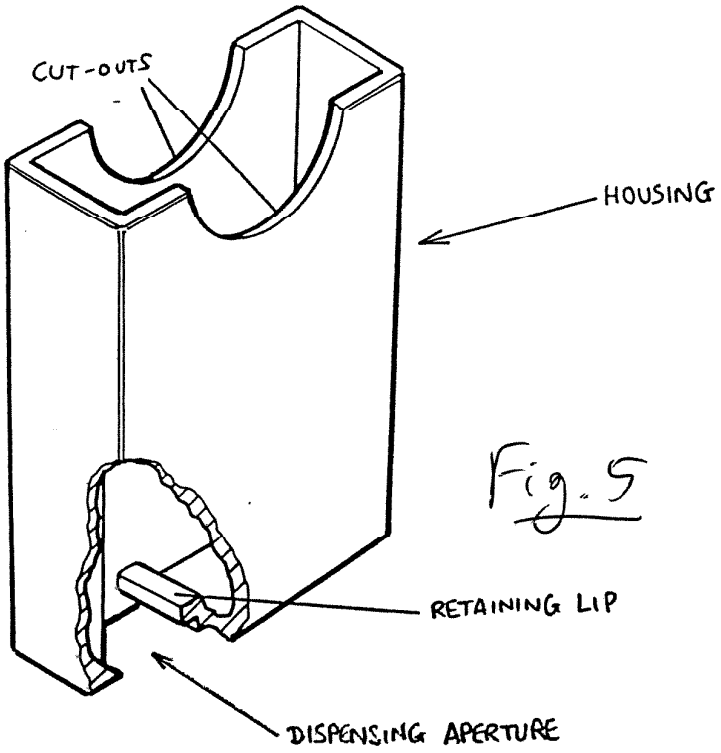

CUT-OUTS
HOUSING
RETAINING LIP
DISPENSING APERTURE

Fig. 5

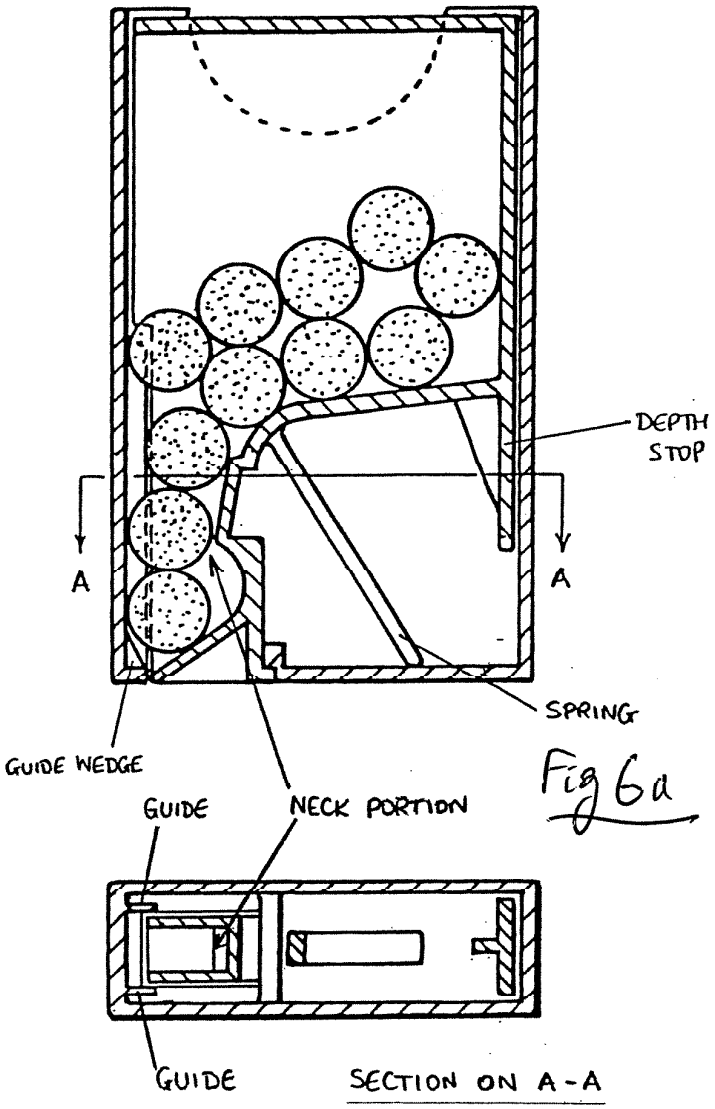


Fig 6a

Fig. 6b

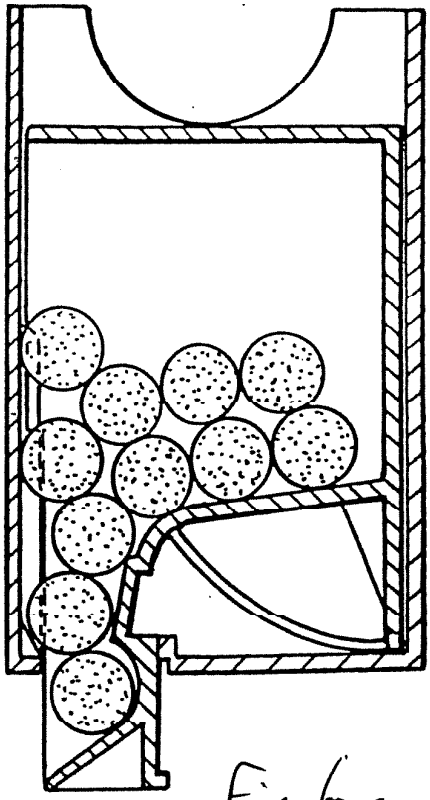


Fig. 6c

1999 PAPER P3 - SAMPLE SCRIPT B

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Title

A dispensing device.

Field of the invention

This invention relates to dispensing devices, in particular this invention relates to dispensing devices for items such as small sweets, artificial sweeteners, tablets, pills and the like.

Description of Prior Art

Existing dispensing devices essentially comprise a box having a releasably closeable aperture which is opened to permit the discharge of items contained in the box through the open aperture by tipping up the dispensing device. Typically, the box is a generally rectangular plastics box having an open end in which is secured a plastics top or plug. The releasably closeable aperture is provided in the form of a hinged lid in the plastics top or plug, which can simply be clicked open and shut by finger pressure.

A first problem associated with those dispensing devices is the need to use two hands for reliable dispensing of the contents. A second problem with existing dispensing devices is that as the dispensing device is tipped up, it is difficult to control the number of items to be dispensed. This second problem is of particular concern to the use of such dispensing devices by elderly or infirm people. This second problem is exagerated when the items to be dispensed are themselves small, which is frequently the case.

A known solution to this second problem is to reduce the size of the dispensing aperture. This solution however creates the additional problem that it becomes difficult to dispense the items reliably when required.

A third problem associated with existing dispensing devices is that if too many items are dispensed, an attempt is normally made by the user to return the excess items to the dispenser which can be both troublesome and unhygienic.

It is an object of this invention therefore to provide a dispensing device which allows one-handed dispensing of items in defined quantities.

It is further an object of this invention to provide a dispensing device which can be manufactured and assembled easily using conventional plastics moulding techniques.

Summary of the Invention

According to the invention, a dispensing device is provided for dispensing items comprising a housing having a dispensing aperture, a hopper for storing a plurality of items

and having a dispenser portion, slideably mounted in the housing and moveable relative to the housing between a closed position and a dispensing position in which the hopper dispenser portion and the housing dispensing aperture co-operate to permit the dispensing of items from the dispenser, and a limiting means for limiting the number of items dispensed at a time to a predetermined number, preferably one, operable by the movement of the hopper towards the dispensing position.

Preferably, the dispenser portion is substantially open along one edge and which in combination with an adjacent side wall of the housing define a channel of such width that only a single item engages the base wall of the dispenser portion, which may be inclined to permit dispensing without tilting the housing.

Preferably, the limiting means comprises a neck portion formed in the dispensing portion and a protrusion formed in the housing, wherein movement of the hopper towards the dispensing position causes substantial alignment of the neck portion and protrusion to effect a constriction in the channel preventing items passing through the channel.

Preferably, the hopper is resiliently biased towards the closed position.

A retention means may be provided for preventing the removal of the hopper from the housing.

Preferably the hopper and housing are formed as single moulded plastic pieces.

The invention also extends to a method of assembling the dispensing device.

The invention will now be described with greater detail with reference to the accompanying drawings.

Claims

1. A dispensing device for dispensing items comprising a housing having a dispensing aperture, a hopper for storing a plurality of items and having a dispenser portion, slideably mounted in the housing and moveable relative to the housing between a closed position and a dispensing position in which the hopper dispenser portion and the housing dispensing aperture co-operate to permit the dispensing of items from the dispenser, and a limiting means for limiting the number of items dispensed at a time to a predetermined number, operable by the movement of the hopper towards the dispensing position.

2. The dispensing device of claim 1, wherein the dispenser portion is substantially open along one edge and which in combination with an adjacent side wall of the housing defines a channel of such a width that only a single item engages the base wall of the dispenser portion.

3. The dispensing device of claim 2, wherein the limiting means comprises a neck portion formed in the dispensing portion and a protrusion formed in the housing, wherein movement of the hopper towards the dispensing position causes substantial alignment of the neck portion and protrusion to effect a constriction in the channel preventing items passing through.

4. The dispensing device of claim 3, wherein the base wall of the dispensing portion is

inclined to permit dispensing without tilting of the housing.

5. The dispensing device according to any one of claims 1 to 4, wherein the hopper is resiliently biased towards the closed position.

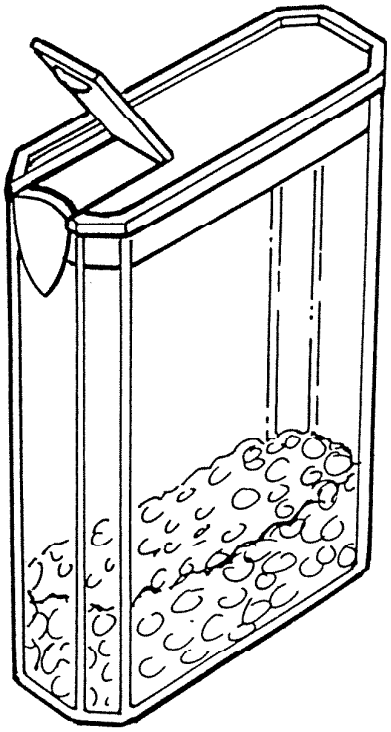
6. The dispensing device according to any one of claims 1 to 5, further comprising a retention means for preventing the removal of the hopper from the housing.

7. The dispensing device according to any one of claims 1 to 6, wherein the hopper and housing are as single moulded plastics pieces.

8. A method of assembling a dispensing device as defined in claims 6 or 7, comprising the steps of filing the hopper with items to be dispensed, and inserting the filled hopper into the housing to effect engagement of the retention means.

9. A dispensing device as described herein with reference to and or as illustrated in figures 2 to 7.

10. A method of assembling a dispensing device as described herein with reference to figures 2 to 7.



PRIOR ART

Figure 1

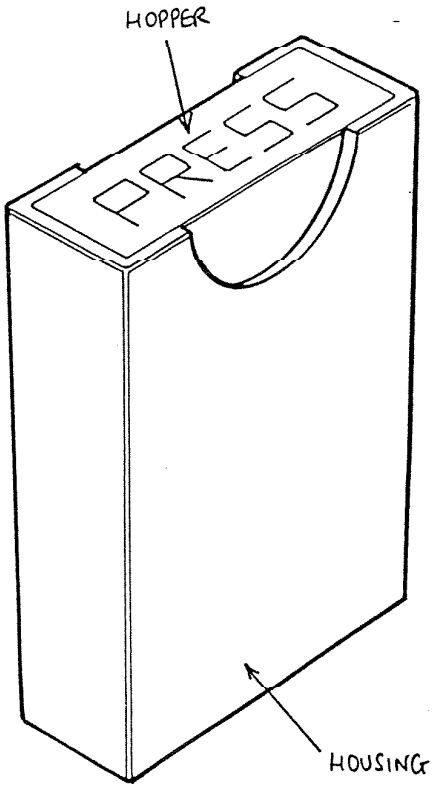


Fig. 2

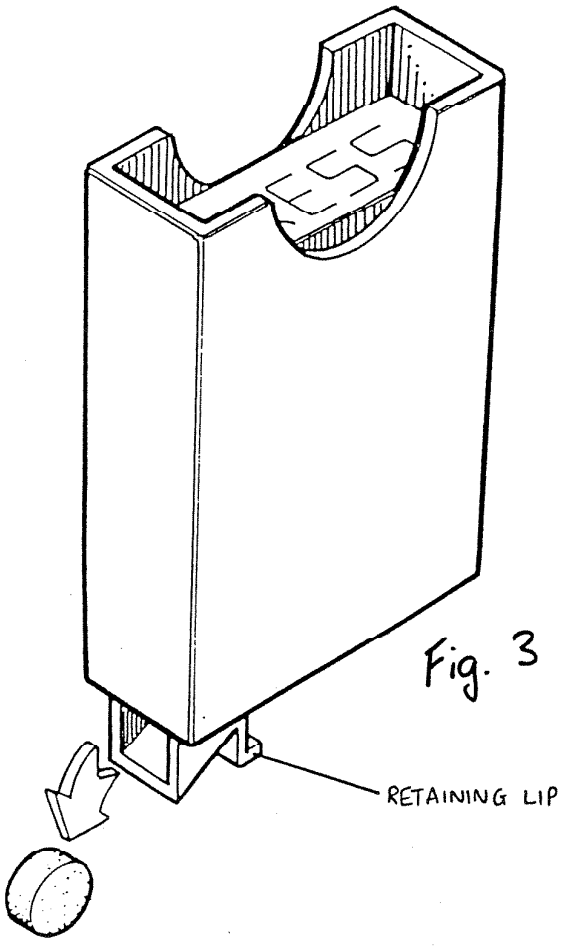


Fig. 3

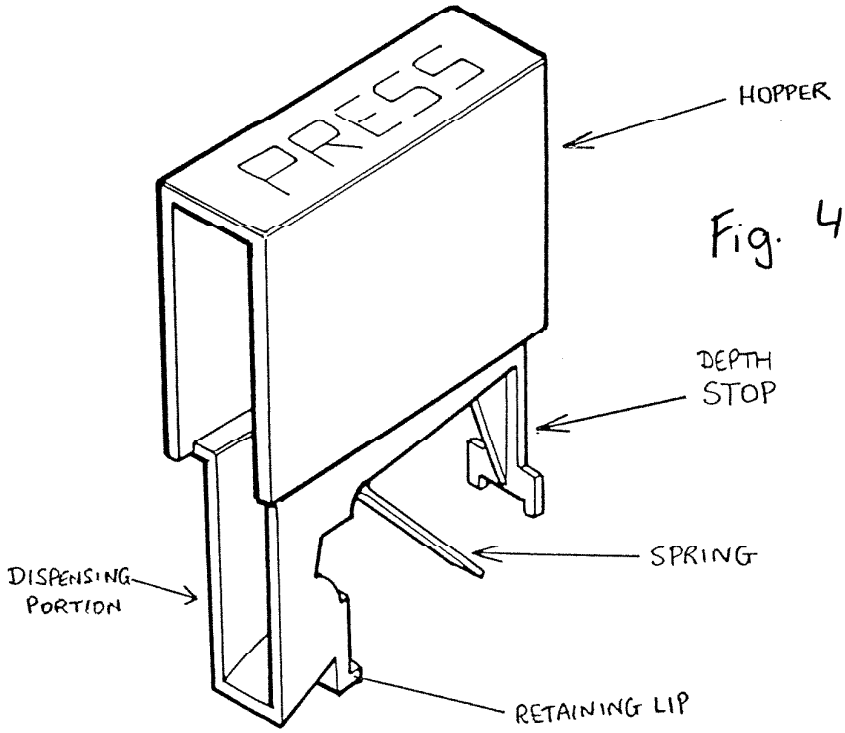

PRESS
HOPPER
DEPTH
STOP
SPRING
DISPENSING
PORTION
RETAINING LIP

Fig. 4

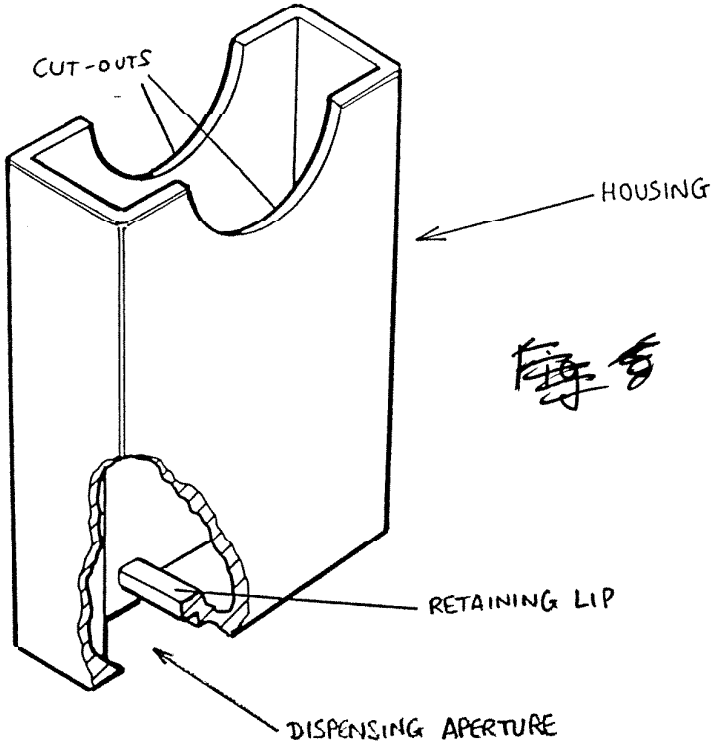

CUT-OUTS
HOUSING
RETAINING LIP
DISPENSING APERTURE

Fig. 5

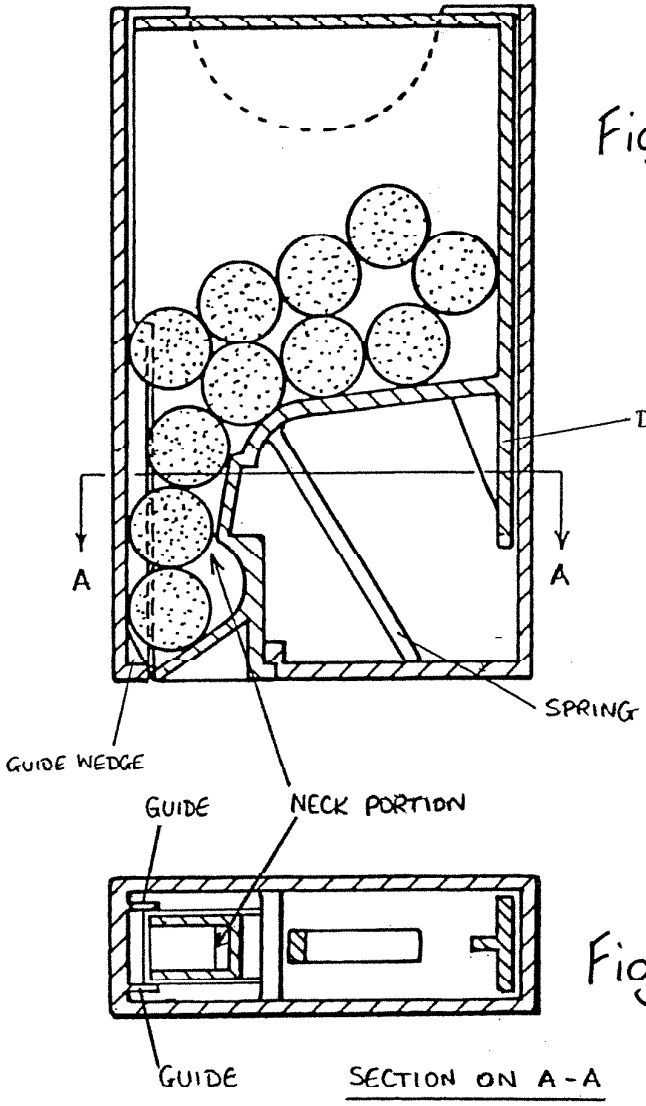
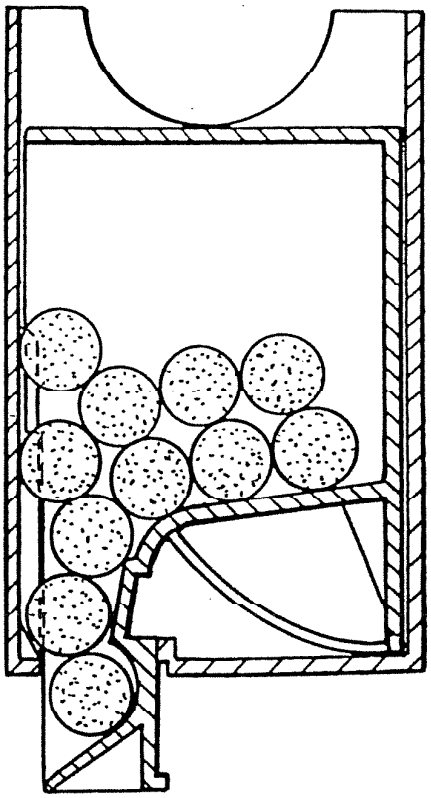


Fig. 5

Fig. 6

Fig. 7



Notes

Prior Art Problems.

1) need to use two hands for reliable dispensing.

2) difficult to control number of items.

3) surplus people try to return.

Mechanism different, depression rather than tipping.

aperture towards base not top.

Advantage offered by invention - primary is limited dispension.

What does it do? dispenses.

granny.

dispenser only allows one at a time out.

Is there an invention if no limit is achieved, e.g. does depression rather than tilting offer any real advantage, maybe single handed operation but I don't really think so.

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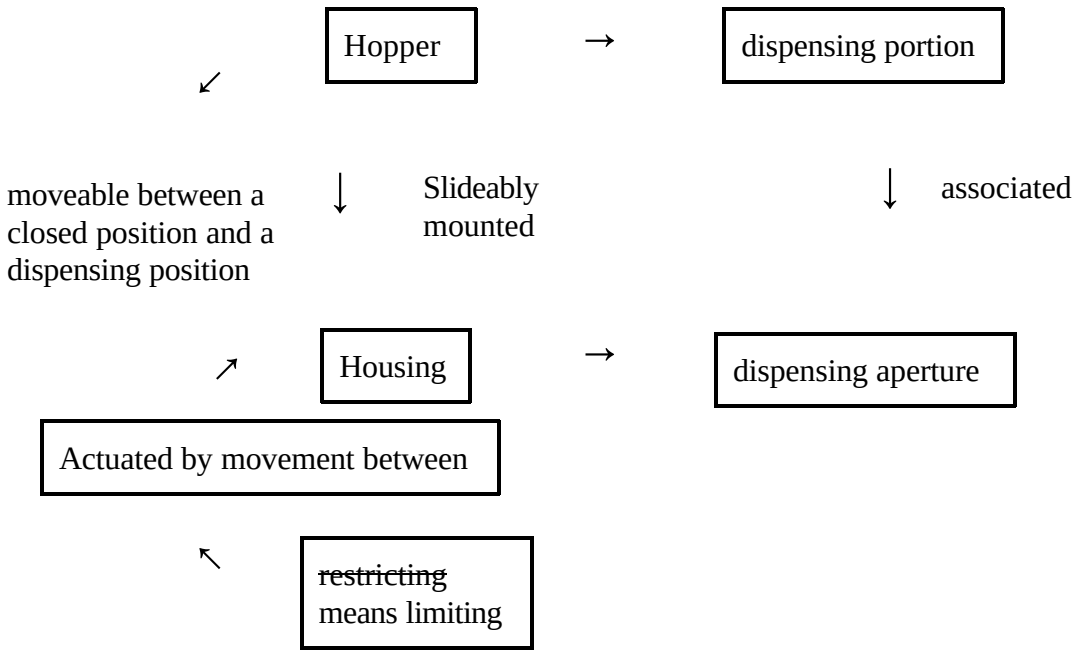
Notes



Must the Hopper and Housing be slideably engaged? What about a rotational version? I can't really see how accordingly slidably mount is ok.

Must dispensing be limited to one at a time? No. Perhaps two or three is so desired.

Must the channel limit pills to one at a time depends on shape etc. ideally yes but not essential, a crude version could work also

* * * * * * * * * *

Notes

A dispenser for dispensing items comprising

a hopper for storing a plurality of items, having a dispensing portion, the hopper being slideably mounted in a housing having a dispensing aperture, and moveable between a closed position and a dispensing position, where the hopper dispensing portion and the housing dispensing aperture co-operate to permit the dispensing of items, a limiting means to limit the number of items dispensed actuated by the relative movement between the hopper and housing.

* * * * * * * * * *

Notes

A dispenser

a housing having a dispensing aperture

a hopper, for storing a plurality of items and having a dispenser portion, slideably mounted in the housing and moveable relative to the housing from a closed position to a dispensing position in which a limiting means to limit the number of items dispensed operable by the movement of the hopper towards the dispensing position.

* * * * * * * * * *

Notes

A dispenser for dispensing items comprising a hopper for storing a plurality of items, having a dispenser portion,

the hopper being slideably mounted in a housing having a dispensing aperture,

the hopper being moveable relative to the housing between a closed position and a dispensing position where the hopper dispensing portion and the housing dispensing aperture co-operate to permit the dispensing of items from the dispenser,

a limiting means to

* * * * * * * * * *

Notes

ii) The dispensing device of claim 1 wherein the dispensing portion is substantially open along one edge and which in combination with an adjacent side wall of the housing defines a channel of such a width that only a single item engages its base wall.

iii) The dispensing device of claim 2 wherein the

limiting means comprises a neck portion formed in dispensing portion and a Protrusion formed in the housing, wherein movement of the hopper towards the dispensing position causes alignment of the protrusion and neck portion effecting a constriction in the channel preventing items in the channel from passing beyond the constriction.

5 The dispensing device according to any one of claims 1 to 4 wherein the hopper is resiliently biased towards the closed position.

* * * * * * * * * *

Notes

4 The dispensing device of claim 3 wherein the base wall of the dispensing portion is inclined to permit dispensing of an item without tilting

6 The dispensing device of any one of claims 1 to 5 further comprising a retention means for preventing the removal of the hopper from the housing.

7 The dispensing device of any one of claims 1 to 6, wherein the hopper and housing are single moulded pieces.

8 A method of assembling a dispensing device as described in claim 6 or claim 7 comprising the steps of a filling the hopper with items to be dispensed
inserting the filled hopper into the housing to effect engagement of the retention means

9 A dispensing device as described herein with reference to and or as illustrated in figures 2 to 7.

10 A method of assembling a dispensing device as described herein.

* * * * * * * * * *

Notes

subsidiary features

1 channel - one number at a time guide

2 limiting means - neck portion

3 resiliently biased toward the closed position

4 preventing hopper sliding out.

5 two seperate portions mouldings.

6 aperture in base inclined upwardly means no tilting.

OMNIBUS
+ Manufacture / Assembly

* * * * * * * * * *