(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 858 413 B1

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
21.05.2003 Bulletin 2003/21

(21) Application number: **96935167.5**

(22) Date of filing: **04.11.1996**

(51) Int Cl.[7]: **B65B 67/12**

(86) International application number:
PCT/GB96/02698

(87) International publication number:
WO 97/016349 (09.05.1997 Gazette 1997/20)

(54) **APPARATUS FOR DISPENSING AND FILLING BAGS AT A CHECKOUT COUNTER OF A SUPERMARKET**

VORRICHTUNG ZUM ABGEBEN UND FÜLLEN VON BEUTELN AN EINEM KASSENPLATZ EINES SUPERMARKTS

DISPOSITIF DESTINE A LA DISTRIBUTION ET AU REMPLISSAGE DE SACS AU NIVEAU D'UNE CAISSE DE SORTIE DE SUPERMARCHE

(84) Designated Contracting States:
DE ES FR GB IT

(30) Priority: **03.11.1995 GB 9522588**
10.07.1996 GB 9614443

(43) Date of publication of application:
19.08.1998 Bulletin 1998/34

(73) Proprietor: **Summit Packaging Systems Limited**
Enfield EN2 6NF (US)

(72) Inventor: **BATTAMS, Sidney, Henry**
Edmonton N9 NL (GB)

(74) Representative: **W.P. Thompson & Co.**
Coopers Building,
Church Street
Liverpool L1 3AB (GB)

(56) References cited:
WO-A-96/22043
FR-A- 2 452 902
GB-A- 2 055 084
US-A- 4 512 540

EP 0 858 413 B1

Printed by Jouve, 75001 PARIS (FR)

Description

[0001] The present invention relates to an apparatus for dispensing and aiding the packing of plastic bags. It has particular utility in relation to supermarket checkouts.

[0002] Around ten years ago, the introduction of bar-code readers into supermarket checkouts markedly increased the rate at which goods were passed through such checkouts. As the increase in their rate of sales resulted in an improvement in the profitability of their business, this development was welcomed by the supermarkets. For the same reason, supermarkets are continuing to look for ways of increasing their rate of sales still further. However, the introduction of bar-code readers also created problems which have yet to be solved. For example, the rate of sales at a supermarket is now determined by the speed at which a customer can pack his purchases into containers, rather than the speed at which the checkout operator works. Hence, the pressure that used to be on the checkout operator to work as quickly as possible has now largely been transferred to the customer. This has led to a degree of customer dissatisfaction.

[0003] Conventionally, in order to enable a customer to pack his purchases, a supermarket provides stacks of polyethylene bags at the far end of the customer checkout. To pack these purchases, the customer or a member of the supermarket staff must first separate the bags from the stacks. Once this has been done, the customer or staff member must then open the bag to its fullest extent so that he can place his purchases in it. However, a problem arises in that the operation of opening the bag requires both hands, which leaves the customer or staff member with no hands free in order to pick up his purchases and place them inside the bag. As a result of this the packing of the bag requires a good deal of coordination and cannot always be dealt with quickly. Since, as stated above, the customer is under pressure to fill the bags as fast as possible, the operation becomes stressful particularly for those who are elderly or infirm.

[0004] Not surprisingly, some supermarkets have attempted to alleviate the above problems. In the improved checkouts provided by those supermarkets, a recessed portion is provided which has two parallel prongs extending forwardly from its rear wall towards where the customer stands when packing his purchases. The bags used are provided with additional apertures and these are used to load stacks of the bags onto the two prongs. Also, the rearward surface of each bag is releasably glued to the forward surface of the subsequent bag in the stack. In filling the bags, the customer opens the foremost bag by pulling its forward surface forwardly, the rearward surface remaining stuck to the subsequent bag in the stack. Since the bag is supported on the prongs, the customer can then use both hands to place his purchases inside the bag. However, although this system alleviates some of the above disadvantages, it also has its drawbacks. The primary problem is that the handles of the bag are not fully opened when the bag itself is fully opened. This has the result that the customer cannot clearly see the handle aperture through which he must put his hand in order to pick the bag up as it leaves the prong. Hence, customers often pull the forward surface of the bag (rather than using the handles) to remove it from the prong. Because of this, on removal of the bag from the prong, the bag collapses and often falls from the customers grasp. Thus, the operation of packing the bag quickly is still a stressful one for many people. In addition, the system has the disadvantage that additional holes for the prongs must be provided in each of the bags and this inevitably leads to an increase in their cost of production.

[0005] The gluing of each bag to the subsequent bag in the stack also presents problems. Not only does the glue add to the cost of production of the bags, customers also often find it difficult to separate a filled bag from the subsequent bag in the stack.

[0006] Reference is also made to WO96/22043 which discloses a dispenser for plastic bags and comprises guide rollers which guide the foremost bag of a roll of bags to an elongate aperture in a carrier plate and towards two handle holders above the aperture. When a bag is pulled through the aperture the handles of the next bag reach the aperture, where they are ready for pulling up the next bag.

[0007] It is an object of the first aspect of the present invention to alleviate or remove the disadvantages of the conventional and improved systems mentioned above.

[0008] According to the present invention there is provided an apparatus for aiding the packing of a plastic bag having two handle apertures, said apparatus comprising:

first handle holding means arranged to accept one of said apertures, and dimensioned so as to hold open said one aperture on said acceptance;

second handle holding means arranged to accept the other of said apertures, and dimensioned so as to hold open said other aperture on said acceptance;

said first and second handle holding means being spaced apart by a distance substantially equal to the width of the bag and such that a clear volume in which the bag can be opened out is provided below the first and second handle holding means;

whereby, on the handles of an empty bag being placed around the handle engaging members, the handle apertures are held open and the bag is supported in an open configuration in which goods may be packed into the bag,

characterised in that said apparatus is arranged for location within a check out counter,

and by provision of

plastic bag supply means for carrying a strip of attached bags and which is arranged to be located below said counter, while said handle holding means are each located above said counter, and further characterised by a cut-out member which is located in the region of the counter top and defines a cut-out which permits passage of a bag upwards through the counter-top at a given angle to said counter-top for filling, and by bag flow control means located in close adjacency to said cut-out member, which when a filled bag is pulled upwards at an angle which is different from said given angle said counter top permits the filled bag to be detached from the remainder of the strip of bags, and which provides a temporary hold to the remaining strip of bags as the filled bag is detached.

[0009] This apparatus has the advantage that the customers hands are left free, thereby enabling him to pack the bag more easily. In addition, since the handle apertures are held in an open position, the handles are easy to grasp in order to remove the bag from the apparatus. Preferably, each of said handle holding means comprises two upwardly directed hook portions which are laterally spaced from one another and which have the same orientation. This has the advantage that when the handles are mounted on the handle holding means, a customer can easily insert his hand between the hooks and through the handle aperture in order to grasp the bag for removal.

[0010] Moreover, the invention enables a supply of attached bags to be retained below the checkout counter, and for each bag to be dispensed in turn. By pulling the bag away at a selected angle to the cut-out member, the filled bag can be detached from the remainder of the supply; and use of control means in close adjacency with the cut-out member ensure that the following strip of bags does not fall back below the counter-top when the filled bag is detached.

[0011] It is important that the control means is located closely adjacent, either immediately below, or preferably immediately above the cut-out, so as to reduce the risk of the remaining strip falling back. In this respect if the control means were to be located too far below the cut-out member, a risk remains that the strip can fall back below the counter-top.

[0012] The given angle at which the bag is drawn upwards for filling and for attachment to the handles will usually be at 90° to the counter-top in which case the angle at which the bag can be severed should be in the region of 60° to 70°.

[0013] Preferably the height of the handle holding means are each adjustable to accommodate bags of a selected height.

[0014] Preferably the disposition of the handle holding means is offset from said cut-out member so as to aid the angular location for subsequent removal of the bag.

[0015] The control means may be at least one brush strip member operating in conjunction with the cut-out member.

[0016] The cut-out member may include engaging means, for example a central protrusion in the cut-out which engages a gap between the handles of the next following bag so as to engage bag material when the bag is pulled at a selected angle so as to cause the filled bag to be detached.

[0017] In a preferred arrangement the central protrusion is part of an engaging member located immediately above the cut-out member, and which co-operates with a single brush strip located above the cut-out member.

[0018] There now follows a detailed description, given by way of example only, of several specific embodiments of the present invention. This description is given with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a portable bag packing aid (which does not form part of the present invention);

Figure 2 is a perspective view of an integrated bag dispenser and packing aid in accordance with the present invention, installed as part of a supermarket checkout; and

Figure 3 is a diagram illustrating one form of integrated bag dispenser and packing aid.

Figures 4 to 8 show a second form of the invention; and

Figures 9 to 12 show a third form of the invention.

[0019] Figure 1 shows a portable bag packing aid which comprises a horizontal base portion (1), a forward U-shaped member (2) extending upwardly from position close to the forward end of the base portion (1) a rear U-shaped member (3) extending upwardly from the opposite end of the base portion (1).

[0020] The base portion (1) has the shape of a rectangular block having dimensions of 360 mm by 175 mm by 25 mm. The largest surface of the block is in a horizontal orientation.

[0021] The base portion is formed by mild steel plate and its underside is substantially open. The plate is bent downwardly at the left and right longitudinal edges (4,5) of the base portion (1) to form left and right longitudinal walls (6,7). The base portion (1) is also bent downwardly from the front edge (8) of its upper surface to form a front wall (9). The plate is bent horizontally and rearwardly from the lower edge of the front wall (9) so that it extends rearwardly under the upper surface by a distance of 25 mm. The rearward end of the base portion (1) is a mirror image of the forward end.

[0022] An aperture (10) of 4 millimetre diameter is provided in the upper surface of the base portion (1) at a position adjacent the front edge (8) and at a perpendicular distance of 37mm from the right hand longitudinal edge (5). Similar apertures (11,12,13) are provided in

the other three corners of the uppermost surface and are located symmetrically in relation to the aperture (10). A cylindrical steel member (14) of 4mm diameter passes through the forward right hand aperture (10) and is held in position by being welded to the rearward side of the front wall (9). The steel member (14) extends upwardly for 370mm to form a riser portion (15) which follows a curvature of 8 mm to turn into a downwardly angled portion (16) of length 10 mm which runs forwardly and at an angle of 15 ° below the horizontal. The steel member (14) then follows a curvature of 8 mm to turn into an upwardly angled portion (17) of length 22 mm which is directed forwardly and at an angle of 63° to the horizontal. It will be seen that the downwardly angled portion (16) and upwardly angled portion (17) together form a hook portion. At the uppermost end of the upwardly angled portion (17) , the member (14) follows a curvature of 8mm to turn leftwardly to form a horizontal portion (18) of length 102mm. The horizontal portion (18) forms a cross-piece to join the left hand side of the forward U-shaped member (2) which is identical in shape to the right hand side.

[0023] Also, the rearward U-shaped member (3) is a mirror image of the forward U-shaped member (2).

[0024] In order to use the bag packing aid, a supermarket customer may place the aid at the far end of the supermarket checkout, take a bag from the stack provided and place one of the handle apertures of the bag on the forward U-shaped member (2) and the other on the rearward U-shaped member (3). Because of the length of the cross-piece (18) this will have the effect of opening the handle apertures of the bag, and automatically pushing the sides of the bag away from each other, thereby opening the bag ready for packing. Thereafter, he can use both hands in order to place his purchases inside the bag. Once the bag has been filled, the customer can easily pass his fingers through the handle apertures which are held open in order to remove the filled bag from the bag packing aid. The above procedure can then be repeated as many times as is necessary in order to pack all his purchases.

[0025] It is possible to install such an apparatus as a permanent part of a supermarket checkout, in which case a number of bags could be loaded on the bag packing aid by passing their handle apertures over the respective U-shaped member (2,3) and then pushing the handles apertures down towards the base portion (1).

[0026] Additionally, in the case of a portable apparatus, it is possible to attach the U-shaped members (2,3) to the base portion (1) by means of hinges so that the bag packing aid can be folded in order to render it more portable.

[0027] Fig. 2 shows an integrated bag dispenser and packing aid in accordance with the present invention, which is installed as part of a supermarket checkout. The supermarket checkout includes a horizontal panel (20) which extends forwardly to a vertical front wall (22). It will be seen that part of the front wall (22) and horizontal panel (20) are cut away for the purposes of the present illustration.

[0028] The horizontal panel (20) of the checkout is provided with a rectangular aperture whose length and width is 40mm shorter than the length and width of the base portion (1) of the packing aid described in relation to Figure 1. Alongside the left and right hand edges of the aperture a number of bores are provided. A modified version (21) of the bag packing aid described in relation to Figure 1 is aligned centrally with the aperture and is positioned directly above it.

[0029] One difference between the present packing aid portion and the packing aid described in relation to Figure 1 is that the lip (24) formed by the left-hand wall (9) being turned inwardly only extends for 15mm. A number of bores are provided in the lip (24) and the corresponding lip (not shown) on the right-hand side of the packing aid portion. These bores are positioned such that they are aligned with the bores through the horizontal panel (20). Bolts (26) passing through the aligned bores secure the packing aid portion (21) to the horizontal panel (20).

[0030] Another difference in the packing aid portion (21) is that an elongate slot (28) is provided in the upper surface of the base portion (1). This elongate slot (28) extends along the length of the base portion (1) at a position half way between the front (7) and rear (4) walls of the base portion (1). The length of the slot (28) is such that its ends are approximately 25 mm away from the right (29) and left hand (9) walls of the base portion. The slot (28) has a width of around 5mm. Elongate brushes (30,31) having a length equal to that of the elongate slot (28) are glued to the underside of the upper surface on either side of the slot (28). Each brush (30,31) extends almost half way across the slot (28).

[0031] A further difference in the packing aid portion (21) is that two fixed bars (34,36), each having a diameter of 5mm, run from the left hand wall (9) of the base portion (1) to the right hand wall (29). Both these bars (34,36) are positioned directly below the slot (28), one of the bars (36) being positioned underneath the other (34). A clearance of around 5mm is provided between the two fixed bars (34,36). The bars (34,36) are welded to the right (29) and left hand (9) walls.

[0032] A yet further difference in the packing aid portion (21) is that the right (29) and left hand (9) walls each have a slot (38,40) of a length of around 2cm which slopes upwardly and rearwardly at an angle of around 25° to the horizontal. The slots (38,40) have a width of around 5mm and are located such that their rearward end is adjacent the point where the lower fixed bar (36) is welded to the side wall (9,29).

[0033] A moveable bar (42) of length 2 - 3cm greater than the length of the base portion (1) is run through the two slots (38,40). The bar (42) is positioned such that about 1.5cm protrudes from either side of the base portion (1). In order to ensure that the bar (42) cannot be removed from the slots (38,40), a retaining washer (44)

is located close to either end of the moveable bar (42). A still further difference in the packing aid portion (21) is that the riser portions (15) of the U-shaped members (2,3) are not fixedly attached to the base portion (1). In addition, the diameter of those U-shaped members (2,3) and the corresponding apertures is 5mm rather than 4mm. Each riser portion (15) is several centimetres longer than the equivalent portion described in relation to Figure 1. The mechanism which adjustably retains the U-shaped members (2,3) in place is shown in Figure 3. The integrated bag dispensing and packing aid of the present embodiment has both the features illustrated in Figure 2 and the features illustrated in Figure 3.

[0034] A still further difference in the packing aid portion (21) is that each side wall (9,29) is provided with two horizontal slots (46,48). These slots (46,48) are located about 8mm below the upper edge of the respective side wall (9,29), each slot (46,48) being aligned with a respective aperture through which a riser portion (15) passes.

[0035] A C-shaped piece of sheet metal (Fig. 3; 50), whose length is equal to the distance between the forward end of one of the forward slots (46) and the rearward end of the associated rearward slot (48), is provided with two lugs (52) which are placed in and which cooperate with the two horizontal slots (46,48) on the side walls (9,29) of the packing aid portion (21). Each of the lugs (52) is provided with a central aperture (54) through which a respective riser portion (15) passes. A helical spring (56) is located around each riser portion (15) and is compressed between the underside of the upper surface of the base portion (1) and the upper surface of the lug (52). The spring (56) urges the lug (52) downwardly, thereby causing the C-shaped piece to tilt inwardly and downwardly. In this configuration, the friction between the edges of the aperture (54) and the riser portion (15) is sufficient to hold the riser portion (15) in position. Grooves may be provided on the riser portion (15) in order to latch it into position. The lower end of each of the riser portions (15) is provided with a retaining washer (58) which prevents the riser portion (15) from being lifted clear of the apparatus.

[0036] The volume underneath the horizontal panel (20) and behind the front wall (22) is inaccessible to, and hidden from, a customer at the checkout. However, the volume is accessible to the checkout operator who works behind the horizontal panel (20). A shelf is provided in the checkout at a position about 400mm below the horizontal panel (20) and directly underneath the packing aid portion (21).

[0037] In order to load the apparatus, the checkout operator places a box of flat-packed bags (60) onto the shelf underneath the packing aid portion (21). A perforated connection (62) is provided between the bottom of the first bag (64) and the top of the subsequent bag (66). A similar connection is provided between each bag in the box and the one subsequent to it. Although the bags are shown as being flat-packed, it is to be appreciated that the bags may also be loaded onto a roll, in which case the bags supplied would be arranged similarly to those currently used for packing loose vegetables.

[0038] The first bag (64) is wound behind the lower fixed bar (36) by the operator and around the front of the moveable bar (42) before being taken behind the upper fixed bar (34). The first bag (64) is then pulled through the elongate slot (28) until a sufficient part of the bag (64) is exposed for a customer to be able to pull the bag upwardly through the slot (28). The operator may at this time adjust the height of the U-shaped members (2,3) by pressing the C-shaped plates (50) downwardly which serves to release the U-shaped members (2,3). The U-shaped members (2,3) can then be moved to the desired height and the C-shaped plates (50) released to maintain them in the desired position.

[0039] Preferably, the operator will move the riser portions (15) to such a height that on looping the handle apertures of the bag around the top of the U-shaped members (2,3), the perforated connection (62) with the following bag (66) in the stack will lie just above the upper surface of the base portion (1).

[0040] In use, the customer pulls the bag (64) which is protruding through the slot (28) directly, i.e. eventually upwards until he is able to loop the handle apertures of the bag (64) around the hook portions (16,17). It is to be noted that the purpose of the brushes (30,31) is to prevent the bags (64,66) being torn whilst this operation is carried out. Because the bag is being pulled vertically upwardly, the moveable bar (42) does not get pulled strongly towards the lower fixed bar (36) and the upward movement of the bag (64) is not impeded.

[0041] Once the customer has filled his bag as described in relation to Figure 1, he then grabs the handle portions of the bag and pulls the filled bag upwardly and forwardly away from the checkout operator, i.e. at a different angle to the vertical. It will be realised that the perforation (62) will be positioned at at least a small distance above the slot (28). Because the customer applies a force at an angle, the moveable bar (42) is pulled to the rearward end of the slots (38,40) until the subsequent bag (66) is clamped between the moveable bar (42) and the lower fixed bar (36). The customer then pulls the filled bag (64) sufficiently forcefully to break the perforated connection (62) between the filled bag (64) and the next bag (66), and, provided that the checkout operator has set the height of the U-shaped members (2,3) as described above, a small part of the following bag (66) will protrude through the slot (28). If it is required, the customer may then repeat the above operation until he has packed all his purchases.

[0042] In the previously described example, the system operates by virtue of the consumer drawing a bag vertically upwards while attached to a continuous vertical length or web of connected bags, looping the handles of the bag on to the hook supports so as to retain the bag in an open condition, filling the bag, and then

drawing the bag away from the horizontal table support at a different angle so that its lower end moves in a direction transverse to the original vertical disposition of the bag web so as to tear its lower end from the remainder of the web along the perforations while the cut-out protrusion engages bag material. The handles of the next bag are then available above the slot to be drawn upwards by the next consumer.

[0043] A further and simplified embodiment of the invention which is operated in the same way, will now be described by way of example with reference to Figures 4 to 8 of the accompanying drawings.

[0044] Referring back to Figure 2 and considering Figure 4, the original U-shaped supports 2 and 3 are each replaced by a single vertically extendable post 72, 73, each carrying at its upper end an inwardly directed spreader hook 74, 75 welded to the respective post 72 or 73. The upper surface plate of the slotted base unit 1 incorporates a brush strip seal 30, 31 as before, and above it is a further slotted plate 76. In the drawing the two plates are shown exploded or spaced, but in practice are closely adjacent.

[0045] The slot in the further slotted plate 76 has a cut-out shape incorporating an inwardly directed tongue 77. The locking bars 34, 36 and 42 of the Figure 2 embodiment are dispensed with, however the height of the hooks remains adjustable (if desired) by vertical movement of the posts to provide the correct height for the bags in use.

[0046] In use, a consumer starts at the condition shown in Figure 8 where the handles 78 of the bag are lying loose on the horizontal surface of the plate 76. He (or she) draws the bag vertically upwards as shown in Figure 5, and then loops the handles over the spreader hooks 74, 75 as shown in Figure 6.

[0047] Having filled the bag, the consumer then draws the bag away from the hook supports (see Figure 7) and owing to the weight of the filled bag, its lower end is dragged in a horizontal, or transverse, direction relative to the web supply and the protruding tongue 77 catches in the bag handle central aperture so that the perforated ends of the bag are torn through, the bag is released and the handles of the next bag are at the position shown in Figure 8.

[0048] Figures 9, 10, 11 and 12 then show details of operation of a third form of the invention.

[0049] The cut-out and bag supply is as before, however in place of the shaped tongue 77 in the cut-out to the plate 76, an additional L-shaped member 80 is attached to the upper part of a central region of the plate cut-out (see Figure 11) and is disposed opposite a brush strip. The handle members as before are slightly offset from the slot in the cut-out member 76 and the consequence is that after a bag has been lifted upwardly in direction A and placed on the handle holding support, and opened up to be filled, it can then be moved away from the cut-out plate so that, as the bag is lifted in the direction B, the L-shaped member engages material at the top of the next following bag and enables the filled bag to be detached. As can be seen, the co-operation between the brush strip and the cut-out ensure that handles of the next following bag do not slip back through the slot and are available to be hooked onto the handle supports.

[0050] Moreover it can be seen that direction A, usually 90° to the cut-out plate, and direction B, about 65° to the plate are different, to enable the two operations of dispensing a bag and detaching it to be accomplished.

Claims

1. An apparatus for aiding the packing of a plastic bag of the kind having two handle apertures, said apparatus comprising:

first handle holding means (2) arranged to accept one of said apertures, and dimensioned so as to hold open said one aperture on said acceptance;

second handle holding means (3) arranged to accept the other of said apertures, and dimensioned so as to hold open said other aperture on said acceptance;

said first and second handle holding means (2,3) being spaced apart by a distance substantially equal to the width of the bag and such that a clear volume in which the bag can be opened out is provided below the first and second handle holding means;

whereby, on the handles of an empty bag being placed around the handle holding means, the handle apertures are held open and the bag is supported in an open configuration in which goods may be packed into the bag,

characterised in that said apparatus is arranged for location within a check out counter having a horizontal counter-top,

and by provision of

plastic bag supply means (60) for carrying a strip of attached bags (64, 66) and which is arranged to be located below said counter, while said handle holding means (2, 3) are each located above said counter, and further **characterised by** a cut-out member which is located in the region of the counter top and defines a cut-out (28) which permits passage of a bag (64) upwards through the counter-top at a given angle to said counter-top for filling, and by bag flow control means (30, 31) located in close adjacency to said cut-out member, the arrangement being such that when a filled bag is pulled upwards at an angle which is different from said given angle to said counter top, the filled bag can be detached from the remainder of the strip of

bags, and in which said bag flow control means (30, 31) provides a temporary hold to the remaining strip of bags as the filled bag is detached.

2. An apparatus according to claim 1, wherein the strip of attached bags is engaged by the bag flow control means (30, 31).

3. An apparatus according to claim 1 or claim 2, in which said bag flow control means (30, 31) comprises at least one brush strip.

4. An apparatus according to any of claims 1 to 3, in which said cut-out member includes engagement means (77) which is located to engage a gap between successive bags so that when a filled bag is pulled upwards at said different angle the engagement means (77) engages bag material to permit detachment of the filled bag.

5. An apparatus according to claim 4, in which said engagement means (77) is located above the cut-out member.

6. An apparatus according to claim 4 or claim 5, in which said engagement means (77) is of C-shaped cross-section, having a lower limb which is arranged in close contiguity with a said brush strip (30, 31) and having an upper limb occupying a central region and arranged to engage bag material of a following bag when a filled bag is detached from said stop.

7. An apparatus according to any preceding claim in which the handle means (2, 3) are adjustable in height to accommodate bags of different height.

8. An apparatus according to any preceding claim in which the handle means (2, 3) are offset with respect to the cut-out (28) of the cut-out member.

9. An apparatus according to any preceding claim in which said bag flow control means (30, 31) is located above the cut-out.

Patentansprüche

1. Vorrichtung zum Helfen beim Packen eines Kunststoffbeutels der Art mit zwei Grifföffnungen, wobei die Vorrichtung umfasst:

ein erstes Griffhaltemittel (2), das zum Annehmen einer der genannten Öffnungen eingerichtet ist und solche Abmessungen aufweist, um die genannte eine Öffnung bei der genannten Annahme offen zu halten;

ein zweites Griffhaltemittel (3), das zum Annehmen der anderen der genannten Öffnungen eingerichtet ist und solche Abmessungen aufweist, um die genannte andere Öffnung bei der genannten Annahme offen zu halten;

wobei das genannte erste und zweite Griffhaltemittel (2, 3) in einem Abstand voneinander entfernt sind, der im wesentlichen gleich der Breite des Beutels und derart ist, dass ein freier Raum, in dem der Beutel nach außen geöffnet werden kann, unter dem ersten und zweiten Griffhaltemittel vorgesehen wird;
wodurch, wenn die Griffe eines leeren Beutels um die Griffhaltemittel platziert werden, die Grifföffnungen offengehalten werden und der Beutel in einer offenen Konfiguration gehalten wird, in der Waren in den Beutel gepackt werden können,
dadurch gekennzeichnet, dass die genannte Vorrichtung für Anordnung innerhalb eines Kassenladentischs mit einer horizontalen Ladentischoberseite vorgesehen ist,
und durch Vorsehen eines Kunststoffbeutelzuführmittels (60) zum Tragen eines Streifens befestigter Beutel (64, 66), das eingerichtet ist, um unter dem genannten Ladentisch angeordnet zu werden, während die genannten Griffhaltemittel (2, 3) jeweils über dem genannten Ladentisch vorgesehen sind, und weiter **gekennzeichnet durch** ein Ausschnittselement, das in dem Bereich der Ladentischoberseite angeordnet ist und einen Ausschnitt (28) definiert, der Durchgang eines Beutels (64) nach oben **durch** die Ladentischoberseite bei einem gegebenen Winkel zu der genannten Ladentischoberseite für Füllung ermöglicht, und **durch** Beutelflusssteuermittel (30, 31) angeordnet in dichter Nähe zu dem genannten Ausschnittelement, wobei die Anordnung derart ist, dass, wenn ein gefüllter Beutel bei einem Winkel nach oben gezogen wird, der anders als der genannte gegebene Winkel zu der genannten Ladentischoberseite ist, der gefüllte Beutel von dem Rest des Streifens von Beuteln gelöst werden kann, und bei dem das genannte Beutelflusssteuermittel (30, 31) einen zeitweiligen Halt für den restlichen Streifen von Beuteln liefert, wenn der gefüllte Beutel gelöst wird.

2. Vorrichtung nach Anspruch 1, bei der der Streifen befestigter Beutel durch das Beutelflusssteuermittel (30, 31) ergriffen wird.

3. Vorrichtung nach Anspruch 1 oder Anspruch 2, bei der das genannte Beutelflusssteuermittel (30, 31) wenigstens einen Bürstenstreifen aufweist.

4. Vorrichtung nach einem der Ansprüche 1 bis 3, bei der das genannte Ausschnittelement ein Eingriffs-

mittel (77) umfasst, das anordnet ist, um in einen zwischen aufeinanderfolgenden Beuteln vorhandenen Spalt einzugreifen, so dass, wenn ein gefüllter Beutel bei dem genannten anderen Winkel nach oben gezogen wird, das Eingriffsmittel (77) Beutelmaterial ergreift, um Lösung des gefüllten Beutels zuzulassen.

5. Vorrichtung nach Anspruch 4, bei der das genannte Eingriffsmittel (77) über dem Ausschnittelement angeordnet ist.

6. Vorrichtung nach Anspruch 4 oder Anspruch 5, bei der das genannte Eingriffsmittel (77) einen C-förmigen Querschnitt mit einem unteren Glied aufweist, das in dichter Nähe zu dem genannten Bürstenstreifen (30,31) angeordnet ist, und einem oberen Glied, das einen mittleren Bereich besetzt und ausgelegt ist, um Beutelmaterial eines folgenden Beutels zu ergreifen, wenn ein gefüllter Beutel von dem genannten Anschlag gelöst wird.

7. Vorrichtung nach einem vorhergehenden Anspruch, bei der die Griffmittel (2, 3) in ihrer Höhe einstellbar sind, um Beutel unterschiedlicher Höhe aufzunehmen.

8. Vorrichtung nach einem vorgehenden Anspruch, bei der die Griffmittel (2, 3) in Bezug zu dem Ausschnitt (28) des Ausschnittelements versetzt sind.

9. Vorrichtung nach einem vorhergehenden Anspruch, bei der das genannte Beutelflusssteuermittel (30, 31) über dem Ausschnitt angeordnet ist.

Revendications

1. Dispositif pour aider le remplissage d'un sac en plastique du type ayant deux ouvertures de poignée, ledit dispositif comprenant :

un premier moyen de retenue de poignée (2) disposé pour recevoir une desdites ouvertures, et dimensionné pour maintenir ouverte ladite une ouverture lors de ladite réception ;
un deuxième moyen de retenue de poignée (3) disposé pour recevoir l'autre desdites ouvertures, et dimensionné pour maintenir ouverte ladite autre ouverture lors de ladite réception ;

lesdits premier et deuxième moyens de retenue de poignée (2, 3) étant espacés par une distance substantiellement égale à la largeur du sac et de telle sorte qu'un volume vide dans lequel le sac peut être déployé soit fourni en dessous des premier et deuxième moyens de retenue de poignée ;

par lequel, lors du placement des poignées d'un sac vide autour des moyens de retenue de poignée, les ouvertures de poignée sont maintenues ouvertes et le sac est supporté en une configuration ouverte dans laquelle des marchandises peuvent être rangées dans le sac,

caractérisé en ce que ledit dispositif est agencé pour être placé à l'intérieur d'un comptoir de caisse enregistreuse ayant un dessus horizontal,

et par la fourniture d'un

moyen d'alimentation de sacs en plastique (60) pour porter une bande de sacs attachés (64, 66) et qui est agencé pour être placé en dessous dudit comptoir, tandis que lesdits moyens de retenue de poignée (2, 3) sont chacun placés au-dessus dudit comptoir, et **caractérisé en outre par** un élément découpé qui est situé dans la région du dessus de comptoir et définit une découpe (28) qui permet le passage d'un sac (64) vers le haut à travers le dessus de comptoir à un angle donné avec ledit dessus de comptoir pour le remplissage, et par un moyen de commande d'avancée de sacs (30, 31) placé à proximité dudit élément découpé, l'agencement étant tel que lorsqu'un sac rempli est tiré vers le haut à un angle qui est différent dudit angle donné avec ledit dessus de comptoir, le sac rempli puisse être détaché du reste de la bande de sacs, et dans lequel ledit moyen de commande d'avancée de sacs (30, 31) assure une retenue temporaire sur la bande restante de sacs quand le sac rempli est détaché.

2. Dispositif selon la revendication 1, dans lequel la bande de sacs attachés est engagée par le moyen de commande d'avancée de sacs (30, 31).

3. Dispositif selon la revendication 1 ou la revendication 2, dans lequel ledit moyen de commande d'avancée de sacs (30, 31) comprend au moins une réglette de balais.

4. Dispositif selon l'une quelconque des revendications 1 à 3, dans lequel ledit élément découpé comporte un moyen d'engagement (77) qui est placé pour engager un écart entre des sacs successifs de telle sorte que lorsqu'un sac rempli est tiré vers le haut selon ledit angle différent le moyen d'engagement (77) engage la matière de sac pour permettre le détachement du sac rempli.

5. Dispositif selon la revendication 4, dans lequel ledit moyen d'engagement (77) est placé au-dessus de l'élément découpé.

6. Dispositif selon la revendication 4 ou la revendication 5, dans lequel ledit moyen d'engagement (77) est de coupe transversale en forme de C, ayant un membre inférieur qui est placé à une position con-

tiguë à une dite réglette de balais (30, 31) et ayant un membre supérieur occupant une région centrale et disposé pour engager la matière de sac d'un sac suivant quand un sac rempli est détaché dudit arrêt.

7. Dispositif selon l'une quelconque des revendications précédentes, dans lequel les moyens de poignée (2, 3) sont réglables en hauteur pour accepter des sacs de hauteurs différentes.

8. Dispositif selon l'une quelconque des revendications précédentes, dans lequel les moyens de poignée (2, 3) sont décalés par rapport à la découpe (28) de l'élément découpé.

9. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit moyen de commande d'avancée de sacs (30, 31) est placé audessus de la découpe.

FIG. 1

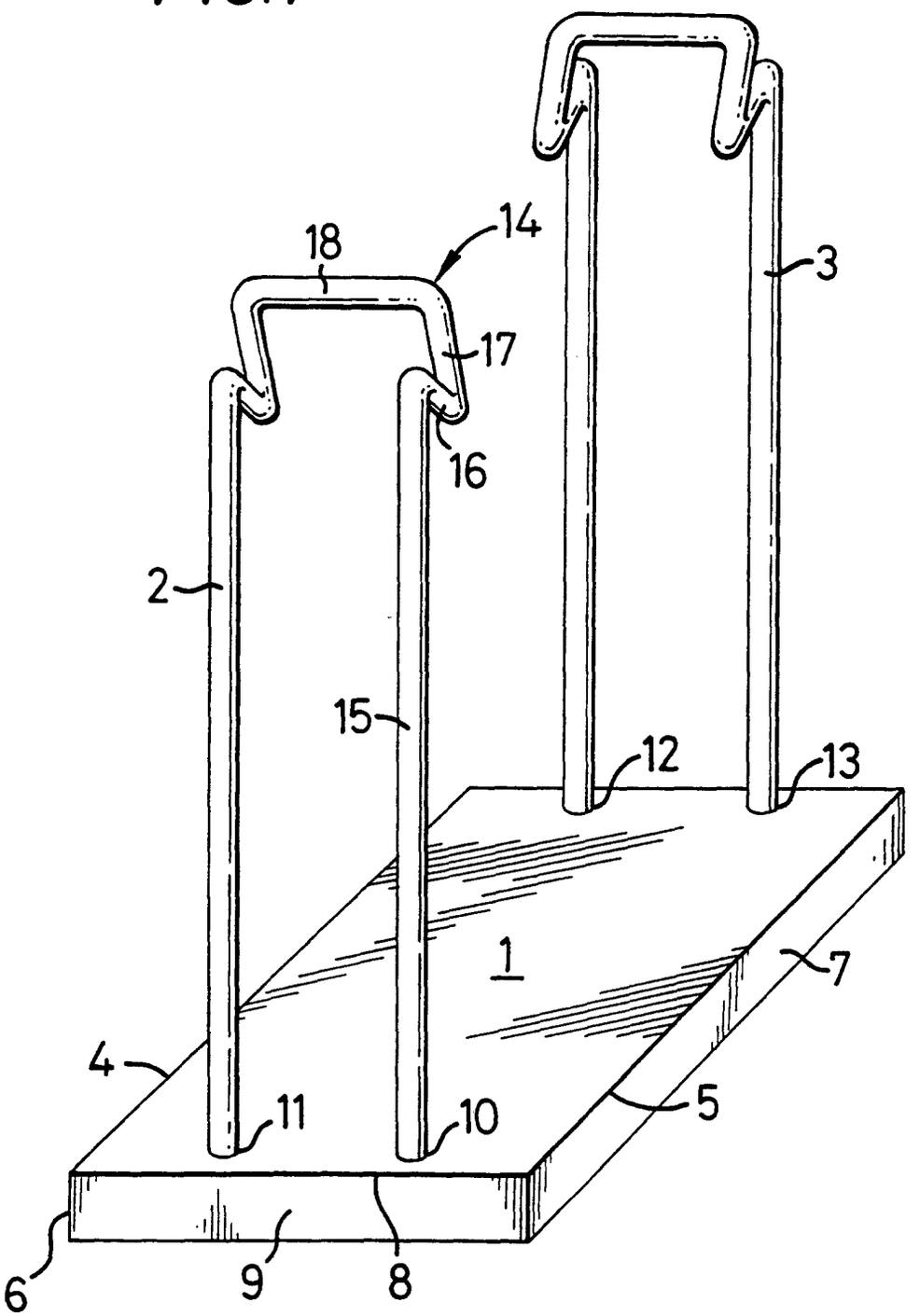


FIG. 2

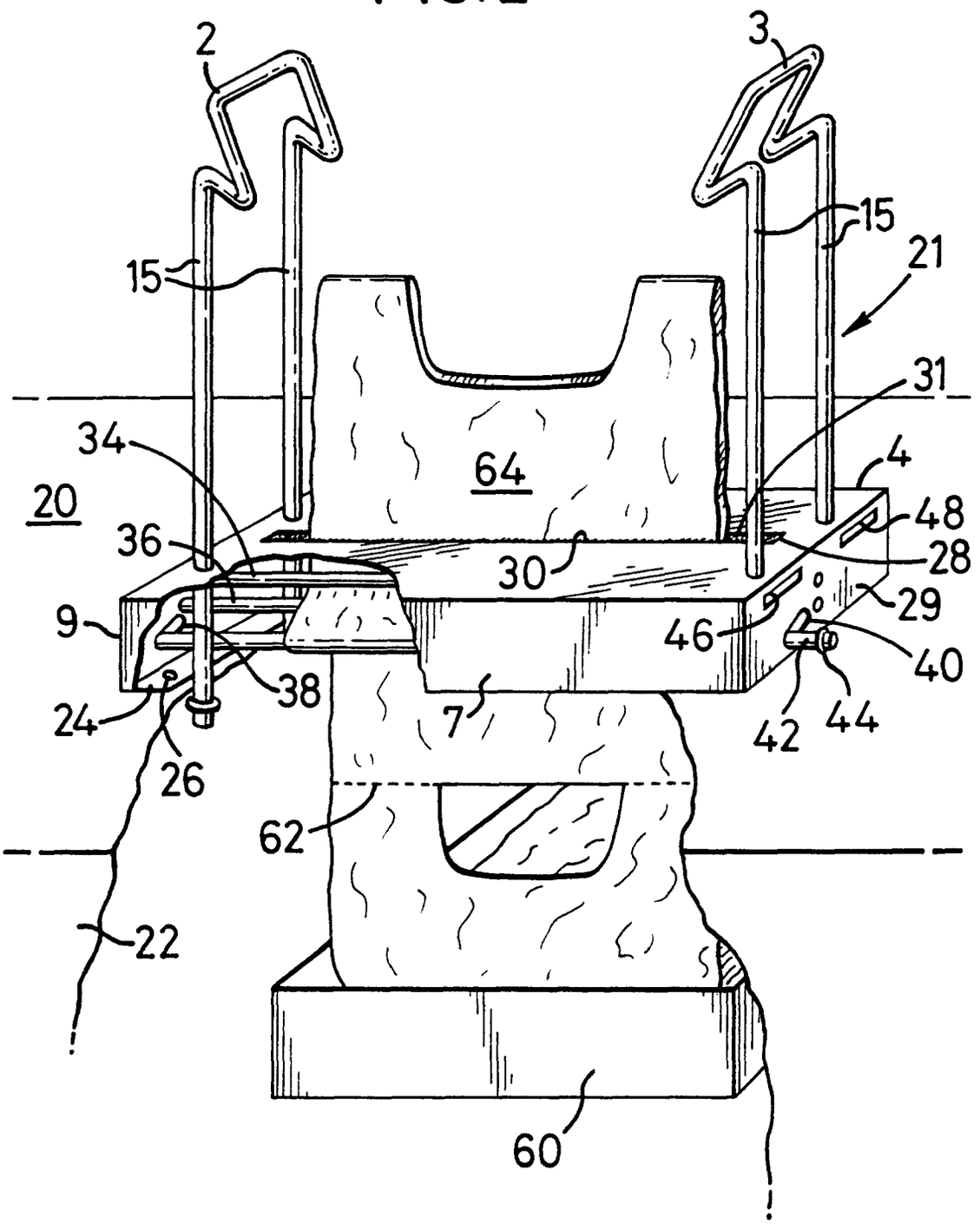
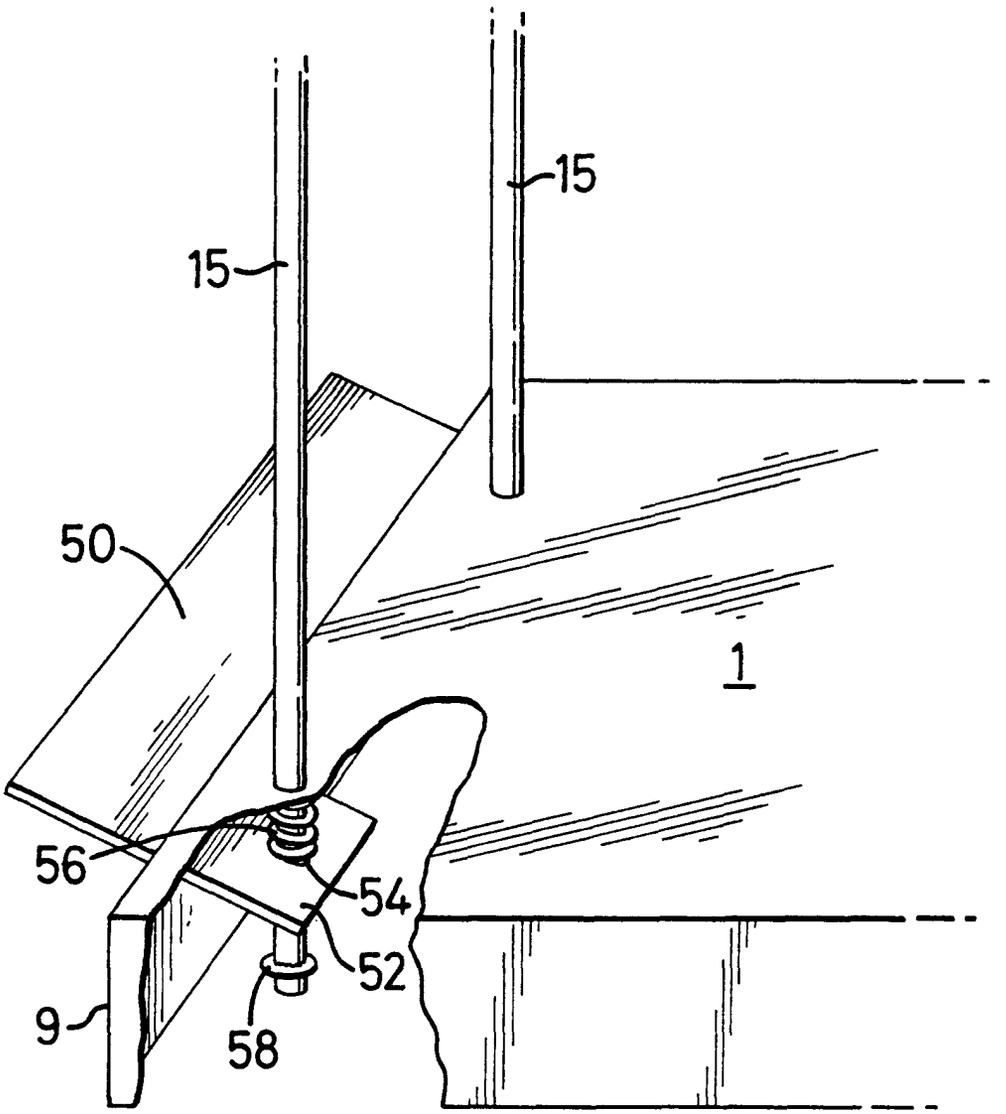


FIG.3



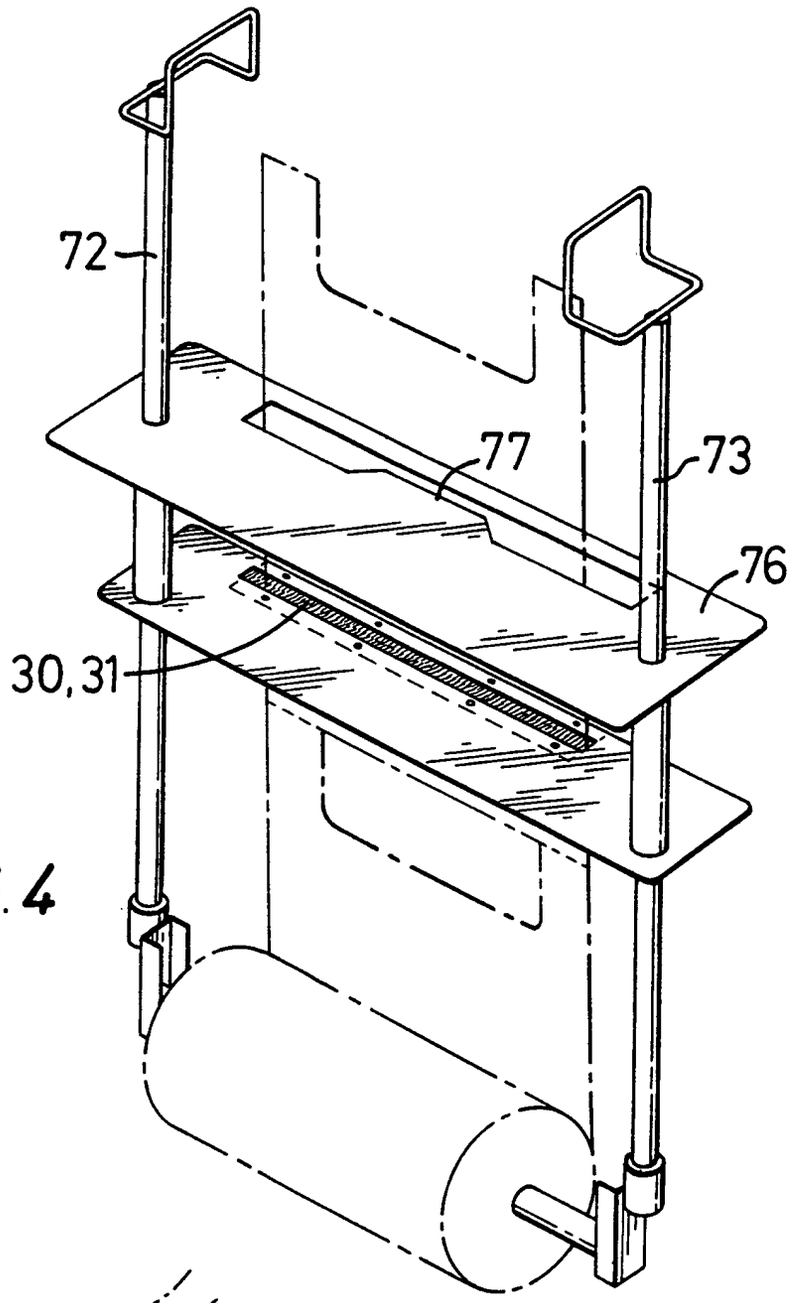


FIG. 4

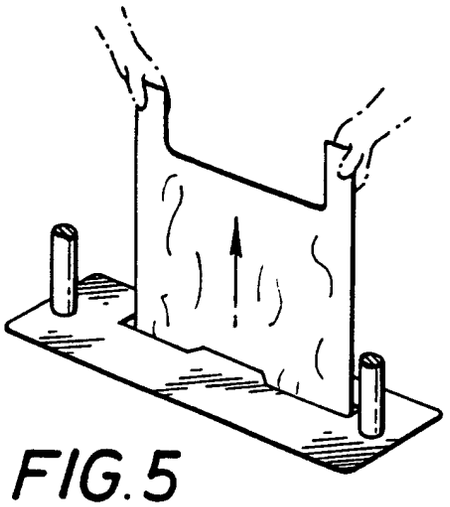


FIG. 5

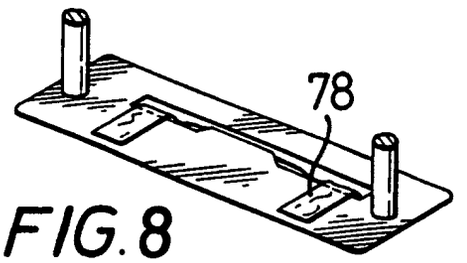


FIG. 8

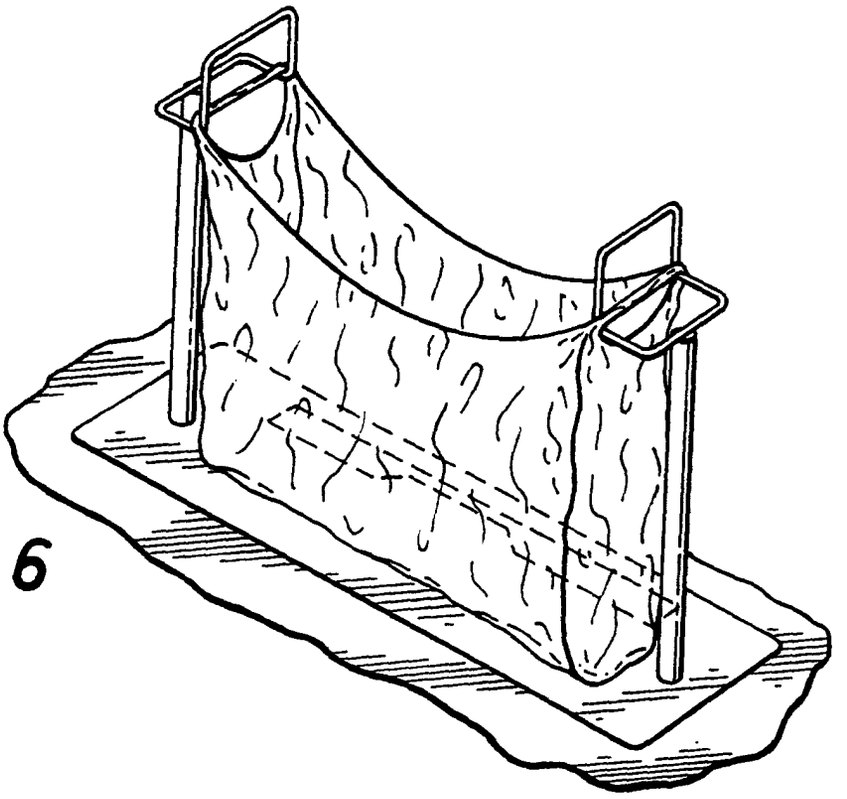


FIG.6

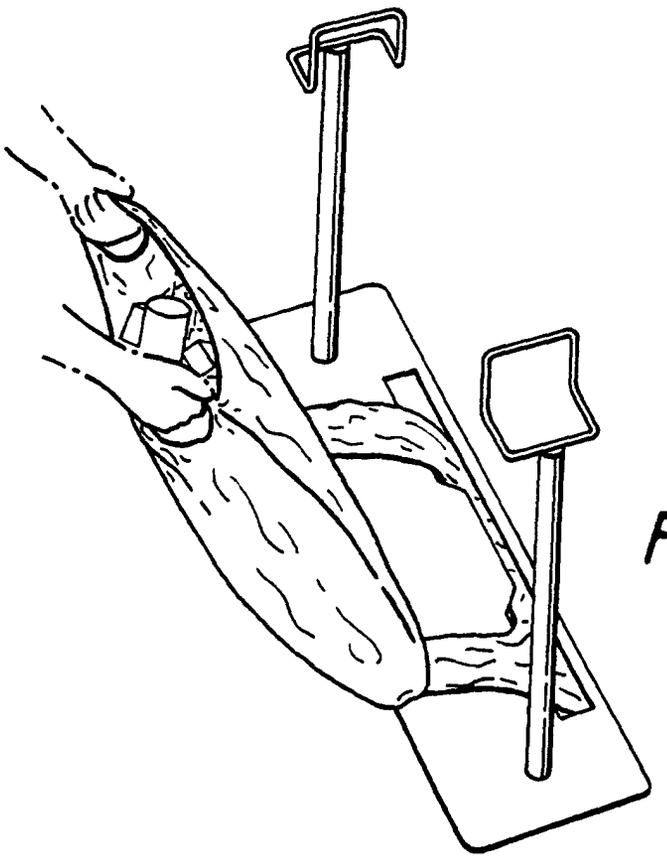
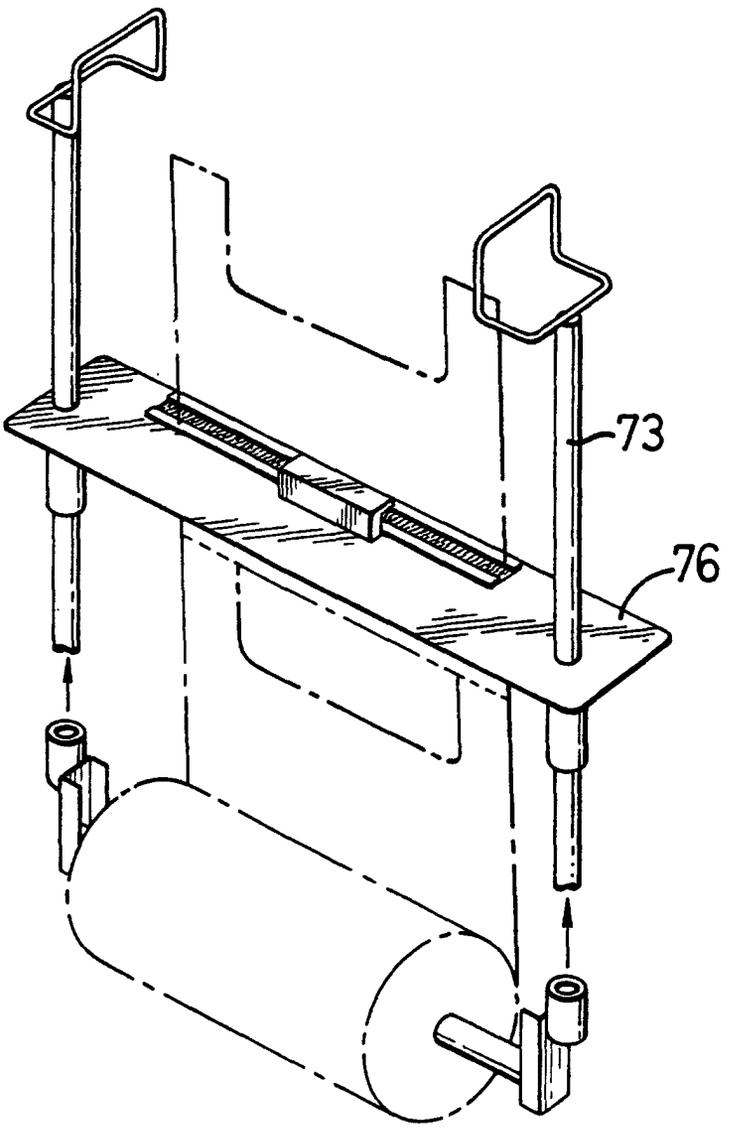


FIG.7

FIG.9



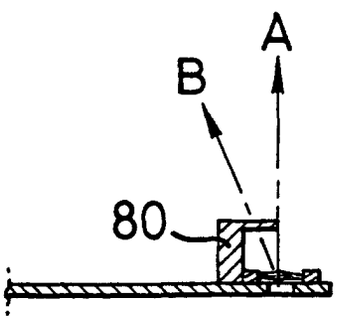


FIG.10

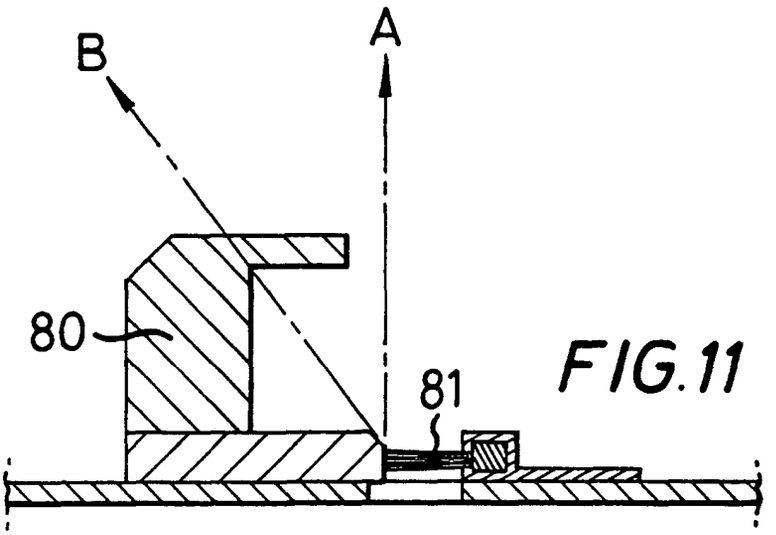


FIG.11

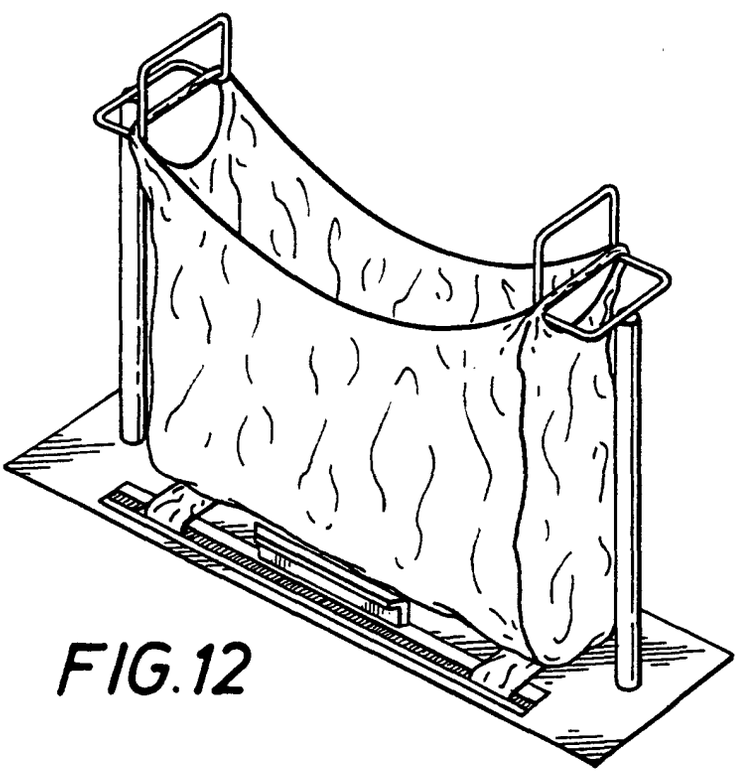


FIG.12