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(54) Check-out counter for supermarkets and similar.

(57) An equipment suitable to act as check-out counter in supermarkets and similar, which essentially comprises a counter (1) interposed between a conveyor belt (2) and a set of discharging rolls (3), which lodges an automatic apparatus for manufacturing bags whose feeding opening corresponds to a hopper (7) placed on the upper plane of the counter (1) and whose discharging outlet corresponds to an opening (19) of the counter perfectly aligned to the set of rolls (3). The upper plane of the counter includes also a scanner (5) and a keyboard (6) for identifying the items before introducing them in the hopper (7).

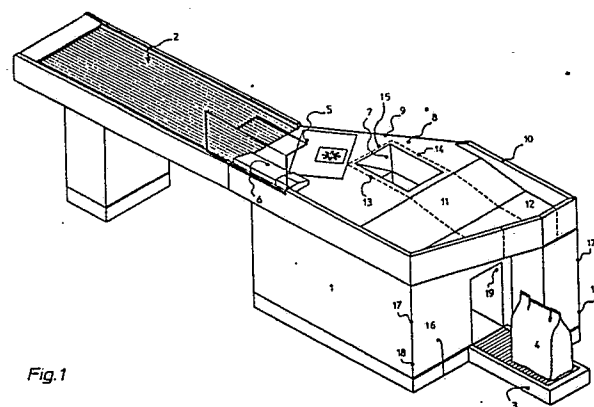


Fig.1

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CHECK-OUT COUNTER FOR SUPERMARKETS AND SIMILAR

The present invention relates to a check-out counter characterized in that it has internally a room suitable to contain an automatic apparatus for manufacturing on site plastic bags starting from a film roll.

Several check-out counters for supermarkets are already known, which are particularly designed with the view to meet the needs of the customer going out of the supermarket, or the ones of the cashier who has to check the goods purchased by the customer and give him the bill.

Usually the purchased items are placed by the customer or by an assistant of the cashier in a plastic bag which is put at customer's disposal free of charge.

An apparatus for packing automatically different goods into custom-sized plastic bags and on-site manufactured at supermarket check-out counters, was recently invented and is the subject of the Italian patent application No. 19462 filed on February 23, 1987 by the same applicant. Again by the same applicant has been filed the Patent application No. 19327 A/88 on February 5, 1988, relating to a fully self-service check-out counter incorporating an integrated apparatus for on demand manufacturing of custom-sized bags conforming to the volume of articles received therein.

The presently known check-out counters are not suitable to house and incorporate the apparatuses described in the above mentioned Patent applications.

It is therefore an object of the present invention to provide a check-out counter structured to house and integrate the new above mentioned apparatuses. Another object of the present invention is to provide a check-out counter designed in the best way under both the functional and the ergonomic point of view.

These and other objects of the present invention will be evident to the skilled in this art from the following detailed disclosure of an embodiment thereof, with reference to the enclosed drawings wherein:

FIGURE 1 shows a prospective view of the check-out counter seen by the customer's side;

FIGURE 2 shows a prospective view of the same counter seen by the cashier's side.

Referring to **FIGURE 1** it is shown that the check-out counter according to the present invention, essentially consists of a counter 1 having inside a room suitable to house an apparatus for manufacturing bags of the above mentioned kind, which is interposed between a conveyor belt 2 capable of carrying towards the cashier the items purchased by a customer and the rolls 3 capable

of putting at the customer's disposal one or more bags containing the items purchased by him. The counter 1 is provided on the upper part also with a plane with a scanner surface 5 for identifying the purchased goods, a keyboard 6 for the digital identification of the items not identifiable by the scanner 5, a hopper 7 to introduce the purchased items in the underneath apparatus for manufacturing bags, and a plane 8 of stainless steel for the running of the items not suitable to be introduced in the hopper 7.

Either the conveyor belt 2 or the rolls 3 are of an already known kind and therefore do not need further description. The counter 1, beside housing inside the apparatus for manufacturing bags (not visible), has a room to lodge the scanner of which in the figure just the upper surface 5 is visible. The location of the scanner is appropriately placed between the terminal part of the conveyor 2 and the hopper 7, so that the item to be identified on the scanner and then to be introduced in the hopper 7, follows the shortest path in order to save time and tire less the cashier. The keyboard 6 is also within the range of the cashier, thanks to the fact that the side 9 of the counter 1 is placed diagonally with regard to the side 10 which is parallel to the long side of the conveyor belt 3.

The plane 8 is preferentially in stainless steel in order to consent an easy running of the items which, as they cannot be introduced in the hopper 7, are taken away by the customer in the usual way. To make this running easier the plane 8 has an inclined part 11, which ends in a collecting portion 12. Also the four inclined sides which define the hopper 7 are preferentially in stainless steel. The top plane of the counter 1 has the cuts 13, 14 and 15, shown by hatched lines in the figure, the cut being linked to the rest of the equipment by an hinge (not visible). Thanks this structural arrangement, the part of the top plane included among the cuts 13, 14 and 15, can be easily raised up to allow, when necessary, a quick extraction of the bag forming apparatus from inside the counter 1. This extraction operation is allowed also by the fact that the vertical lateral side 16 of the counter 1 is movable being linked to the rest of the counter by hinges 17 and 18. The side 16 has the opening 19 in correspondence of the ejection mouth of the full bags 4 from the bag forming apparatus placed inside the counter 1. The set of rolls 3 is perfectly aligned with the said hole 19. For a greatest convenience in extracting the apparatus from inside the counter 1 it is preferable to structure the side 16 into two parts and to provide with second couple of hinges 17', 18' the opposite

corner of the counter; in this way the side 16 can be opened centrally in form of two doors of reduced dimensions instead of a single, more cumbersome door.

With reference to Figure 2 we can see that under the scanner 5 the counter 1 has a recess which gives the proper room for the legs of the cashier when she is in a sitting position. Another recess 21 adjoining the previous one, improves the ergonomics of the counter, furnishing free room for the feet of the cashier when she is not sitting, consenting her to reach with her hands the farthest areas of the plane 8.

The check-out counter according to the present invention can be properly completed with additional elements which can improve its use and/or appearance. For example an addition could be the one of a transparent side 22 placed on the front of the counter in correspondence of the keyboard 6 so to avoid that it could be accidentally touched by the customers who pass in front of the check-out counter. The side 22 can be appropriately shaped so as to have on the top an horizontal plane 23 which, beside giving more protection to the keyboard 6, gives a convenient bearing surface for coins at the payment stage.

Further additions and/or changes can be introduced by those skilled in the art remaining within the scope of the invention, taking into account that the embodiment herein described and illustrated in the enclosed drawings, is to be considered just as an example and not a limitation of the invention.

Claims

1. Check-out counter for supermarkets and similar characterized in that it comprises a counter (1) interposed between the conveyor belt (2) and the discharging set of rolls (3), said counter being apted to house and integrate an apparatus for manufacturing bags whose feeding opening corresponds to a hopper (7) placed on the top plane of the counter and whose discharging outlet corresponds to an opening (19) of the counter perfectly aligned with the set of rolls (3).
2. Check-out counter according to claim 1, characterized in that the counter (1) has on the upper part also a scanner whose top surface (5) is coplanate to the top plane (8) of the counter (1).
3. Check-out counter according to the claim 1 or 2, characterized in that the counter (1) has on the upper part a keyboard (6) to identify the items not identifiable through the scanner.
4. Check-out counter according to claims 1 to 3, characterized in that the upper plane (8) is made by stainless steel and has cuts (13,14 and 15) which define a raiseable door linked with a hinge to

the left plane (8).

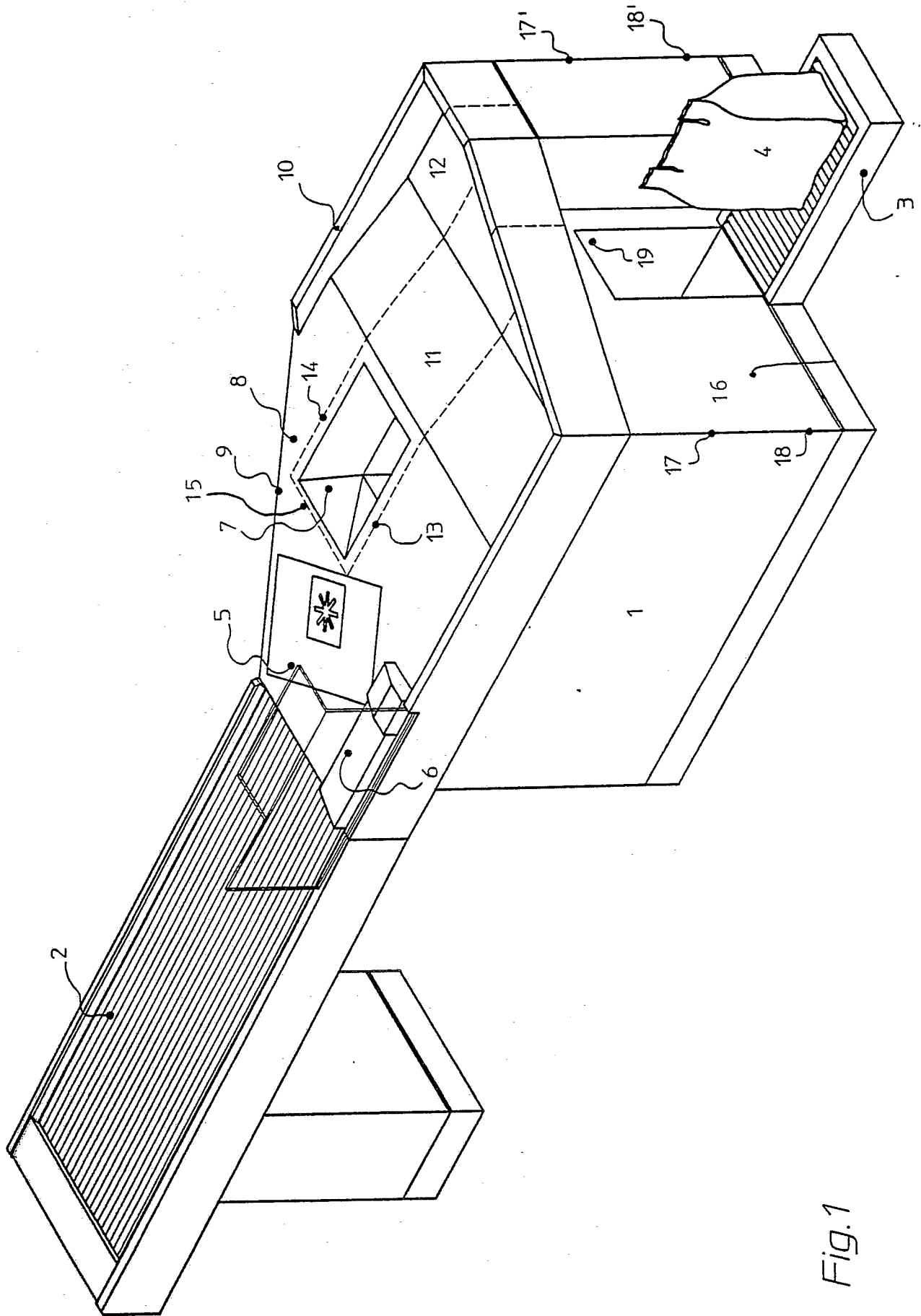
5. Check-out counter according to claims 1 to 4, characterized in that the vertical side placed in correspondence of the set of rolls (3) is linked through hinges (17,18) to a corner of the counter so to be opened like a door.

6. Check-out counter according to claims 1 to 5, characterized in that the distance between the hopper (7) and the scanner (5) is less than 40 cm.

7. Check-out counter according to claims 1 to 6 characterized in that it has under the scanner a recess (20).

8. Check-out counter according to claims 1 to 7, characterized in that it has a recess (21) adjacent to the recess (20).

9. Check-out counter according to claims 7 and 8, characterized in that both the recesses (20 and 21) are placed under the upper plane (8) in correspondence to the side (9) which diagonally links a side of the conveyor belt (2) to the parallel side (10) of the counter (1).



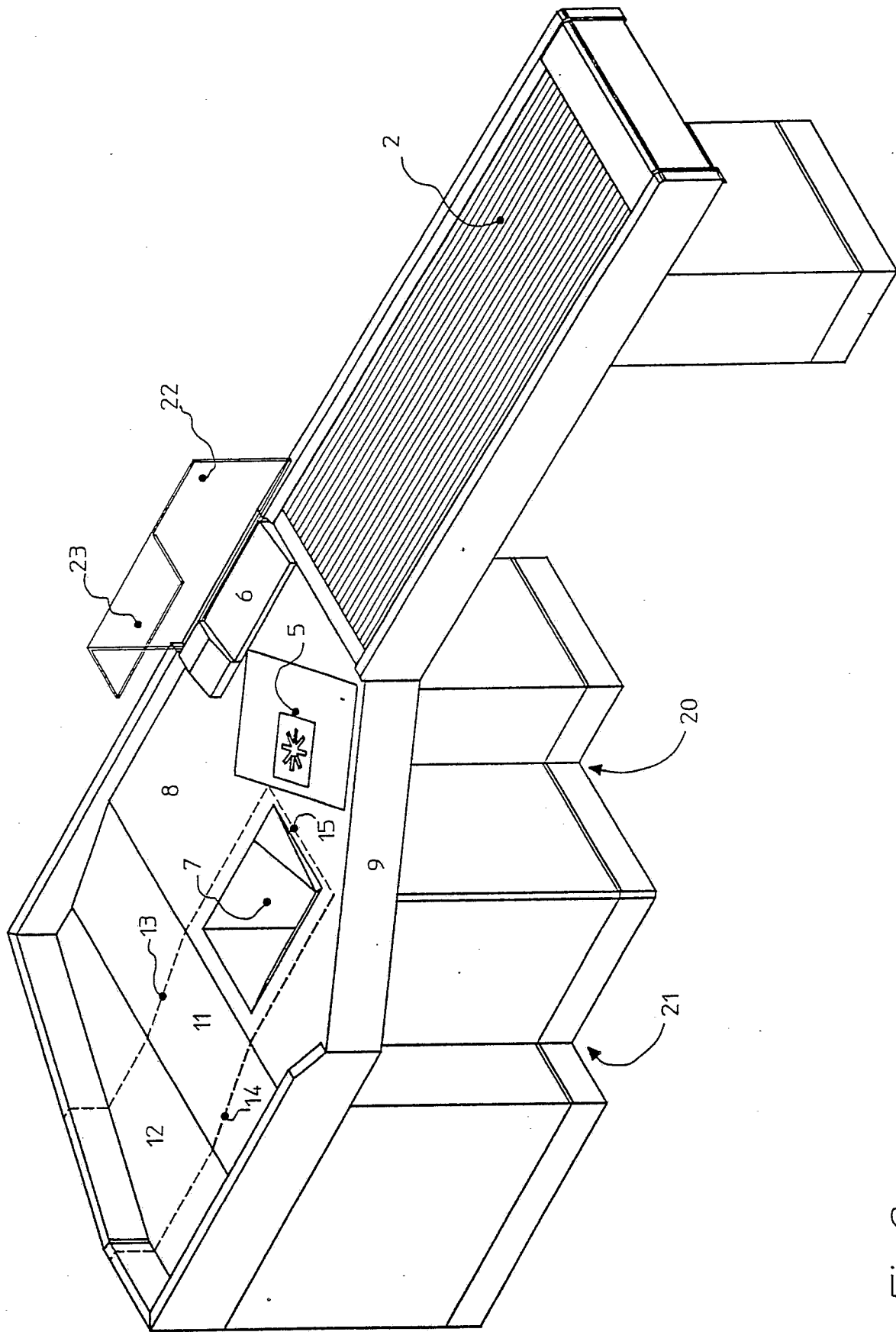


Fig.2



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 239 447 (ALSER S.A.) * Column 1, lines 1-17; column 3, lines 11-38; column 4, lines 13-16; column 5, lines 15-27; column 6, line 57 - column 7, line 10; figures 2,7 * ----	1,2,3,6	A 47 F 9/04
A	AU-B- 531 636 (LANGEN) * Summary on page 5; figure 1 * ----	1-9	
A	EP-A-0 284 451 (S.A. DES MARCHES USINES) ----		
A	US-A-4 061 205 (MUSSEY) -----		
The present search report has been drawn up for all claims.			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 47 F B 65 B
Place of search THE HAGUE		Date of completion of the search 27-12-1989	Examiner DE GROOT R.K.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			