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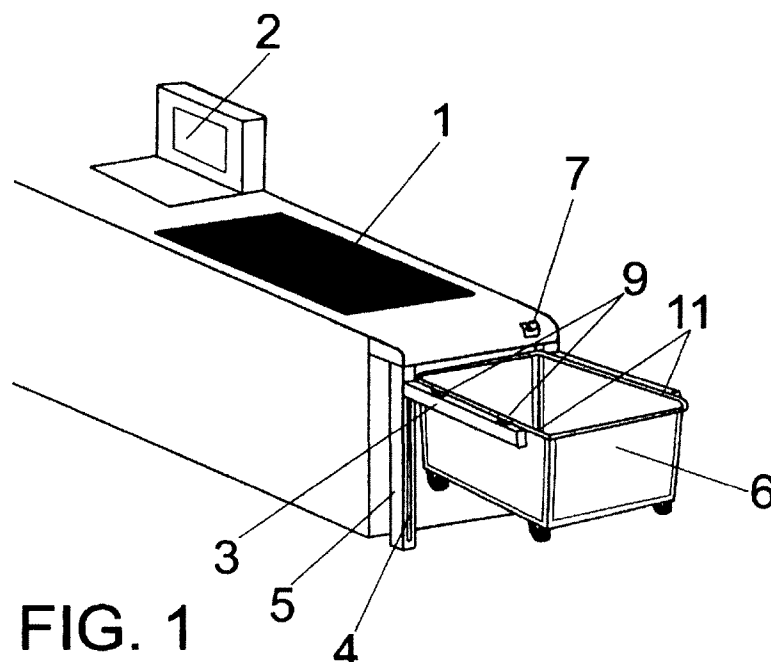
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(54) Shopping basket lift in supermarkets and such like

(57) Shopping basket lift in supermarkets and such like which is provided to facilitate the tasks of positioning the products acquired in a supermarket or another similar establishment, on the corresponding conveyer belt established for this purpose in correspondence with the checkout counters. Said lift is formed from two horizontal and side arms (3) wherebetween is positioned the basket (6) to lift, the arms are mounted with ascending/descending character on different struts (5) provided in front of

the conveyer belt (1) to the checkout counter, said arms having T-shaped profiles (9) whereon the horizontal branch is mounted articulately on a ball-joint of the vertical branch to be positioned under the upper perimeter edge (11) of the basket and achieve the lifting and/or lowering thereof by ascending/descending movement of the side arms, all associated to the manual actuation button (7) to perform the actuation of the support arms of the shopping basket.

**FIG. 1****EP 2 923 615 A1**

Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a shopping basket lift in supermarkets and such like, specifically designed so that when the basket is positioned in front of the conveyer belt of the checkout counter whereon the products must be positioned, said basket is raised to the height of the conveyer belt and allows the user to remove said products from the basket and position them on the conveyer belt, without the need to bend down, and without the need to place the basket on the conveyer belt.

[0002] The object of the invention is to facilitate the task of placing the products acquired in a supermarket or another similar establishment, on the corresponding conveyer belt positioned in correspondence with the checkout counter, avoiding that the customer or buyer has to bend down every time he wants to remove a product to be placed on the conveyer belt.

[0003] The basket lift is applicable in supermarkets and in general in any purchasing space wherein products are acquired and are stored in baskets that the establishment provides so that the buyer or customer carries all their products together in each basket until the checkout counter.

BACKGROUND OF THE INVENTION

[0004] Numerous and varied shopping basket lifting systems are known in supermarkets and similar purchasing spaces, in said sense, to cite an example, there is patent of invention with publication number 2362842 which refers to an electric shopping basket lift which makes it possible to mechanically lift the load, i.e. the products acquired in the establishment to the level of the conveyer belt positioned in correspondence with the checkout counter.

[0005] The lift disclosed in that patent of invention comprises a platform positioned at ground level and located at the ends of the tables or conveyer belts of the checkout counter, a platform which is complemented with two toothed belts, two rollers, an electric motor and a stabilizing structure of the assembly, it being possible to use a cylinder-based pneumatic cylinder or an adapted hydraulic system instead of electric operation.

[0006] In any case, the lift disclosed in that patent of invention 2362842, although not complex, is expensive to manufacture and implement, since it requires a platform, toothed belts, rollers, an electric motor and a stabilizing structure, all of which involves a high cost, as well as an added cost in the assembly and installation of the system.

DESCRIPTION OF THE INVENTION

[0007] The basket lift which is claimed has a series of characteristics which lead to improvements compared to

conventional lifts, as it is materialized in a structurally simple lift, which is easy to install and of very reduced cost, without for this reason losing its functionality.

[0008] More particularly, the basket lift of the invention is formed from two side arms wherebetween is positioned the basket which must be lifted and the side arms of which are actuated through a button, for their lifting and lowering through corresponding guides provided on fixed struts situated in front of the conveyer belt of the checkout counter, with the special characteristic that the side arms incorporate T-shaped profiles the upper or transversal branch of which is mounted articulately in tilting manner, both in left and right direction and in up and down direction, i.e. tilting in any direction, to be adapted and fastened under the perimeter edge that shopping baskets used in supermarkets and similar establishments have, so that once these profiles are positioned under the perimeter edge of the basket, the arms are actuated for their lifting and corresponding lifting of the basket until reaching the height of the conveyer belt whereon it must be positioned.

[0009] In a variant of embodiment, the side arms may be formed by a simple U-shaped fork, positioned horizontally, formed by two parts telescopically coupled through their intermediate branch with the aim of increasing or decreasing the width of the side branch of said fork and thus adapting to the width of the basket to lift, said two parts being adjustably joined by a common strip so that on the side branches they will fulfil the same function as the aforementioned arms wherein the T-shaped profiles shall be positioned to fasten and support the basket in its lifting and lowering.

DESCRIPTION OF THE DRAWINGS

[0010] To complement the description being made and in order to aid towards a better understanding of the characteristics of the invention, in accordance with a preferred example of practical embodiment thereof, a set of drawings is attached as an integral part of said description wherein, with illustrative and non-limiting character, the following has been represented:

Figure 1.- Shows a representation corresponding to a general perspective view of the shopping basket lift made in accordance with the object of the invention, with a basket in lifted position disposed in front of a conveyer belt whereon the products acquired have to be deposited and whose belt can be seen to correspond to a checkout counter.

Figure 2.- Shows a side view of the initial positioning phase of the basket for its lifting.

Figure 3.- Shows a view like that of the previous figure but with the basket already lifted to the height of the conveyer belt whereon the products have to be deposited.

Figure 4.- Shows a view like that of the previous figure with protective side rails to avoid the obstructing of the operation or lifting and lowering movements of the basket.

Figure 5.- Shows a top plan view of the assembly represented in the previous figure with the basket in the situation of being placed on the lift.

Figure 6.- Shows, finally, a perspective view of a variant of embodiment wherein the two arms of the lift are constructed by the side branches of a U-shaped fork with two telescopically intercouplable parts to thus allow varying the width of said side branches and therefore adapting to any width of basket of those used in supermarkets and such like.

PREFERRED EMBODIMENT OF THE INVENTION

[0011] As can be seen in said figures, the shopping basket lift object of the invention, designed to be positioned in front of a product conveyer belt (1), facing a checkout counter (2), comprises a pair of horizontal arms (3) mounted displaceably upward and downward on the guides (4) provided for said purpose on respective vertical struts (5) fixed in front of the conveyer belt (1), so that the corresponding basket (6) with the products acquired in the establishment is positioned between the arms (3) with a downward position thereof, so that when the basket (6) is positioned as represented in figure 2, a button (7) is actuated, which, through a motor or similar (8), entails the lifting of the arms 3 with the basket (6), until reaching the height of the conveyer belt (1) as represented in figure 3, allowing the user, i.e. the customer or buyer, to place the products acquired in this conveyer belt without any type of problems of having to bend down as traditionally occurs, the positioning operation of the products acquired on the conveyer belt (1) also being faster, simpler and more effective.

[0012] The lifting of the basket (6), by the arms (3) or lowering, depending on whether said arms (3) are raised or lowered, is achieved based on T-shaped profiles (9) which are mounted horizontally on the upper part of the arms (3), so that those T-shaped profiles (9) have their vertical branch equipped with a ball-joint whereon is articulated the horizontal branch, all so that the horizontal upper branch of the T-shaped profiles (9) are situated under the upper perimeter edge (11) that the baskets (6) used in shopping establishments normally have, performing the lifting and lowering with great ease, in addition to facilitating that operation as a consequence of the joint or ball-joint that the vertical branch (9') and the horizontal branch (9'') of the T-shaped profile (9) has.

[0013] It should be stated that a limiter (12) has been provided in front of the conveyer belt (1) to position the basket in the right place, i.e. it moves until said basket (6) makes contact with the limiter (12) and is thus positioned to be lifted by the arms (3), as also represented

in figures 2 and 3, side protection rails (13) can also be positioned, as represented in figures 4 and 5, where between the basket (6) is perfectly protected once positioned in its place for its lifting and lowering, thus avoiding coming into contact with the lift assembly.

[0014] In a variant of embodiment shown in figure 6, the arms (3) can be replaced by a U-shaped fork, the side branches (3') of which are equivalent to the aforementioned arms (3), side branches (3') which have orifices (14) for the mounting of the corresponding T-shaped profiles (9) shown in figure 2, the intermediate branch of that fork lift being formed by two intercouplable and adjustable sections (15) and (16), since they will be telescopic and one of them will have orifices (17) and the other a groove (18) in order to, via a strip (19) and appropriate rods or screws, be able to fix both sections (15) and (16) in the most convenient manner so that the arms or side branches (3') are positioned with a greater or lesser width always adaptable to the width of the basket (6).

Claims

1. Shopping basket lift in supermarkets and such like, designed to facilitate the tasks of positioning the products acquired in a supermarket or another similar establishment, on the corresponding conveyer belt established for this purpose in correspondence with the checkout counters, **characterized in that** it is formed from two horizontal and side arms wherebetween is positioned the basket to lift, the arms whereof are mounted with ascending/descending character on different struts provided in front of the conveyer belt to the checkout counter, said arms having profiles whereon the horizontal branch is mounted articulately on a ball-joint of the vertical branch to be positioned under the upper perimeter edge of the basket and achieve the lifting and/or lowering thereof by ascending/descending movement of the side arms, all associated to the manual actuation button to perform the actuation of the support arms of the shopping basket.
2. Shopping basket lift in supermarkets and such like, according to claim 1, wherein the vertical struts positioned in front of the conveyer belt have guides for the ascending/descending movement of the horizontal side arms, support of the shopping basket.
3. Shopping basket lift in supermarkets and such like, according to the preceding claims, wherein the side lifting arms for lowering the shopping basket can form the side branches of a U-shaped fork, the intermediate branch of which is formed by two intercouplable sections which can be fixed with adjustable nature to establish an adjustment in the separation between both side branches of the fork.

4. Shopping basket lift in supermarkets and such like, according to the preceding claims, wherein side protection rails are optionally included.

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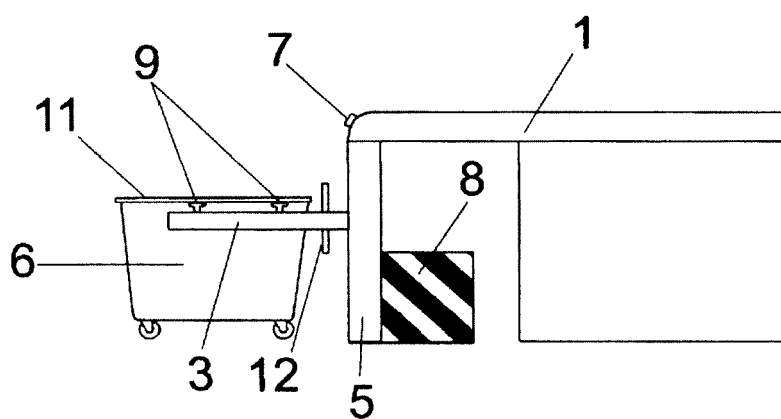
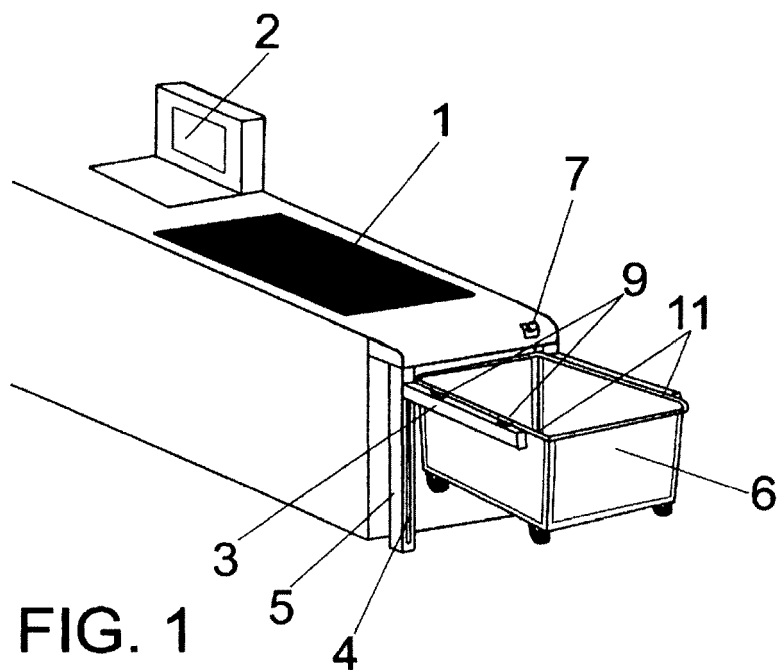


FIG. 2

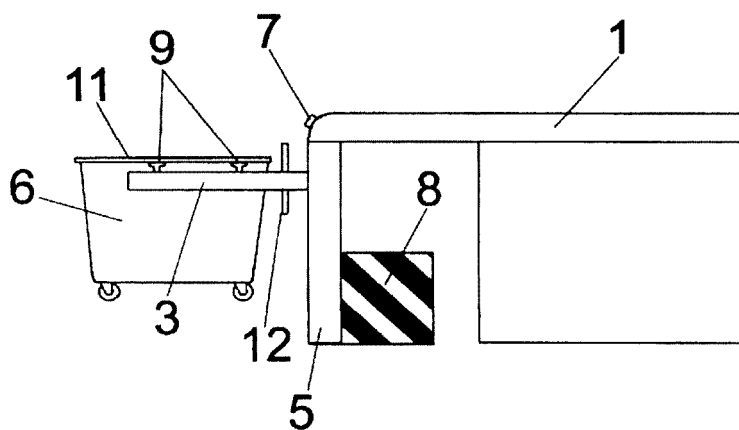


FIG. 3

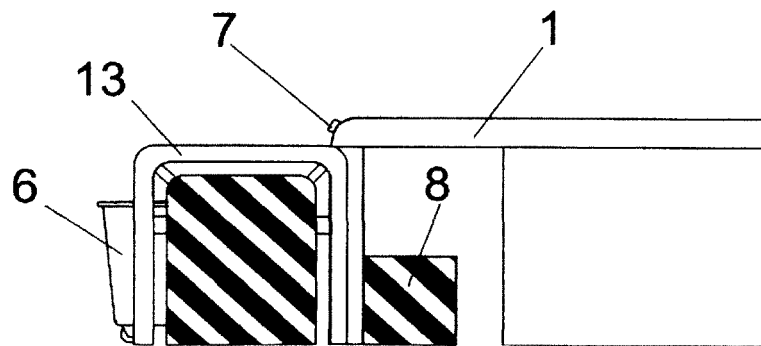


FIG. 4

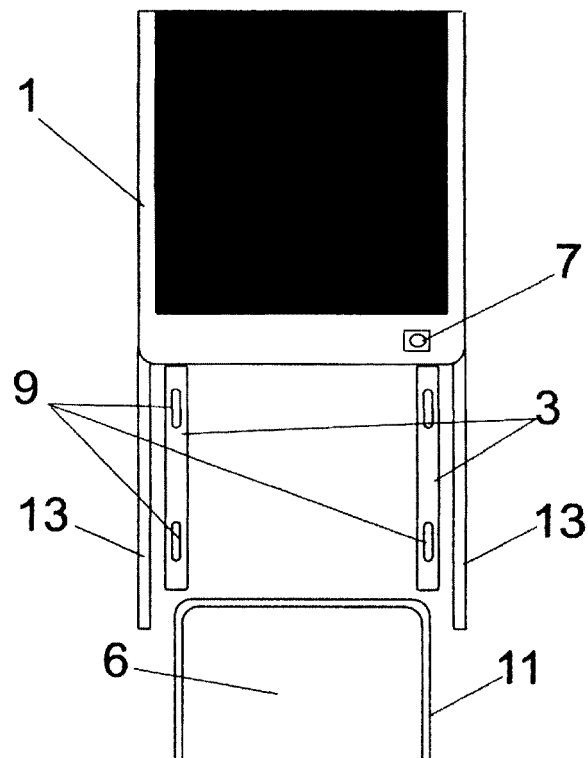


FIG. 5

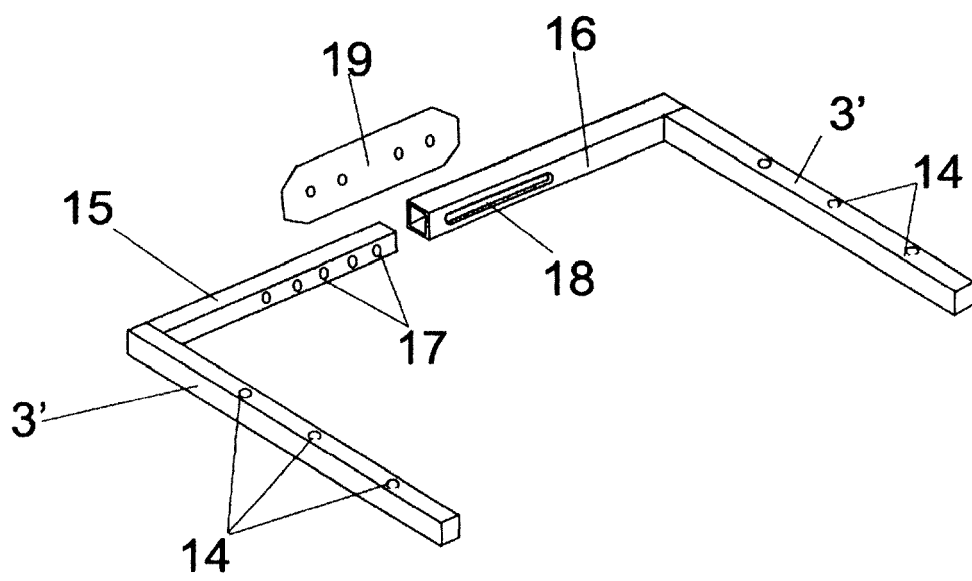


FIG. 6



EUROPEAN SEARCH REPORT

Application Number
EP 15 38 0010

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 12 August 2015	Examiner van Hoogstraten, S
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	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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