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TRAY STRUCTURE FOR TELESCOPING CARTS

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2 Sheets-Sheet 1

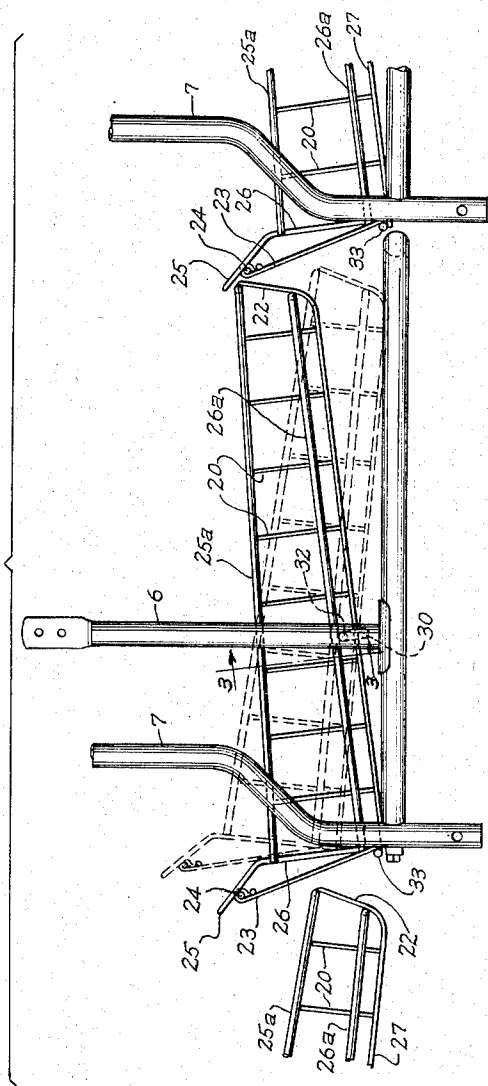


Fig. 1

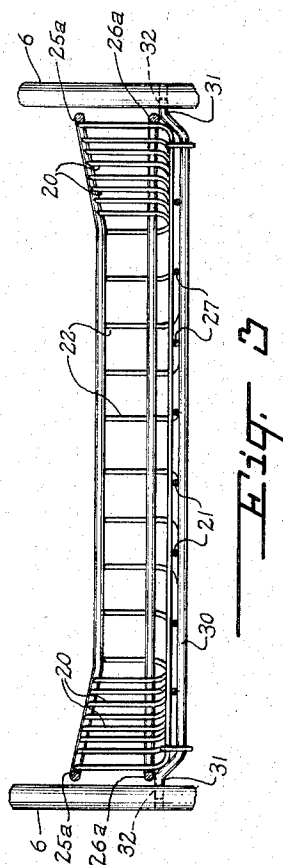


Fig. 2

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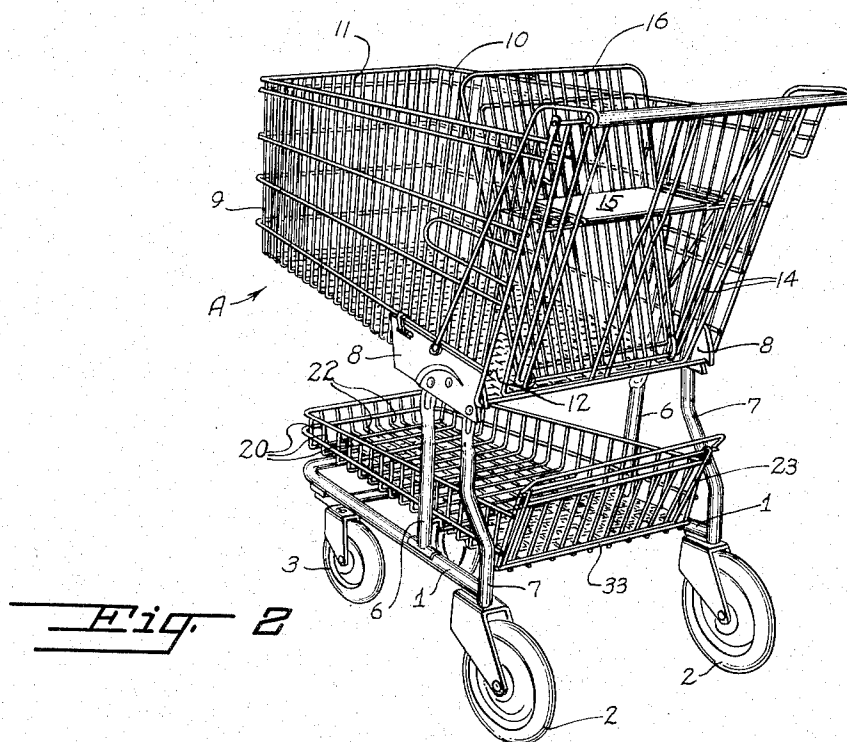
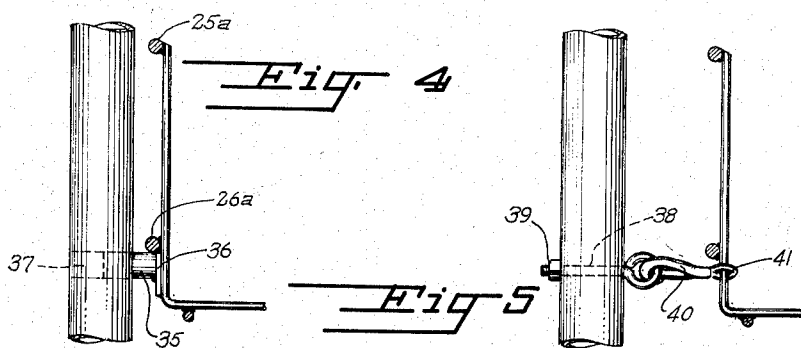
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TRAY STRUCTURE FOR TELESCOPING CARTS

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2 Sheets-Sheet 2



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TRAY STRUCTURE FOR TELESCOPING CARTS

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5 Claims. (Cl. 280—33.99)

This invention relates to improvements in telescoping carts and more particularly to the bottom or lower lading-containing structure.

Basically, the object of the present invention is to provide a lower telescoping receptacle or tray for use with the conventional telescoping cart, this lower telescoping tray being designed to provide a more rigid assembly and to facilitate the telescoping operation of associated carts of similar construction.

More specifically the invention provides a second or lower forwardly converging telescoping receptacle or tray having a hinged gate, this lower receptacle being provided with a pivoted or swiveled mounting permitting the same to be tilted from a point generally medially of its length, either forwardly or rearwardly to facilitate the loading and unloading of groceries and also to facilitate the telescoping operation with an associated receptacle.

Another object of the invention is to provide the mounting for the lower telescoping tray with a supporting structure so that it will not be deformed under extreme load conditions or by mishandling, for instance such as misuse of the assembly by children.

These and further objects of the invention will more clearly hereinafter appear by reference to the accompanying drawings forming a part of the instant specification and wherein like characters of reference designate corresponding parts throughout the several views, in which:

Fig. 1 is a side elevation illustrating movement of the device during telescopic association with a similarly constructed part;

Fig. 2 is a perspective view showing the entire assembly;

Fig. 3 is a section on line 3—3 of Fig. 1;

Fig. 4 is a fragmentary section showing a modified form of mounting; and

Fig. 5 is a similar view showing a form of detachable connection between the tray and the post.

Referring to Fig. 2, a conventional telescoping cart assembly is illustrated and embodies a forwardly converging lower frame 1 mounted on rear wheels 2 and swiveled front wheels 3. This lower frame supports suitable uprights at each side, as for instance, uprights 6 and 7, at the upper ends of which are fixed brackets 8 for connection with a telescoping basket assembly generally indicated at A. The upper telescoping basket embodies forwardly converging side walls 9 and 10, forward end wall 11, bottom 12 and rear hinged gate 14, this rear hinged gate being generally provided with leg openings to facilitate the seating of a child on a folding seat 15, partially supported by the hinged panel 16.

Referring now to Fig. 1, a lower tray or receptacle is shown mounted immediately above the base frame 1 and pivotally or hingedly supported on the spaced vertical upright frame member 6. This lower tray or receptacle is generally used for carrying bulky or heavy

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articles and for this reason, among others, it is desirable to mount the same so that it can be tilted on its pivotal point either forwardly or rearwardly to permit a customer to readily grasp and remove such large bulky or heavy articles which may have been placed thereon.

The lower tray or receptacle includes forwardly converging side walls 20, bottom 21, forward end wall 22 and rear hinged gate 23, the latter being pivoted on cross bar 24 carried by the rearwardly bent portion 25 of the wicket 26 fixed to the sides and bottoms of the assembly by welding. The side walls 20 of the tray are defined by the arms of inverted U-shaped wickets, these wickets being reduced in size forwardly to provide the converging structure. The U-shaped wickets are connected at their top marginal edge by the relatively heavy U-shaped frame member 25^a and a similar U-shaped relatively heavy frame member 26^a is arranged about the lower part of the sides and front wall, and both of these U-shaped parts 25^a and 26^a are welded at points of intersection with the wickets 20. The bottom is formed by a plurality of spaced forwardly extending wires 27, the spacing being designed to retain any commodities placed therein from discharge from the tray. These forwardly extending spaced wires 27 are welded to the base of inverted U-shaped frame members 20 at points of intersection and form slides or runners during telescoping of one tray within another as will be more fully hereinafter described.

A hanger forming a pivot for the basket includes an elongated transversely extending relatively heavy rod member 30 having upwardly extending end portions 31 having outwardly extending terminals 32 which project into the upright braces 6 for mounting, it being understood that the ends 32 may be fastened into place at their terminals rigidly, or the ends may be located in the slots permitting a rocking of the main bar structure to lend freedom of movement to the assembly.

It will be obvious from the foregoing that the baskets are so shaped as to permit telescoping operation, the hinged gate 23 being mounted on a cross wire 24 and being limited in its outward movement by a transverse rod 33 welded to the outer extremities of the base wires 27. When a telescoping cart is associated with a similarly constructed cart in telescoping relationship, the forward relatively small end of the lower tray will, regardless of its position on its pivot, i. e. whether in rearwardly inclined or forwardly inclined position, engage within the swinging area of the rear gate structure 23 and cause the same to swing upwardly on its supporting rod 24, permitting the trays to nest. During the nesting operation, the forwardly inclined wires or rod 27 which form the base of the tray will serve as runners to facilitate the relative movement between the telescoping parts.

When telescoping carts embodying the present trays or receptacles, these hinged trays will normally be in position A due to the fact that the greater part of the weight is at the rear of the pivotal point formed by the supporting rod 30. The rear of the tray when in this position will rest upon and be supported by the rear portion of the frame 1, as will be clear from an inspection of Figs. 1 and 2. In this position the forward end of the receptacle or tray is at a height immediately below the hinge rod 24 supporting the hinge gate 23 of an adjacent associated tray B and in this position will strike and swing the hinge gate 23 on its pivot towards an open position. Simultaneously this action will result in depressing the forward end of the receptacle or tray which will generally facilitate the telescoping operation illustrated at the left hand side of Fig. 1. Regardless of the position of the lower receptacle or tray, it will in each

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instance tend to equalize its relationship with the tray or receptacle with which it is to nest, moving on its pivot indicated in Fig. 1 at 30. This equalization of the relative positions of the trays or receptacles substantially reduces the force required in a normal nesting operation, it being obvious that the parts readily adjust themselves not only during initial telescoping action but throughout the entire action both into and out of telescopic association.

It will be noted that this lower tray or receptacle is also so associated with the relatively heavy underframe 1 that when a weight is placed in the tray at either end portion, it will assume a position of rest on the frame 1, thereby providing a rigid support for carrying the load. It has been found in practice that there is a tendency for children to use the lower tray during climbing and playing and the weight of a child standing on the receptacle or tray is readily accommodated by the heavy underframe upon which the tray quickly rests by shifting movement on its pivot in accordance with the distribution of the weight imposed thereon. By loosely mounting the tray on its support, the tray may have a certain freedom permitting a generally swivel support whereby total freedom of the trays during telescopic movement is available.

In Fig. 4 the tray is shown provided with a fixed stud 35 having a plate 36 welded in position to the side of the tray, the stud 35 projecting into a transverse recess 37 formed in the supporting upright. It will be understood that there will be a pair of studs, one at each side of the tray, and that the studs can be inserted in position by flexing the side walls of the tray and permitting seating of the studs as the side walls return to their normal position.

In Fig. 5 an eye-bolt 38 is shown extending through a transverse recess in the vertical support, this eye-bolt being removable and held in position by riveting at the terminal or by the nut shown at 39. A snap hook 40 is shown secured to the side of the tray at 41 and snapped through the eye-bolt for detachably supporting the basket in position. This mounting obviously will permit a swivel movement of the tray during telescoping with an associated part.

Another advantage of the present invention is the fact that the lower tray or receptacle can be removed or detached, permitting the main cart assembly with the open underframe to be used as may be desired in some instances. Likewise the mountings are such that where previous structures have not been provided with the bottom tray or receptacle, these can readily be attached without the use of special equipment or trained personnel.

What I claim is:

1. In a telescoping cart assembly, a combination of a

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base frame, wheels supporting said frame, a vertical supporting structure extending above the base frame, a receptacle mounted on the vertical supports including a forwardly converging body having a hinged gate to permit telescoping association with a cart of similar construction, and a tray including converging side walls and a pivoted end gate for telescopic association with a tray of similar construction, said tray being located below said receptacle and being swingably mounted on the upright frame generally medially of its length and above said base frame, whereby the tilting of the tray on its mounting will permit the alternate ends to be lowered into engagement with the base frame for support thereby.

2. The structure of claim 1 characterized in that the mounting for the tray includes a horizontal pivot permitting the rocking of the tray thereon.

3. The structure of claim 1 characterized in that the mounting for the tray on the upright frame is in the form of a bar extending between the vertical supports, the bottom of the tray resting on the bar and being movable forwardly and rearwardly thereon.

4. The structure of claim 1 characterized in that the tray includes a bottom structure having longitudinally extending runners to permit the sliding movement between similarly constructed parts during telescoping association.

5. In a telescoping cart assembly, a combination of a base frame, wheels supporting said frame, a vertical supporting structure extending above the base frame, a receptacle mounted on the vertical supports including a forwardly converging body having a hinged gate to permit telescoping association with a cart of similar construction, and a tray including converging side walls and a pivoted end gate for telescoping association with a tray of similar construction, said tray being located below said receptacle and being swingably mounted on the upright frame generally medially of its length and above said base frame, the movement of said end gate of said tray on its swingable mounting being sufficient to permit the insertion of parcels of greater dimension than the normal distance between the tray and the receptacle.

References Cited in the file of this patent

UNITED STATES PATENTS

2,479,530	Watson	Aug. 16, 1949
2,583,513	Maslow	Jan. 22, 1952
2,644,695	Enders	July 7, 1953

FOREIGN PATENTS

384,640	Germany	Nov. 24, 1923
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