July 2, 1957 L. J. ENDRES ET AL 2,797,960

VEHICLE TAIL GATE

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Fig. 1

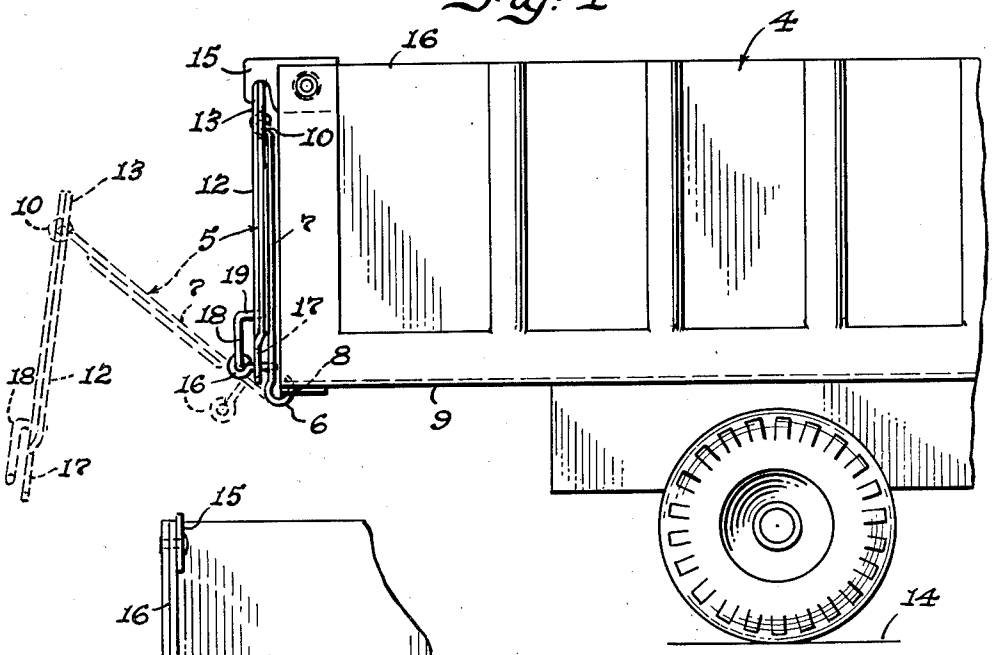


Fig. 2

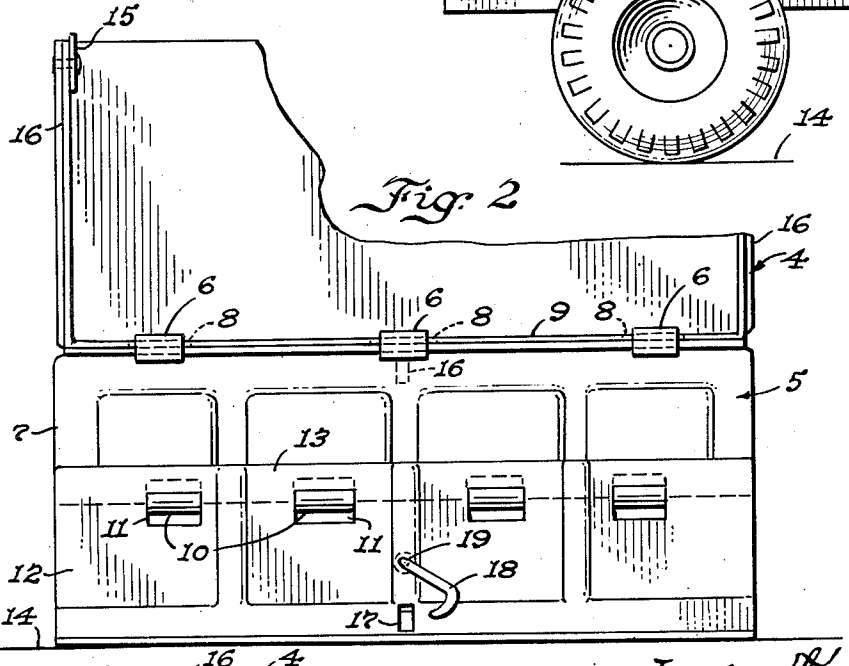
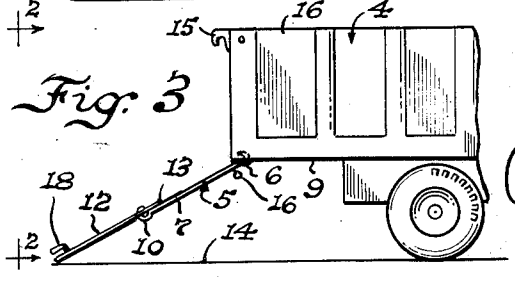


Fig. 3



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VEHICLE TAIL GATE

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3 Claims. (Cl. 296—61)

This invention relates to a new and improved tail gate construction which, while herein described as applied to toy trucks and other toy vehicles, is also applicable to motor trucks and other full size vehicles with very little, if any, change in design.

The principal object is to provide a tail gate which by virtue of its own novel two-piece foldable and unfoldable construction and the novel construction of the tail end of the body on which it is hinged is adapted to be unfolded as it is opened to form a ramp that adds a great deal of enjoyment to a toy vehicle by greatly increasing the range of uses to which a child can put the toy in playing with it, the folding of the gate as it is raised to closed position also being taken advantage of to provide a fastening action at the top of the tail gate so that it requires very little if any more to complete the fastening of the tail gate in closed position.

In accordance with our invention, the unfoldable free end section of the gate has at its pivotal connection with the outer end of the hinged inner section of the gate an outwardly projecting edge portion which overlies the top of the outer edge portion of the inner section when the gate is unfolded to form a ramp, whereby to support the two sections rigidly in coextensive relationship, this same outwardly projecting edge portion serving by engagement in downwardly facing hook-shaped projections on the tail end of the body as the tail gate is folded up to fasten the gate in closed position well enough so that no other fastening is really necessary to hold it closed, although a hasp is preferably provided on the back of the inner section which projects through a hole provided in the other section and is arranged to receive either a hook pivoted on the latter section or a padlock to fasten the gate more securely in closed position.

The invention is illustrated in the accompanying drawing, in which—

Fig. 1 is a side view of the tail end of a toy truck equipped with our improved tail gate and fastening means therefor, the tail gate being shown in dotted lines in a mid-position, as when folding or unfolding, and being shown in full lines in closed position, and

Fig. 2 is a rear view of the truck with the gate swung down to serve as a ramp, as shown in the smaller scale side view of Fig. 3, Fig. 2 being taken on line 2—2 of Fig. 3.

The same reference numerals are used to designate corresponding parts throughout these views.

Referring to the drawing, the reference numeral 4 designates the sheet metal body of the toy truck on the open tail end of which is hinged a two-section sheet metal tail gate 5 by means of coaxially aligned curled knuckle portions 6 that are integral with one longitudinal edge portion of the inner section 7 of the tail gate and are entered in slots 8 provided in the rear end portion of the floor or bottom 9 of the body. Similar coaxially aligned curled knuckle portions 10 provided integral with the outer longitudinal edge portion of the inner section 7 serve by engagement in slots 11 provided in the adjacent longitudinal edge portion of the outer gate section 12 to pivotally connect the two sections 7 and 12 so that they are foldable onto one another as appears in full lines in Fig. 1 and may be unfolded as seen in dotted lines in Fig. 1 to and from the coextensive nearly coplanar relationship required for a ramp, as shown in Figs. 2 and 3. Slots 11 are spaced from the edge of gate section 12 so that a fairly wide outwardly projecting edge portion 13 is provided on section 12 which overlies the top of the outer edge portion of the inner section 7 when the gate is unfolded to form a ramp, as seen in Figs. 2 and 3, whereby to support the two sections rigidly in the coextensive relationship. With the gate unfolded and resting on the floor 14 as a ramp the child may run various wheeled toys and other things up and down the ramp into and out of the truck body 4, and this means a greatly increased range of uses for the truck or other toy vehicle equipped with such a tail gate without adding much to the overall cost of the toy.

Both gate sections 7 and 12 are of generally rectangular form, section 12 being the same length as section 7 but appreciably larger in its transverse dimension, whereby to provide the projecting marginal edge portion 13 when the sections are in folded relationship, as appears in full lines in Fig. 1. The outwardly projecting edge portion 13 on gate section 12 serves in addition to the function described above a second important function by entry in downwardly facing hook-shaped projections 15 provided on the side walls 16 of the truck body, as seen in Fig. 1, whereby to fasten the gate in closed position. Gravity acting on section 12 in this position obviously helps to keep the gate closed. It is necessary to lift or unfold section 12 in order to disengage the edge portion 13 from the hooks 15. A hasp 16 is nevertheless preferably provided on the back of the inner section 7 arranged to project through a slot 17 provided in the outer section 12, and this hasp receives a hook 18 pivoted at 19 on the outer section, whereby to permit fastening the gate more securely in closed position. The entry of edge portion 13 of gate section 12 in hooks 15 as the gate is being folded in closing serves to insure tight closing of the tail gate because of the leverage exerted as the section 12 is handled at its free outer edge in this operation. Hooks 15 may be provided as integral portions of the side walls of the body 4 but are herein shown as in the form of separate plates riveted to the side walls.

While the invention is herein described and illustrated as applied to toy vehicles, it should be understood that it could, with very little if any change in design, be applied to motor trucks and other full size vehicles, wherever there is an advantage in having the ramp feature for convenience in loading and unloading, and wherever there is an advantage in fastening the tail-gate in the novel manner herein illustrated.

It is believed the foregoing description conveys a good understanding of the objects and advantages of our invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

We claim:

1. A folding tail-gate structure for a vehicle comprising in combination with a vehicle body having a bottom and side walls, a first gate section of generally rectangular form having one longitudinal edge portion hingedly mounted on the rear edge of the vehicle body bottom, a second gate section of generally rectangular form pivotally mounted on an axis in spaced parallel relationship to its one longitudinal edge on the other longitudinal edge of said first gate section, whereby to define an outwardly projecting edge portion on said second gate section, said first and second gate sections being foldable into close parallel relationship and unfoldable to coextensive relationship in which the marginal edge portion

of said second gate section rests on top of the outer edge portion of the first mentioned gate section so as to support the gate sections rigidly in the coextensive relationship to serve as a ramp for the rear end of said vehicle body, a rearwardly projecting downwardly facing hook on the rear end of at least one of the side walls of the vehicle body so arranged with respect to the first mentioned hinge connection as to receive the aforesaid marginal edge portion of the second gate section in the folding of the gate sections in closed position, whereby to hold the upper end of the folded tail-gate assembly releasably in closed position in relation to the rear ends of said side walls, and means for detachably securing the two gate sections in folded relationship.

2. A folding tail-gate structure as set forth in claim 1 wherein the means for detachably securing the two gate sections in folded relationship to one another includes means on one of said tail-gate sections detachably engageable with means on the other gate section.

3. A folding tail-gate structure as set forth in claim 1, wherein there is a rearwardly projecting downwardly facing hook on the rear end of both of the side walls of the

vehicle body arranged to receive the aforesaid marginal portion of the second gate section in the folding of the gate sections in closed position whereby the upper end of the folded tail-gate assembly is held releasably at opposite ends in closed position in relation to the rear ends of the side walls, the means for detachably securing the two gate sections in folded relationship including a hasp on the midde portion of the first gate section near the hinged edge portion thereof arranged to project through a slot provided therefor in the middle of the second gate section in the folded position thereof and adapted to receive a locking element in the protruding portion thereof.

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