Feb. 22, 1955 T. VIGMOSTAD ET AL 2,702,401

DECK LID HINGE

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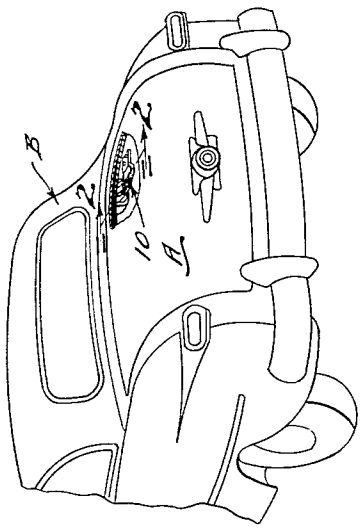


Fig. 1.

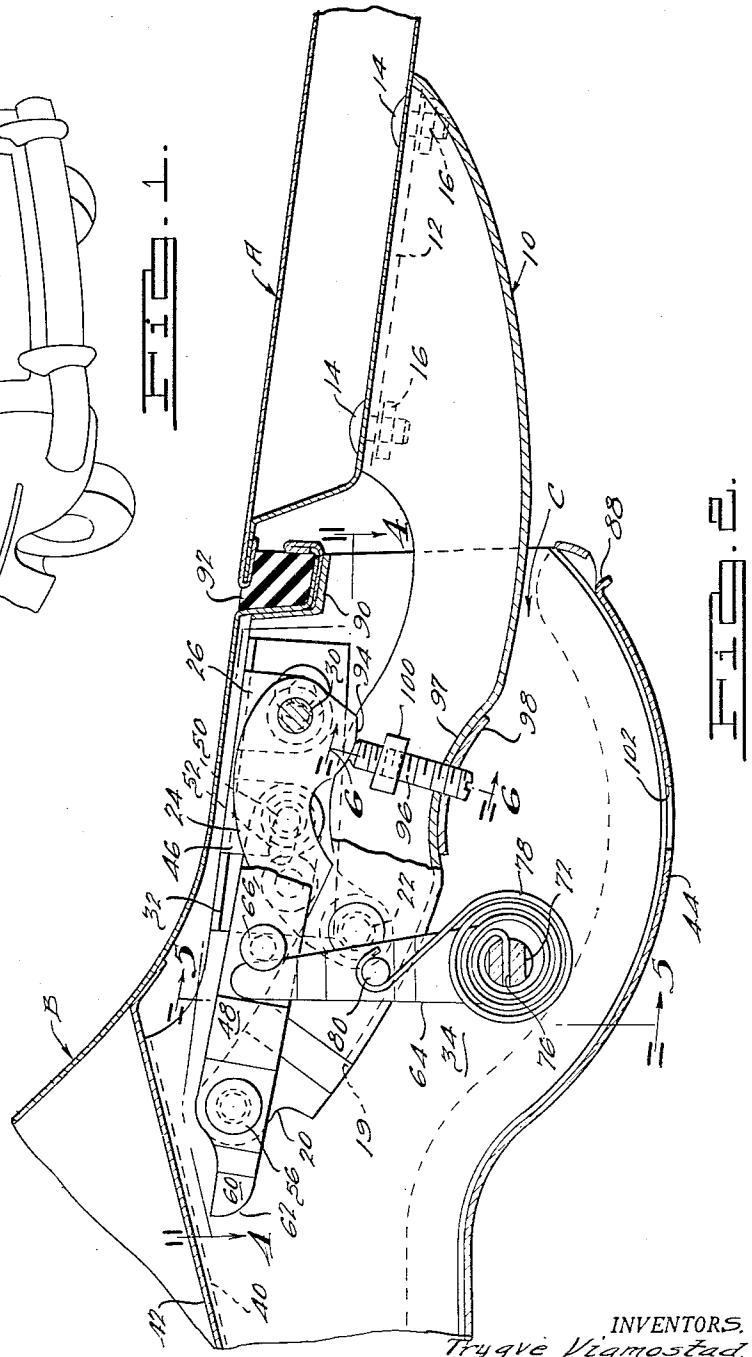


Fig. 2.

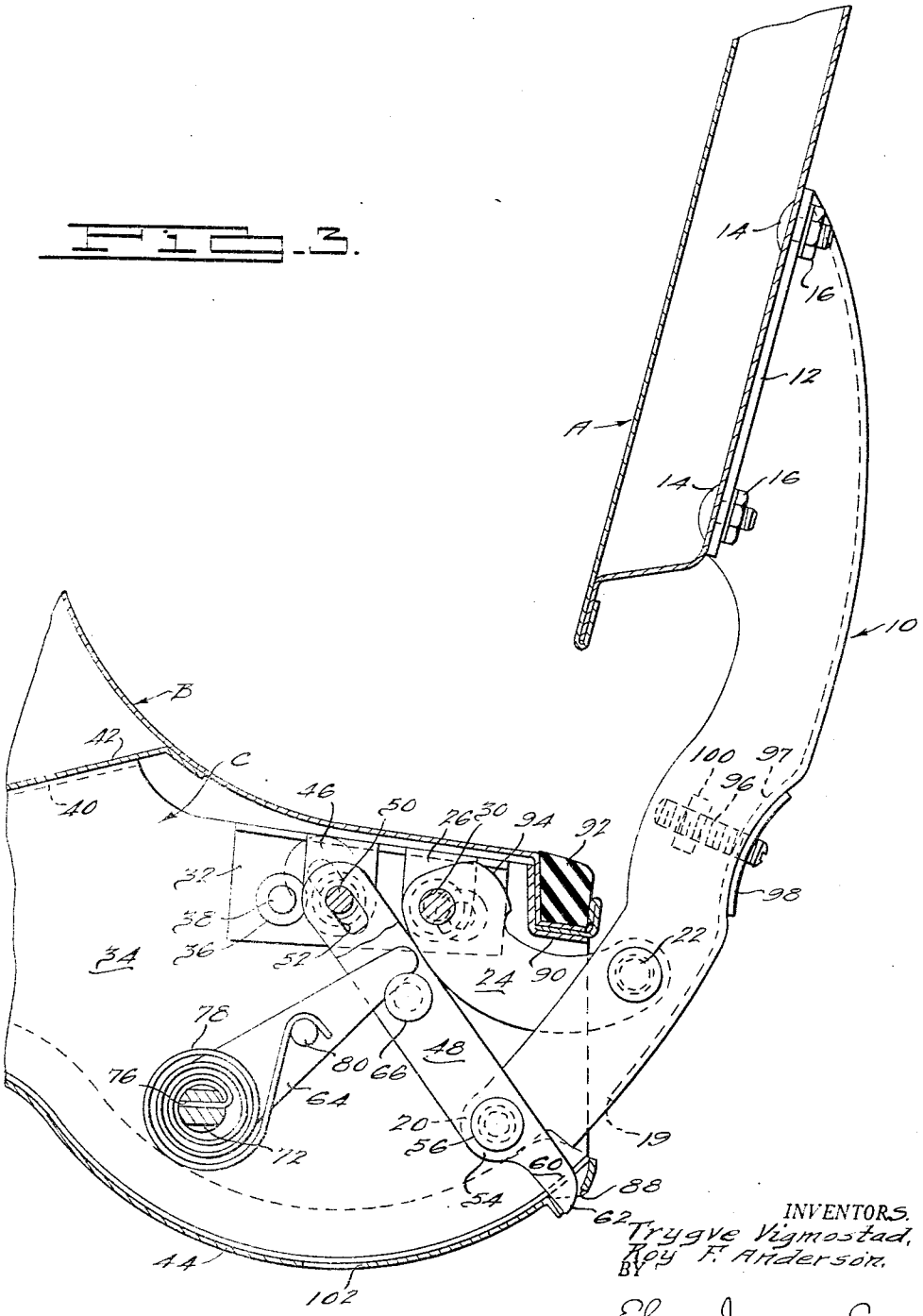
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Fig. 3.




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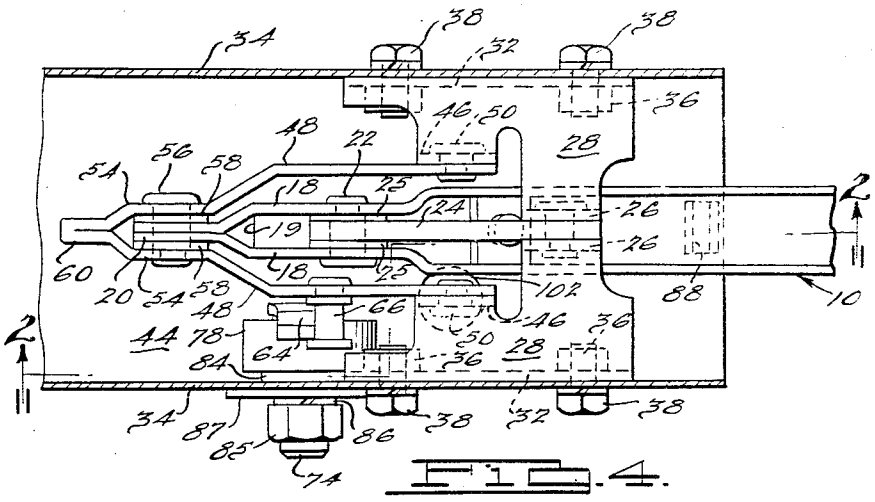


FIG. 4.

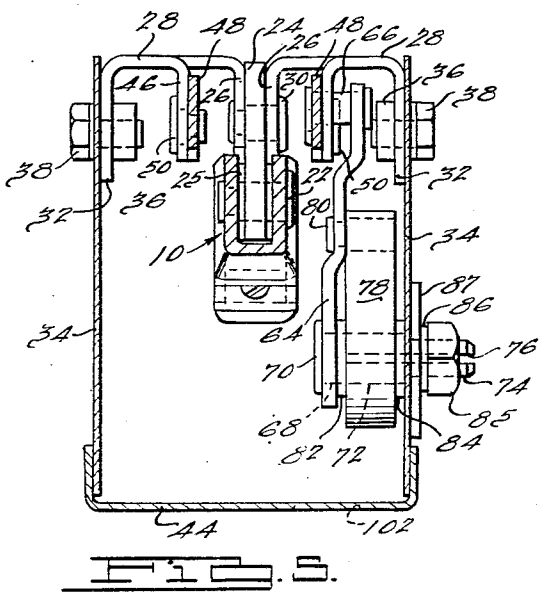


FIG. 5.

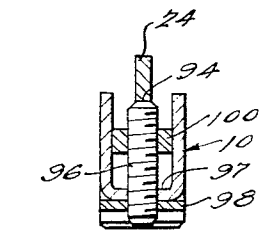


FIG. 6.

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2,702,401

# DECK LID HINGE

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19 Claims. (Cl. 16—166)

This invention relates to a hinge structure and mounting therefor which are particularly but not exclusively adapted for hingedly connecting an automobile rear deck lid to the vehicle body.

An object of the present invention is to provide an improved hinge structure for a swinging member, such as an automobile rear deck lid for example, which provides a swinging fulcrum point for the hinge movement of the deck lid, causing the latter to swing rearward from the vehicle body upon being raised or opened.

Another object is to provide a compact highly efficient hinge structure of the foregoing nature which occupies a minimum space in the vehicle storage compartment, yet which is particularly simple in structure and economical to manufacture and assemble.

Other objects are to provide such a hinge structure which facilitates opening and closing operations of the rear deck lid, which incorporates simple and improved means for positively holding the deck lid in the open position without the necessity of setting the conventional deck lid stay or other supporting means, and which permits the deck lid to be readily and simply closed without the necessity of first breaking a toggle joint or releasing a stay or other support customarily employed to hold rear deck lids in the raised or open position.

Another object is to provide such a hinge structure cooperable with a torsion spring adapted for partially counterbalancing the weight of the deck lid and thereby assisting the raising movement, the hinge incorporating detent means yieldingly retained in a detent position by the spring so as to resist the vertically directed force of the weight of the lid and to hold the latter in the raised position, but being readily moved out of the detent position against the tension of the spring upon the application of additional torque to the deck lid tending to swing the latter in a normal closure movement.

Another object is to provide a hinge structure of the foregoing character wherein the counterbalancing spring employed to assist raising of the deck lid is also employed to hold the latter closed by spring pressure.

Another and more specific object of the present invention is to provide a hinge structure for a rear deck lid of the type having a forwardly extending hinge arm. The latter is hingedly connected to the vehicle body by two swinging links arranged to achieve a pantograph action whereby the fulcrum for the deck lid may be swung rearwardly as the deck lid is swung upward, and forwardly as the deck lid is swung downward. One of the links comprises a guide link and is pivotally connected to the vehicle body in a manner to permit limited longitudinal or sliding movement of that link when the deck lid is swung about its fulcrum or pivotal connection with the other or fulcrum link. The guide link is provided with a catch adapted to engage a portion of the vehicle body in a detent operation when the deck lid is in the raised position, thereby preventing closure of the lid under its own weight. Spring means are preferably employed for yieldingly holding the guide link in the detent position and also for partially counterbalancing the weight of the deck lid when the latter is being raised or lowered. However, when force is exerted to swing the raised deck in a closure movement about its pivotal connection with the fulcrum link, the longitudinally movable guide link is forced out of the detent position against the tension of the spring, permitting closure of the lid.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.



In the drawings:

Fig. 1 is a fragmentary perspective view showing the rear end of a vehicle body having a rear deck lid hingedly mounted on the body in accordance with the present invention, portions of the deck lid being broken away to show the location of the hinge mounted therebelow.

Fig. 2 is an enlarged fragmentary longitudinal vertical section taken in the direction of the arrows substantially along the line 2—2 of Figs. 1 and 4, showing details of the hinge structure in the closed position.

Fig. 3 is a view similar to Fig. 2, showing the deck lid and hinge structure in the raised or open position.

Fig. 4 is a fragmentary section taken in the direction of the arrows substantially along the broken line 4—4 of Fig. 2.

Fig. 5 is a vertical transverse section taken in the direction of the arrows substantially along the line 5—5 of Fig. 2.

Fig. 6 is a fragmentary section taken in the direction of the arrows substantially along the line 6—6 of Fig. 2.

It is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation. Likewise, although the present invention is illustrated by way of example in connection with a hinge structure for an automobile rear deck lid, it will be apparent from the following that the invention may be readily adapted for other uses and other situations concerned with problems similar to those described herein.

Details of a preferred embodiment and application of the present invention comprising a hinge structure employed to mount a conventional automobile rear deck lid A on the vehicle body B so as to enclose a luggage compartment C are illustrated by way of example in the drawings. Preferably two similar hinge mountings for the deck lid A are employed, one near each side of the body B. Inasmuch as the hinge mounting at each side of the body B is substantially the same in structure and operation, details of the hinge mounting on the right side of the vehicle only are discussed herein.

In the present instance, the forward right hand portion of the deck lid A is suitably secured to a forwardly extending channel shaped hinge arm 10 of generally U-section opening upwardly when the deck lid is in the closed position, it being understood that a similar hinge arm extends forward from the left hand corner of the deck lid A. The arm 10 may simply be formed from sheet metal by stamping operations and is provided in the present instance with a pair of flanges 12 which extend laterally from the upper portions of the vertical channel sidewalls and underlie the inner surface of the deck lid A to which they are suitably secured, as for example by a plurality of bolts 14 and retaining nuts 16, Figs. 2 and 3. As indicated more particularly in Fig. 4, the vertical channel sides of the arm 10 extend forward in parallelism from the leading edge of the deck lid A and converge somewhat to provide parallel forwardly extending pivot supporting portions 18 whereas the channel base of the arm 10 terminates at 19. Forward of the portions 18, the vertical sides of the arm 10 converge and terminate at parallel forward extensions 20.

Projecting between the parallel wall portions 18 of the arm 10 and pivotally secured thereto as for example by a horizontal transversely extending rivet 22 is the lower end of a generally C-shaped swinging fulcrum link 24 spaced from the sidewalls 18 by washers 25 to permit freedom of swinging movement. From the pivot 22, the link 24 extends generally upward between a pair of laterally spaced downturned flanges 26 of a corresponding pair of supporting brackets 28 to swing about the horizontal transverse axis of a pivot or rivet 30 piercing the flanges 26 and interposed upper end of the link 24. The body

portions of the paired brackets 28 extend transversely from the link 24 in opposite directions and terminate in parallel downturned side portions 32, each secured to an adjacent vertical longitudinally extending side plate 34 by a plurality of bolts 36 and nuts 38, Fig. 5.

The side plates 34, spaced by the body portions of the paired brackets 28, are suitably secured rigidly to fixed portions of the vehicle body B, as for example by means of flanges 40 extending transversely from the upper edges of the plates 34 and welded to the customary shelf panel 42 within the luggage compartment C. As indicated in Figs. 2 and 3, the lower rearward edges of the side plates 34 extend forward into the compartment C in arcs centered about a transverse axis to be described hereinafter and are maintained in fixed spaced relation by an upwardly opening channel bracket 44 of U-section curved longitudinally about said transverse axis and welded at its opposed upturned channel sides to the adjacent lower edge portions of the spaced side plates 34, Fig. 5.

Also extending downward from the body of each bracket 28 intermediate and parallel to the corresponding flanges 26 and 32 is a second downturned flange 46, Fig. 5. Each of the two flanges 46 is pivotally secured to the distal end of one of each of the parallel arms of a hairpin shaped guide link 48 by means of a horizontal pivot or rivet 50 piercing the members 46 and 48 transversely at a location forward of the pivot 30. In the present instance, the two pivots 50 are coaxial and spaced axially sufficiently to permit the link 24 to swing therebetween at the closed position of the lid A, Figs. 2 and 4. The pivot holes in the arms of the link 48 through which the pivots 50 pass comprise elongated movement limiting slots 52 extending longitudinally of the link arms to permit limited longitudinal movement of the link 48 independently of the pivots 50.

From the pivots 50, the two arms of the link 48 extend toward the channel side portions 20 and converge to a pair of parallel extensions 54, Fig. 4. The extensions 54 are spaced transversely by the channel side portions 20 and are pivotally connected thereto by a horizontal transverse pivot or rivet 56 piercing these members. Each arm portion 54 of the link 48 is spaced from the corresponding adjacent channel portion 20 of the hinge arm 10 by a washer 58 to assure adequate freedom for pivotal movement. Continuing beyond the pivot 56, the arms of the guide link 48 come together at 60 to comprise a deck lid catch having a rounded edge 62 adapted to glide along the inner surface of the channel member 44 as discussed below, Figs. 2, 3 and 4.

By the structure described thus far, the links 24 and 48 together with the portion of the body B between the pivots 30 and 50 and the portion of the hinge arm 10 between the pivots 22 and 56 comprise four members of comparable length movable relatively to each other generally in a pantograph action so as to swing the fulcrum or pivot 22 forward at the end of the swinging fulcrum link 24 upon upward swinging of the lid A about the fulcrum 22 from the closed position, Fig. 2, to the open position, Fig. 3. In order to partially counterbalance the weight of the deck lid and to facilitate movement of the latter to the open position, a spring operated swinging lever 64 is provided having a free or swinging end adapted to abut a stud 66 secured to and projecting inward from the inner arm of the guide link 48 at a location approximately midway between the pivots 50 and 56. The other end of the swinging lever 64 is pivotally mounted on a horizontal transversely extending pivot 68 having a flanged head 70 adjacent the outer side of the lever 64 to hold the latter against outward displacement.

Extending inwardly from the lever 64, the pivot 68 is provided with a flat sided shank 72, Figs. 2 and 3, which projects through a corresponding flat sided opening (not shown) in the inner sideplate 34, whereby rotation of the shank 72 is prevented, and terminates in a screw threaded end 74, Fig. 5. A diametrical spring retaining slot 76 having one end of a spiral torsion spring 78 secured therein extends longitudinally within the major portion of the shank 72. The spring 78 extends spirally outward counterclockwise from the retaining slot 76 and is hooked under tension at its other end around a stud 80, rigidly secured to the lever 64, in a manner to drive the latter clockwise into spring pressed engagement with the stud 66 of the guide link 48. Suitable washers 82 and 84 space the spring 78 laterally from the adjacent surfaces of the lever 64 and the side plate 34 respectively. The assembly is maintained in place by a retaining nut 85 screwed on the threaded extension 74 of the shank 72 and spaced from the sidewalls 34 by washers 86 and 87.

The aforementioned axis of the curvature of the arcuate bottom portions of the sidewalls 34 and channel member 44 coincides with the axes of the coaxial pivots 50 for the guide link 48. The length of the latter and the slots 52 therein are determined so that the rounded edge 62 of the catch 60 may ride along the upper curved surface of the channel member 44 during hinged movement of the deck lid A. It is to be noted that after the point of engagement between the lever 64 and stud 66 swings counterclockwise past the line connecting the axes of the pivots 50 and 68, the spring operated lever 64 will be urged against the stud 66 in a direction to force the catch 60 yieldingly into sliding engagement with the base of the channel member 44, which latter thus holds each pivot 50 in the lower portion of its elongated pivot hole 52. In order to resist closure movement of the lid A from the open position, Fig. 3, the base of the channel member 44 is lanced at 88 to receive the catch 60. When the lid A is raised, the spring operated lever 64 pressing against the stud 66 will force the catch 60 in a detent action into the lanced opening 88 to prevent closure of the lid under its own weight. The detent movement of the link 48 and latch 60 is of course limited by the upward extent of the elongated pivot slots 52.

In the present instance the pivot 68 is located with respect to the pivots 50 and 56 so that the lever 64 and link 48 rotate in opposite directions throughout the major hinge movement of the deck lid A. During this movement, the spring operated lever 64 serves to drive the guide link 48 counterclockwise in a direction tending to raise the lid A. When the latter is in the open or raised position, Fig. 3, the lever 64 is substantially perpendicular to the link 48. At this position whereat the force of the spring 78 is no longer required to raise the deck lid, the entire spring force is directed longitudinally of the link 48 to force the catch 60 into the detent opening 88. Also in the open position of the lid A, the weight thereof is directed vertically downward substantially through the pivot 22, causing a minimum of torque about that pivot tending to close the deck lid. In consequence the catch 60 spring pressed into the opening 88 adequately serves to prevent closure of the deck lid under its own weight. However, when the rearward end of the deck lid is pulled in a closure direction, the great leverage afforded by the deck lid will readily permit an operator to swing the lid about the fulcrum 22 and to force the catch 60 out of the opening 88 against the tension of the spring 78 with a minimum of exertion. Thereafter the deck lid will swing downward under the continued force of the operator, the spring 78 exerting sufficient retarding force to prevent the deck lid from slamming shut with unreasonable force.

Just before the deck lid reaches the closed position, Fig. 2, the guide link 48 passes a position of perpendicularity with respect to the spring operated lever 64, at which position the force of the spring 78 is directed neutrally into the pivot 50. Thereafter upon continued closure of the deck lid the arm 64 tends to drive the link 48 clockwise, positively urging the deck lid into the closure position whereat it is latched in accordance with conventional practice. By this construction, the deck lid will be held closed by operation of the spring 78 even though the lid should become unlatched for any reason.

In the closed position of the lid A, the link 48 is folded closely toward the hinge arm 10 in a compact jackknife action, Fig. 3. Upward swinging of the lid A as the links 24 and 48 swing counterclockwise is of course achieved in the present instance by the horizontal spacing of the pivots 30, 50 in conjunction with the somewhat greater length of the link 48 compared to the link 24. The latter is C-shaped in order to avoid contact therebetween and the marginal channel 90 which carries the usual flexible molding strip 92. However other relative dimensions of the links and other locations of the several pivots will be employed within the scope of the present invention in accordance with the extent of swinging movement desired and different structural requirements of the vehicle body and rear deck lid.

Likewise it is to be observed that the aforementioned detent movement may be readily accomplished by means permitting movement of any one or more of the pivot axes independently of the others. Accordingly either link **24** or **48** may comprise the fulcrum link or guide link. Further, it will be apparent that the present detent action between the catch **60** and edge of the opening **88** may be readily accomplished by other relatively movable portions of the body B, arm **10** and links **24, 48** arranged to interengage substantially as described at the open position of the lid A.

Rattling and play between the various pivotally connected links in the present construction are avoided by virtue of the spring operated lever **64** tightly binding the stud **66** and tensioning the associated members. In order to bind the link **24** against rattling and to provide simple means for adjusting the limit of closure movement of the lid A, the upper end of the link **24** is provided with a boss **94** extending downward from the pivot **30** when the lid A is in the closed position, Fig. 2. Firmly abutting the boss **94** in the closed position is the upper end of an adjustable cramping screw **96** screw threaded upward through the channel base of the arm **10**. Reinforcement of the hinge arm **10** at the point of passage of the screw **96** is achieved by an upward cylindrical embossment **97** reinforced from below by a similarly shaped metal plate **98** welded thereto. The openings in the cylindrical portions **97** and **98** through which the screw **96** passes are threaded to permit screw threaded adjustment of the latter. The upper end of the screw **96** is guided by a floating square nut **100** which fits snugly between the channel sides of the arm **10** and is thus prevented from turning. Accordingly, as indicated particularly in Fig. 2, the limit of relative closure movement between the arm **10** and link **24** is determined by the adjustable position of abutment between the screw **96** and boss **94**.

At a location offset from the path of movement of the catch **60** and at the lowermost portion of the curved channel member **44** a drain opening **102** is provided to prevent inadvertent accumulation of moisture within the bowl of the channel member **44**.

By the foregoing, a simple, compact and efficient hinge structure has been disclosed which occupies a minimum of space within the trunk compartment and which is particularly characterized by simplicity of operation and construction. The present hinge structure is particularly useful where the deck lid is of the type having considerable curvature. By virtue of swinging the fulcrum **22** rearward as the deck lid is swung upward, the lid may be opened practically vertically with a minimum of forward swinging. As a result, the difficulty of avoiding contact between a deck lid of considerable curvature and other portions of the vehicle body when the lid is in the raised position is eliminated.

I claim:

1. In a device for hingedly connecting a forwardly projecting hinge arm of a rear deck lid to a vehicle body, a fulcrum link and a guide link pivotally connected to the hinge arm at longitudinally spaced locations and also pivotally connected to the body at longitudinally spaced locations, detent means movable with the guide link, the guide link being susceptible of limited movement independently of the fulcrum link to and from a detent position upon upward and downward swinging of the lid respectively about the fulcrum link at an open position, the detent means being interengaged with a portion of the body at the detent position to restrain closure of the lid, a swinging lever pivotally connected to the body for swinging against the guide link in a direction to raise the lid throughout its major hinge movement, and spring means yieldingly urging the lever into spring pressed engagement with the guide link, the pivotal connection of the lever being located to urge the guide link to the detent position when the lid is in the open position.

2. In a hinge device for a vehicle body rear deck lid, a fulcrum link disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a guide link disposed between and connecting the body and lid for swinging with the latter to and from the open position, said guide link being also mounted to shift to and from a detent position generally independently of hinge movement of the fulcrum link, guide means engageable with the guide link to hold the same from the detent position upon movement of the lid from the open position, a swinging lever pivoted on the body to swing into engagement with the guide link to urge the latter to the open and detent positions, and spring means engaged with the body and lever to urge the latter yieldingly into said engagement with the guide link.

3. In a hinge device for a vehicle body rear deck lid, a fulcrum link disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a guide link pivotally and shiftably connected with the body and also connected with the lid for swinging with the latter to and from the open position, a swinging lever pivoted on the body to swing into engagement with the guide link to urge the latter to the open positions, spring means engaged with the body and lever to urge the latter yieldingly into said engagement with the guide link, said lever being disposed at the open position of the lid to urge the shiftable guide link engaged thereby yieldingly into a detent position and detent means connected with the guide link to move therewith to and from the detent position and being engageable at the detent position with a detent portion of the body to hold the lid against hinge movement from the open position.

4. In a hinge device for a vehicle body rear deck lid, a fulcrum link disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a guide link disposed between and connected to the body and lid for swinging hinge movement with the latter to and from the open position, the guide link being also shiftably connected with the body for shifting to and from a detent position, detent means engageable with the guide link at the detent position when the lid is in open position to hold the lid against hinge movement from the open position, a guideway arranged on the body to engage and hold the guide link from the detent at predetermined positions of the lid other than at the open position, a swinging lever pivoted on the body to urge the guide link by engagement therewith toward the open and detent positions, and spring means engaged with the body and lever to urge the latter yieldingly into said engagement with the guide link.

5. In a hinge device for a vehicle rear deck lid having a hinge arm extending toward the vehicle body, a fulcrum link having upper and lower ends pivotally connected respectively to the body and hinge arm for swinging the lid bodily in a hinge movement to and from an open position, a guide link having upper and lower ends connected respectively to the body and hinge arm for swinging in a hinge movement with the lid to and from the open position, the upper end of the guide link being also shiftably connected with the body for shifting to and from a detent position, detent means on the body engageable with the guide link at the detent position when the lid is in open position to hold the lid against hinge movement from the open position, a fixed guideway arranged on the body to engage and hold the guide link from the detent position, the guide link being movable out of engagement with the guideway upon movement of the lid to the open position, a swinging lever pivoted at its lower end on the body for swinging into sliding engagement with the guide link to urge the latter toward the open and detent positions, and spring means yieldingly urging the lever into said engagement with the guide link.

6. In a hinge device for a vehicle rear deck lid having a hinge arm extending toward the vehicle body, a fulcrum link having upper and lower ends pivotally connected respectively to the body and hinge arm for swinging the lid bodily in a hinge movement to and from an open position, a guide link having an upper end pivotally and slidably connected to the body and a lower end pivotally connected to the hinge arm for swinging in a hinge movement with the lid to and from the open position and for shifting in a detent movement to and from a detent position generally independently of hinge movement of the fulcrum link, a detent element connected to said guide link for shifting therewith to and from the detent position, detent means engageable with the detent element at the detent position when the lid is in open position to hold the lid against hinge movement from the open position, means to engage and cam the detent element from the detent position upon movement of the lid from the open position comprising a fixed guideway on the body extending along the path of movement of the detent element to adjacent the latter's position when the lid is at the open position, a swinging lever pivoted at its

lower end on the body at a location below the upper pivotal connection of the guide link for swinging into sliding engagement with the guide link to urge the latter toward the open and detent positions, and spring means yieldingly urging the lever into said engagement with the guide link.

7. In a hinge device for a vehicle body rear deck lid, a fulcrum link disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a guide link having one end pivotally connected to the lid and the other end pivotally and slidably connected to the body for swinging in a hinge movement with the lid to and from the open position and for shifting to and from a detent position generally independently of hinge movement of the fulcrum link, a swinging lever pivoted on the body to swing into engagement with the guide link to urge the latter to the open and detent positions, and spring means yieldingly urging the lever into said engagement with the guide link.

8. In a hinge device for a vehicle body rear deck lid, a fulcrum link disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a guide link disposed between and connected to the lid and body for swinging in a hinge movement with the lid to and from the open position, the guide link being also shiftably mounted on the body for shifting to and from a detent position, means to guide the hinge movement of the lid including a rider connected to the lid for hinge movement therewith to and from the open position and also including a fixed guideway on the body disposed to engage and guide the rider to and from the open position, a swinging lever pivoted on the body to swing into engagement with the guide link to urge the latter to the open position, spring means yieldingly urging the lever into said engagement with the guide link, said lever being arranged at the open position of the lid to urge the guide link to the detent position and detent means connected with the guide link to move therewith to and from the detent position and being engageable at the detent position with a detent portion of the body when the lid is in open position to hold the lid against hinge movement from the open position.

9. In a device hingedly connecting a vehicle rear deck lid member to a vehicle body member for swinging to and from an open position of the lid member, a fulcrum link member disposed between and pivotally connected to the lid and body members, the lid member being pivotal on the fulcrum link member to and from a detent position, a guide link member disposed between and connected to the body and lid members for swinging with the latter to and from the open position, detent means connected with the lid member for movement therewith to and from the detent position, detent means on another of said members and engageable with the first detent means at the detent position when the lid is at the open position to hold the lid member against hinge movement from the open position, a rider connected with the lid member to move therewith to and from the open position, a fixed guideway on the body member and engageable with the rider to guide the latter to and from the open position, and spring actuated means engaging a pair of said members for yieldingly holding the lid member at the open and detent positions.

10. In a device hingedly connecting a vehicle rear deck lid member to a vehicle body member, a fulcrum link member disposed between and pivotally connected to the lid and body members for swinging in a hinge movement to and from an open position of the lid member, means for guiding hinge movement of the lid member to and from the open position, the lid member being pivotal on the fulcrum link member to and from a detent position, a detent element connected with the lid member for movement therewith to and from the detent position, detent means on another of said members and engageable with the detent element at the detent position when the lid is at the open position to hold the lid member against hinge movement from the open position, and spring actuated means engaging a pair of said members for yieldingly holding the lid member at the open and detent positions.

11. In a device hingedly connecting a vehicle rear deck lid member to a vehicle body member, a fulcrum link member disposed between and pivotally connected to the lid and body members for swinging in a hinge movement to and from an open position of the lid member, the lid member being pivotal on the fulcrum link member to and from a detent position and the direction of pivotal movement of the lid member to the detent position being the same as the direction of hinge movement to the open position, a guide link member disposed between and connected to the body and lid members for swinging with the latter to and from the open position, a detent element connected with the lid member for movement therewith to and from the detent position, detent means on another of said members and engageable with the detent element at the detent position when the lid is at the open position to hold the lid member against hinge movement from the open position, a rider connected with the lid member to move therewith to and from the open position, a fixed guideway on the body member and engageable with the rider to guide the latter to and from the open position, and spring actuated means engaging the body member and guide link member comprising a swinging lever pivoted on one of said last named two members to swing into engagement with the other thereof to urge the lid member to the open and detent positions, and spring means yieldingly urging said lever into said engagement.

12. In a device hingedly connecting a vehicle rear deck lid member to a vehicle body member, a fulcrum link member disposed between and pivotally connected to the lid and body members for swinging in a hinge movement to and from an open position of the lid member, the lid member being pivotal on the fulcrum link member to and from a detent position, a detent element connected with the lid member for movement therewith to and from the detent position, detent means on another of said members and engageable with the detent element at the detent position when the lid is at the open position to hold the lid member against hinge movement from the open position, a rider connected with the lid member for moving therewith to and from the open position, a fixed guideway on the body member and engageable with said rider to guide the lid member to and from the open position, and spring actuated means yieldingly urging the rider against the guideway and yieldingly urging the lid member to the open and detent positions.

13. In a device hingedly connecting a vehicle rear deck lid to a vehicle body, a fulcrum link disposed between and pivotally connected to the lid and body for swinging in a hinge movement to and from an open position of the lid, means for guiding the lid to and from the open position comprising a fixed guideway on the body, the lid being pivotal on the fulcrum link to and from a detent position, a detent element connected with the lid for moving therewith to and from both the open position and the detent position, said detent element extending from the lid to ride along said guideway in guided relation to and from the open position, and spring actuated means yieldingly urging the detent element against the guideway and along the same to the open position, the guideway holding the detent means from movement to the detent position, the detent element being out of engagement with the guideway at the open position of the lid and being thereby movable to the detent position by said spring actuated means.

14. In a device hingedly connecting a vehicle rear deck lid to the vehicle body, a fulcrum link extending between and pivotally connected to the lid and body for swinging the lid to and from an open position, means for guiding the lid to and from the open position including a rider connected to the lid to move therewith to and from the open position and also including a curved guideway disposed on the body to guide the rider to and from the open position, spring actuated means yieldingly urging the rider along the guideway to the open position, the lid at the open position being pivotal on the fulcrum link to and from a detent position, and the spring actuated means being engaged with the lid to urge the same yieldingly to the detent position.

15. In a device hingedly connecting a vehicle rear deck lid to the vehicle body, a fulcrum link extending between and pivotally connected to the lid and body for swinging the lid to and from an open position, means for guiding the lid to and from the open position including a curved guideway and also including a detent projection connected to the lid to move therewith to and from the open

and detent positions, the guideway being disposed on the body to engage and guide the detent projection to and from the open position and having a detent engaging shoulder, the lid at the open position being pivotal on the fulcrum link to and from a detent position, the detent projection being engageable at the detent position with said shoulder to hold the lid against hinge movement from the open position, and spring actuated means yieldingly urging the rider along the guideway to the open position and to the detent position.

16. In a device for hingedly connecting two members, a pair of links, each disposed between and pivotally connected to both of said members for swinging hinge movement, a swinging lever pivoted on one of said members and having a portion arranged to engage one of said links to swing the latter, the shortest lines drawn from the point of engagement between the lever and said one link to the axes of the pivotal connections of said one member with both the lever and said one link being perpendicular to each other near the limit of the hinge movement in one direction, and spring means yieldingly urging swinging of said lever to engage said one link.

17. In a hinge device connecting a vehicle rear deck lid to the vehicle body for swinging between open and closed positions, a pair of hinge links, each being pivoted on the body and lid for hinge movement, the lid and body and links comprising four relatively movable members, a swinging lever pivoted on one of said members for swinging into engagement with a second of said members which is also pivoted on said one member, said second member being substantially perpendicular to said lever and on one side of the pivot axis thereof when the lid is adjacent its closed position, said second member being substantially perpendicular to said lever and on the other side of the pivot axis thereof when the lid is at its open position, and spring means yieldingly urging the lever into said engagement with said second member.

18. In a hinge device for a vehicle body rear deck lid, a fulcrum link and a guide link, each disposed between and pivotally connected to the lid and body for swinging bodily with the lid in a hinge movement to and from an open position, a swinging lever pivoted on the body to swing into engagement with said guide link to swing the latter to the open position, the locus of the point of engagement between said lever and guide link crossing a line joining the pivotal connections of said lever and guide link with the body, and spring means engaged with the body and lever to urge the latter yieldingly into said engagement with said guide link.

19. In a device for hingedly connecting two members, a pair of link members, each disposed between and pivoted on both of said first named two members for swinging hinge movement, a lever pivoted on one of said four members, a projection on one of said link members in engagement with said lever at all positions of hinge movement of said members, and spring means yieldingly urging the lever into engagement with said projection, the locus of the point of engagement between said projection and lever extending between the pivot axis of said lever and one of the pivot axes of the link member having said projection.

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