Feb. 11, 1941. C. A. SCHALLIS 2,231,550

DECK LID SUPPORT

Filed May 12, 1937 2 Sheets-Sheet 1

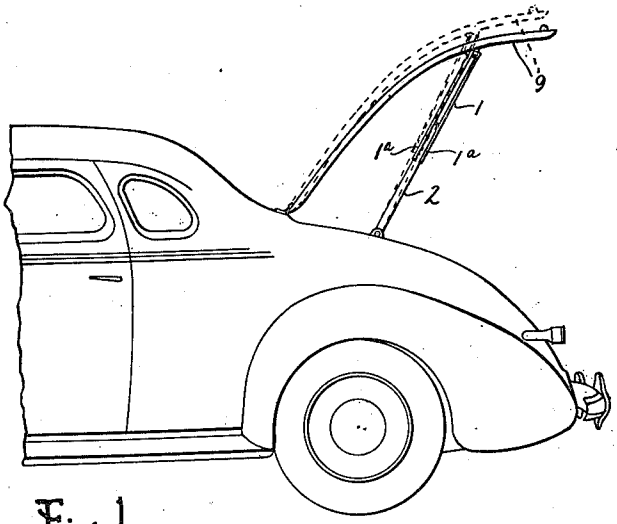


Fig. 1.

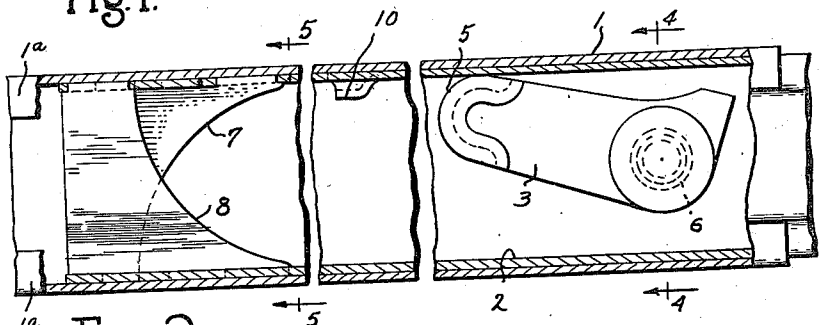


Fig. 3.

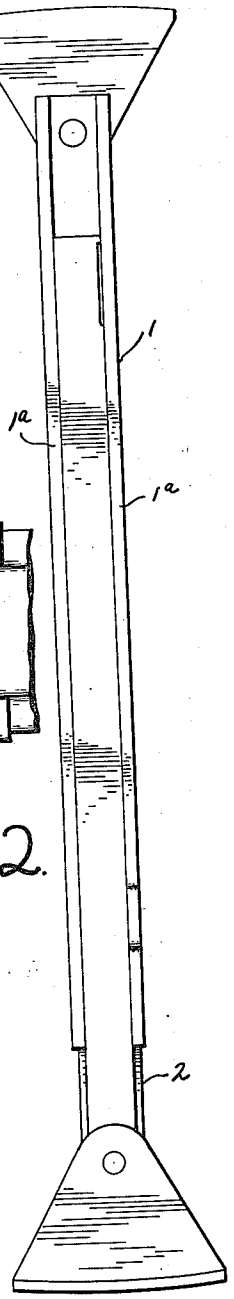


Fig. 2.

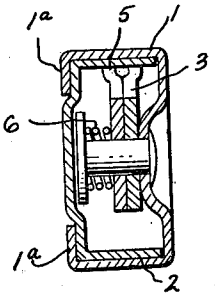


Fig. 4

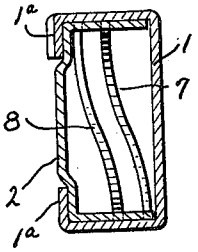


Fig. 5.

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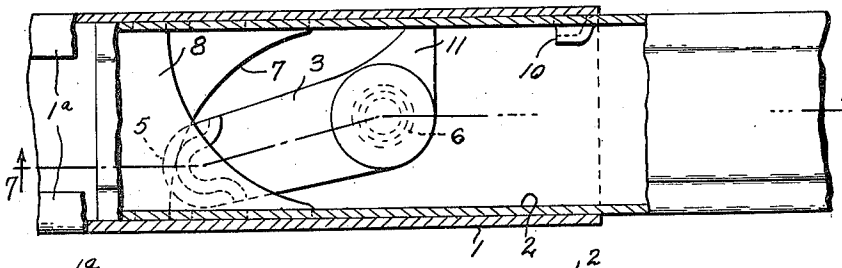


Fig. 6.

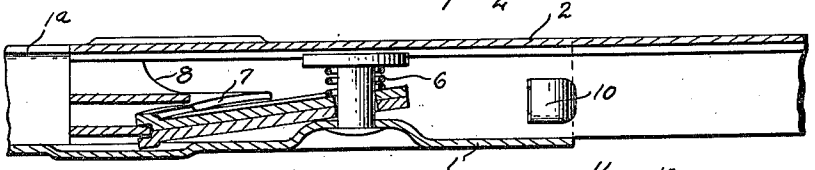


Fig. 7.

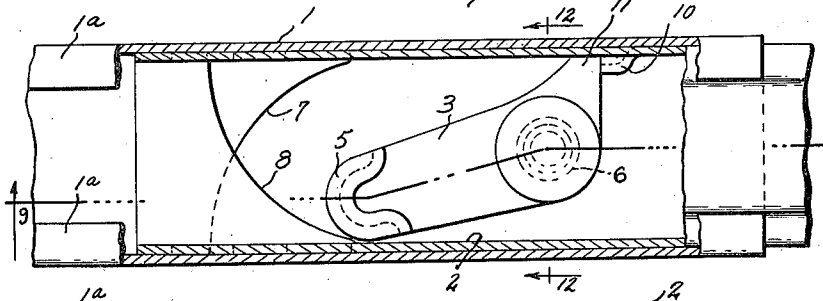


Fig. 8.

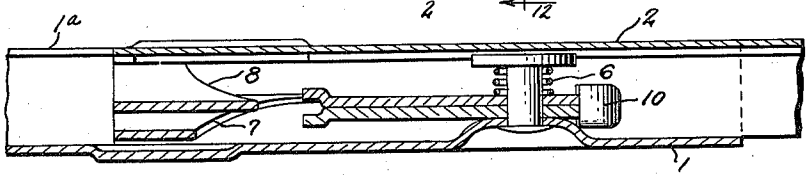


Fig. 9.

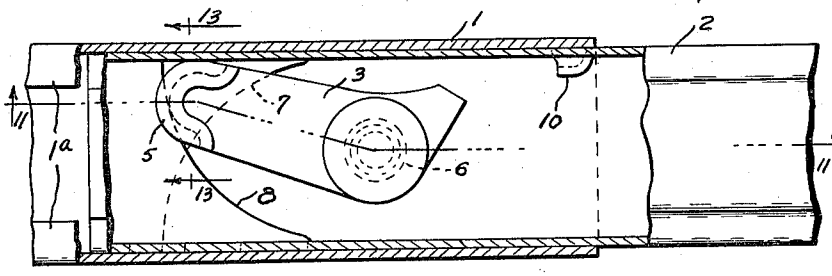


Fig. 10.

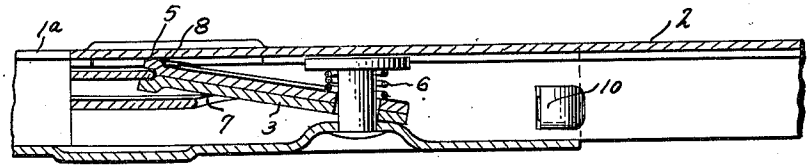


Fig. 11.

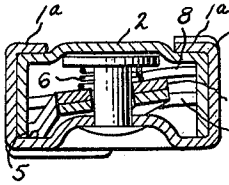


Fig. 12.

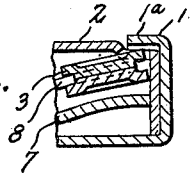


Fig. 13.

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UNITED STATES PATENT OFFICE

2,231,550

DECK LID SUPPORT

Carl A. Schallis, Highland Park, Mich., assignor to Ternstedt Manufacturing Company, Detroit, Mich., a corporation of Michigan

Application May 12, 1937, Serial No. 142,252

6 Claims. (Cl. 217—60)

This invention relates to props or lid supports, particularly the rear deck lids of automobiles. It is the object of the invention to provide a rear deck lid support in which the two sections telescope together and in which a slight lifting of the raised lid will release the sections and allow them to slide together in telescoping relation, thereby dropping the lid.

Props that accomplish this result and in this way are not new at this date but it is believed that the present invention accomplishes this purpose in a new and decidedly ingenuous way.

In the drawings:

Fig. 1 is an elevation of the rear of an automobile showing the prop supporting the rear deck lid.

Fig. 2 is an elevation of the prop having the sections telescoped together.

Fig. 3 is a longitudinal section.

Figs. 4 and 5 are sections on the corresponding lines of Fig. 3.

Fig. 6 is a longitudinal section showing the latch past the rest in a position to drop against the rest.

Fig. 7 is a section on the line 7—7 of Fig. 6.

Fig. 8 is a longitudinal section showing the latch engaging the rest.

Fig. 9 is a section on the line 9—9 of Fig. 8.

Fig. 10 is a longitudinal section showing the latch after it has been raised off the rest and in position to clear the rest.

Fig. 11 is a section on the line 11—11 of Fig. 10.

Fig. 12 is a cross section on the line 12—12 of Fig. 8.

Fig. 13 is a section on the line 13—13 of Fig. 10.

The telescoping upper section 1 and lower section 2 are channels that are locked together from separation by the flanges 1a on the upper section (Fig. 4). The two sections are pivoted, one to the body and the other to the lid (Fig. 1).

Latch 3 comprises two strips of metal welded together, as shown in Fig. 4, and spread at the nose to provide the bifurcated nose 5. This latch is normally pressed against one side of the prop by means of the coil spring 6. The latch can be tilted as shown in Figs. 7, 11, 12, and 13, for instance. This allows it to follow either the cam track 7 or the cam track 8, which are located in overlapping relation, as will be noted by comparing Figs. 6–9 inclusive. Both these cams, as is apparent from Fig. 5, are somewhat biased to the mid-plane of the two channels or are roughly located on helices.

The mode of operation is: The lid 9 is raised. Latch 3 in the position shown in Fig. 3 rides over the rest 10 and the bifurcated nose 5 strikes the beginning of cam track 7. The nose straddles the cam, as shown in Fig. 7, and this cam causes the latch to shift, as shown in Figs. 6 and 7, bringing the nose to the opposite side of the channels and bringing the heel 11 above the rest 10. The spring 6 affords enough friction on the latch to hold it in this position. The lid is now allowed to drop and the heel 11 rests on the rest 10, as shown in Fig. 8. Now the latch nose is in position to pick up the beginning of the other cam 8, as shown in Fig. 8, when the lid is raised a second time. This cam 8 causes the nose to be shifted back again to its original position, as is clearly shown in Figs. 10 and 11. The latch is now free to clear the rest when the lid is dropped (see Fig. 10).

I claim:

1. In a prop for lids and the like, comprising a pair of sections that are slidable with respect to each other in engaging relation, one of the sections having a rest and the other a relatively movable latch and cam means on the section having the rest arranged to guide the latch in back and forth oscillating movement to engage the rest when the lid is first dropped after raising and to clear the rest when raised a second time and dropped, said cam means comprising a pair of overlapping cam tracks extending in directions biased to the general plane of the relatively slidable sections, the said latch also being twistable on its pivot and provided with a bifurcated portion to engage and follow successively the said biased cam tracks.

2. In a prop for lids and the like, comprising a pair of sections that are slidable with respect to each other in engaging relation, one of the sections having a rest and the other a relatively movable latch, and cam means on the section having the rest arranged to guide the latch in back and forth oscillating movement to engage the rest when the lid is first dropped after raising and to clear the rest when raised a second time and dropped, said cam means comprising a pair of overlapping cam tracks extending in directions biased to the general plane of the relatively slidable sections, the said latch also being twistable on its pivot and provided with a bifurcated nose to engage and follow successively the said biased cam tracks and a spring bearing against the twistable latch to permit the same to tilt and affording a friction to hold the latch in the position to which it has been oscillated by said cam tracks.

3. Means for holding the lid or the like of a

body member in open position and controlled entirely by forces applied to the lid, comprising two prop members, one secured to the lid and the other to the body member, said members being connected together for relative movement and arranged to limit the maximum opening movement of the lid, a pivoted latch on one member mounted for both swinging and twisting movement on its pivot, a rest on the other member positioned to cooperate with the latch when the lid is in a position slightly less than its maximum open position, a cam acting upon the latch as the lid approaches maximum open position to swing and twist the latch in one direction to a position for engaging the rest upon slight closing movement of the lid to hold the lid open, and a reversely positioned cam for swinging and twisting the latch in the opposite direction and out of rest-engaging position upon a second movement of the lid substantially to its maximum open position whereby the prop members may move relatively and the lid may be closed, said cams each having a portion for initially engaging the latch which lie substantially in the same plane normal to the latch axis.

4. Means for holding the lid or the like of a body member in open position and controlled entirely by forces applied to the lid, comprising two prop members, one secured to the lid and the other to the body member, said members being connected together for relative movement and arranged to limit the maximum opening movement of the lid, a pivotally mounted latch on one member capable of both swinging and twisting on its pivot, yielding means acting upon the latch and which yields upon twisting movement, a rest on the other member positioned to cooperate with the latch when the lid is in a position slightly less than its maximum open position, two cams on said other member biased relative to a plane normal to the axis of the latch, one for swinging and twisting the latch as the lid approaches maximum open position to position the latch to engage the rest upon slight closing movement of the lid, and the other for swinging and twisting the latch in the opposite direction out of rest-engaging position upon a second movement of the lid substantially to its maximum open position whereby the lid may be closed.

5. Means for holding the lid or the like of a body member in open position and controlled entirely by forces applied to the lid, comprising two slidingly arranged prop members capable of limited extension, one secured to the lid and the other to the body member and arranged to be extended when the lid is opened and to limit lid opening movement, a pivotally mounted latch on one prop member capable of swinging and twisting on its pivot, a rest on the other prop member positioned to cooperate with the latch when the prop members are relatively positioned at less than maximum extension, a cam for engaging the latch as the lid approaches maximum open position to swing and twist the latch to a position for engaging the rest upon slight closing movement of the lid to hold the lid open, a reversely positioned cam for swinging and twisting the latch out of rest-engaging position upon a second movement of the lid substantially to its maximum open position whereby the sliding members may be collapsed and the lid closed, said cams being biased relative to a plane normal to latch pivot and causing the latch to twist when camming the latch, and tension means acting upon the latch to hold it in either one of said positions and for resisting twisting of the latch.

6. Means for holding the lid or the like of a body member in open position and controlled entirely by forces applied to the lid, comprising two slidingly telescoped prop members capable of limited extension, one secured to the lid and the other to the body member and arranged to be extended when the lid is open and to limit lid opening movement, said prop members forming a box-like area, a latch pivotally mounted on one prop member for limited swinging movement within the box formation and capable of twisting on its pivot, said latch having an arm arranged to engage opposite walls of the box-formation, a supporting heel on the latch, a rest on the other prop member positioned to cooperate with the heel of the latch when the prop members are relatively positioned at less than maximum extension, a cam acting upon the arm of the latch as the lid approaches maximum open position to swing and twist the arm substantially against one side wall of the box-formation and position the heel for engagement with the rest upon slight closing movement of the lid to hold the lid open, a cam acting upon the arm of the latch for swinging and twisting the same substantially against the opposite wall of the box-formation and to position the heel out of rest-engaging position upon a second movement of the lid substantially to its maximum open position, whereby the telescoping members may be collapsed and the lid closed, said cams being biased relative to the normal plane of the latch.

CARL A. SCHALLIS.