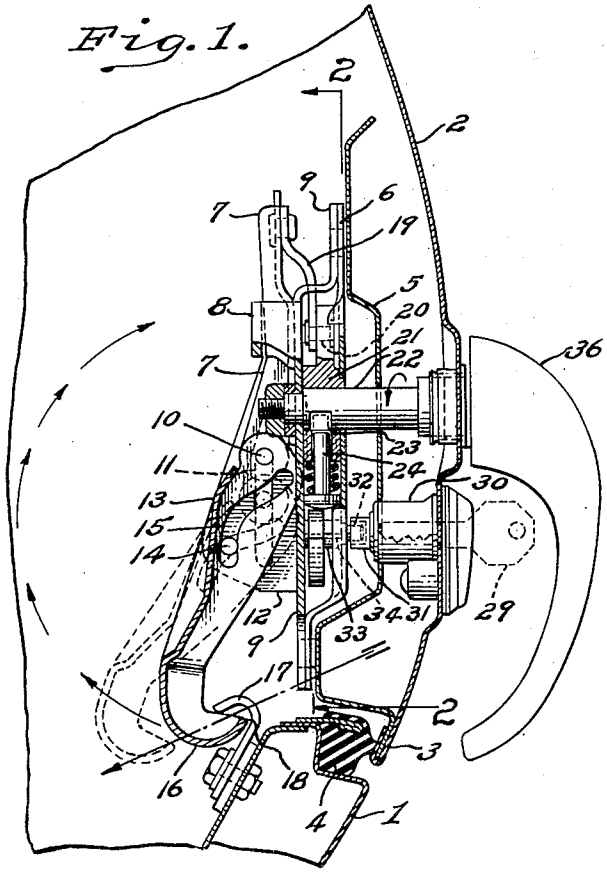
Nov. 9, 1943. G. N. HARDEN 2,333,861

REAR DECK LID LOCK

Filed March 23, 1942

Fig. 1.



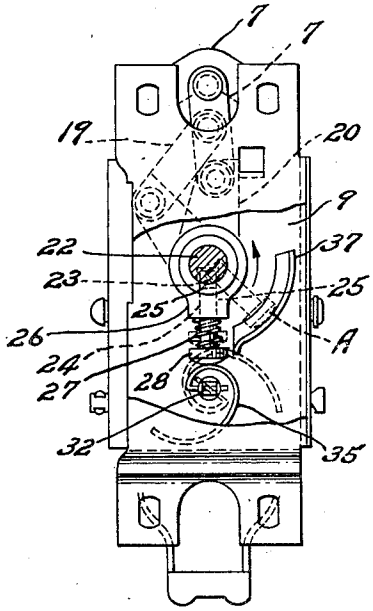


Fig. 2.

INVENTOR.
George N. Harden
BY
Barnes, Kisselle, Laughlin & Risch
ATTORNEYS.

Patented Nov. 9, 1943

2,333,861

UNITED STATES PATENT OFFICE

2,333,861

REAR DECK LID LOCK

George N. Harden, Detroit, Mich., assignor to Ternstedt Manufacturing Company, Detroit, Mich., a corporation of Michigan

Application March 23, 1942, Serial No. 435,863

5 Claims. (Cl. 70—218)

This invention relates to rear compartment locks for automobile bodies.

Rear compartment locks ordinarily are designed to have a locking arrangement in which the handle is connected with one or more sliding bolts or one or more clamps. The connection between these bolts or clamps and the handle is a positive one. The device for preventing the turning of the handle is usually some form of small sliding bolt. Hence, it is possible to put a tool, such as a pipe, over the handle and force the lock by means of breaking the small bolt that prevents the turning of the handle spindle.

It is the object of the present invention to provide a free-wheeling handle so that when the compartment is locked with a key the handle is disconnected from the locking parts so these cannot be forced and broken. This is an old idea in connection with the side door locks of automobiles, but so far as I know it has not been used with rear compartment locks. Most of these side door locks in which this principle is worked out employ a pin tumbler form of lock which is embodied in the end of the handle spindle and it is relatively an easy matter to provide some form of clutch operated by the key barrel and lying between the handle and the handle spindle.

In the present invention the key barrel is not located at the end of the handle spindle and a problem is presented of providing a suitably operated key or clutch device between the handle spindle and one of the operating parts of the lock. I believe that I have solved the problem by providing a very efficacious disconnectable drive between the spindle and the lock part; at the same time one that involves a very simple arrangement of parts.

Referring to the drawing:

Fig. 1 is a vertical section through the lower part of the rear compartment lid and an adjoining part of the body showing the lock in section.

Fig. 2 is a section on the line 2—2 of Fig. 1.

1 designates the automobile body just below the rear compartment opening. 2 is the rear compartment lid which has an overlap flange 3 which closes against the rubber weatherstrip 4. 5 is the rear compartment lid inner panel and secured to this by welding or otherwise is a lock plate 6. The lock involved here is the pull hook type, such as shown and described and claimed in the Wise application, Serial No. 366,365 filed November 20, 1940.

This hook type of lock has a slide 7 which is guided vertically by the turned-over lugs 8 of the housing 9. The lower end of this slide carries a pin 10 which is guided in the slot 11 in the flange 12 which is turned upon the sides of the plate or housing 9. A swinging clamp or hasp 13 is pivoted to the flange 12 by pin 14 and this pin 14 passes through the curved slot 15 in the side wall of the hasp. Consequently, when slide 7 is caused to move downwardly in the housing 9, pin 10 pushes the hasp with its hook 16 first downwardly to free the same from the keeper 17, as shown in the dotted lines of Fig. 1. In pushing the hasp down, the pin 14 slides in the vertical portion of the slot 15 to permit the downward movement of the hook 16. Thereafter, the pin 10, in pushing on the end of the hasp, causes the hasp to pivot on the pin 14 and swing up through the arc shown by the arrows in Fig. 1. These arrows represent the path of travel of the lip 18 of the hasp. However, this is more fully described and shown in the aforesaid Wise application, Serial No. 366,365. The details are not further shown nor described for the exact form of the clamp or the locking mechanism is immaterial so far as the invention to be hereinafter claimed is concerned as this involves a special disconnectable key between the operating member of the lock and the shaft regardless of whether the lock mechanism is a swinging hasp type of lock to clamp the lid securely in place or is some other form of lock.

The slide 7 is operated by a link 19 which is connected with a crank arm 20 which has a hub 21 which is rotatable upon lock spindle 22. The lock spindle is provided with a recess 23 in which may slide the key pin 24. Ordinarily this pin 24 is out of the recess as is shown in Fig. 2. The pin is guided in a hole 25 in the sleeve 26 which is an integral part of the hub 21 of the crank. The coil spring 27 engages against the end of the sleeve and bears against the head 28 of the sliding pin and ordinarily, when the lid is closed and the key turned to locked position, keeps the pin disengaged from the recess in the spindle, as shown in Fig. 2. Hence, the handle is disconnected from the crank 20 and if the handle is now turned, the handle revolves freely without operating the lock or clamp.

In order to release the clamp and swing it upwardly, a key 29 is placed in the cylinder lock 30. The key turns the barrel 31 which has a square opening engaging over the squared end 32 of the shaft 33. Passing through a slot 34 in this shaft is the end of a scroll type of cam 35. When the key barrel is turned this causes the shaft 33 and the scroll cam to turn from the full-line position shown in Fig. 2 to the dotted line or high

position shown in Fig. 2, raising the pin to the dotted-line position shown in Fig. 2. The handle 36 may now be turned and the pin 24 fastens the crank hub 21 to the handle spindle 22. This causes the crank 20 to pull down on the link 19 as shown in the dotted lines of Fig. 2, pulling the slide downwardly, as shown in Fig. 2, and causing the hasp to first drop to the dotted-line position, shown in Fig. 1, and a continued rotation of the handle causes the hasp to swing up through the arc described by the arrows in Fig. 1 to a position substantially parallel with the compartment lid so as to be out of the way and not project any substantial distance to afford an obstruction on which one's head may be bumped, as fully explained in the Wise application, Serial No. 366,365.

After the scroll cam has been turned by the key to the lift the pin, it is necessary to keep the parts in that position while the handle and the spindle are turned through substantially a quarter of a turn. To so retain the pin the guide flange 37 is struck out of the housing plate 9. This has the form of an arcuate track which retains the pin, as shown in the dotted-line position A, Fig. 2. By swinging the rear deck lid handle 36 through a quarter of a turn, slide 7 is given enough movement to swing the hasp through substantially 180°. When the lid is closed and the handle turned back to the vertical position shown in Fig. 1, the pin 24 drops off the end of the track 37 and a spring 27 returns it to its disconnected position after the key 23 has been turned to remove the key which turns the scroll cam 35 to its lowermost position.

What I claim is:

1. In a lock for a rear compartment lid of an automobile body or a similar purpose, said lock provided with operating parts, the combination of a crank provided with a hub and arranged for connection with the operating parts of the lock, said crank hub being provided with a pin opening, a lock handle and spindle, the spindle being provided with a recess arranged to register with the opening in the crank hub when the handle is in its normal locked position, a pin guided in the opening in the said hub and arranged to be normally disengaged from the recess in the spindle when these parts register, a cam for engaging the pin, a key-operated lock member connected with the cam so that when the lock key is turned the cam is rotated to cause the pin to enter the recess in the spindle and tie the spindle and the crank hub together so that the turning of the handle will cause the movement of the lock parts, the said cam being in the form of a scroll of flat wire.

2. In a lock for a rear compartment lid of an automobile body or a similar purpose, said lock provided with operating parts, the combination of a crank provided with a hub and arranged for connection with the operating parts of the lock, said crank hub being provided with a pin opening, a lock handle and spindle, the spindle being provided with a recess arranged to register with the opening in the crank hub when the handle is in its normal locked position, a pin guided in the opening in the said hub and arranged to be normally disengaged from the recess in the spindle when these parts register, a cam for engaging the pin, a key-operated lock member connected with the cam so that when the key is turned the cam is rotated to cause the pin to enter the recess and tie the spindle and the crank hub together so that the turning of the handle will cause the movement of the lock parts, and means aside from the cam for keeping the pin in engaged position when the handle is turned and the pin is caused to leave the high part of the cam.

3. In a lock for a rear compartment lid of an automobile body or a similar purpose, said lock provided with operating parts, the combination of a crank provided with a hub and arranged for connection with the operating parts of the lock, said hub being provided with a pin opening, a lock handle and spindle, the spindle being provided with a recess arranged to register with the opening in the hub when the handle is in its normal locked position, a pin guided in the opening in the said hub and arranged to be normally disengaged from the recess in the spindle when these parts register and a cam for engaging the pin, a key-operated lock member connected with the cam so that when the key is turned the cam is rotated to cause the pin to enter the recess in the spindle and tie the spindle and the crank hub together so that the turning of the handle will cause the movement of the lock parts, and means for keeping the pin in engaged position when the handle is turned and the pin is caused to leave the high part of the cam, said means comprising an arcuate track.

4. In a lock for a rear compartment lid of an automobile body or a similar purpose, said lock provided with operating parts, the combination of a lock spindle, a handle on the outer end of the spindle, said spindle being provided with a recess, an operating member for the lock parts rotatably supported on the spindle and having an opening arranged to register with the recess in the spindle and a pin guided in the said opening and normally tending away from the recess in the spindle, a cylinder type of lock offset from the lock spindle, a cam connected with said cylinder lock and arranged to be turned when the key is turned in the cylinder lock, said cam, when turned, causing the pin to move into engagement with the recess of the spindle and tie the spindle and the operating member of the lock together, and means aside from the cam for keeping the pin in the recess when the handle and pin are turned.

5. In a lock for a rear compartment lid of an automobile body or a similar purpose, said lock provided with operating parts, the combination of a lock spindle, a handle on the outer end of the spindle, said spindle being provided with a pin recess, an operating member for the lock parts rotatably supported on the spindle and having an opening arranged to register with the recess in the spindle and a pin guided in the said opening, a spring for forcing the pin out of the recess in the spindle, a cylinder type of lock offset from the lock spindle, a cam connected with said cylinder lock and arranged to be turned when the key is turned in the cylinder lock, said cam, when turned, causing the pin to move into engagement with the recess and tie the spindle and the operating member together, the said cam being in the form of a scroll of flat wire arranged to engage the end of the said pin so that when the cylinder key is turned the scroll is revolved to force the pin against the urge of the spring into the recess to tie the spindle and the operating member together.

GEORGE N. HARDEN.