March 24, 1925. 1,531,090

P. W. GILBERT

TRUNK LOCK

Filed April 16, 1923

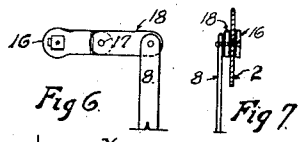

Fig 6.

Fig 7.

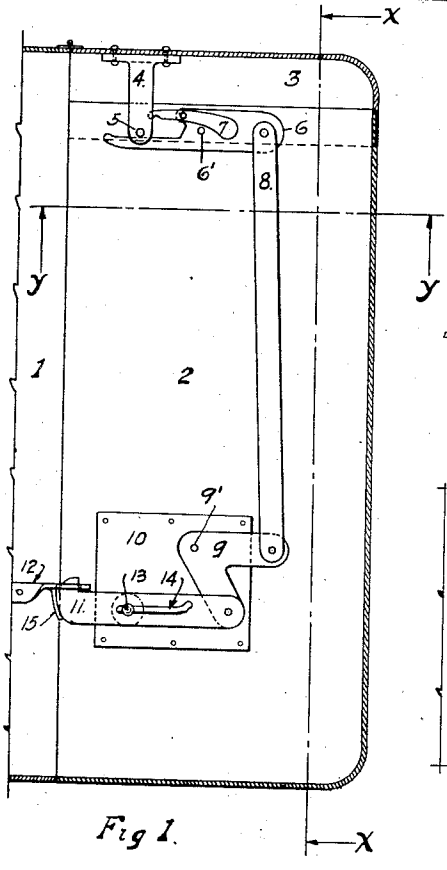

Fig 1.

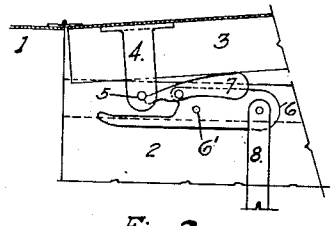

Fig 2.

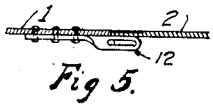

Fig 5.

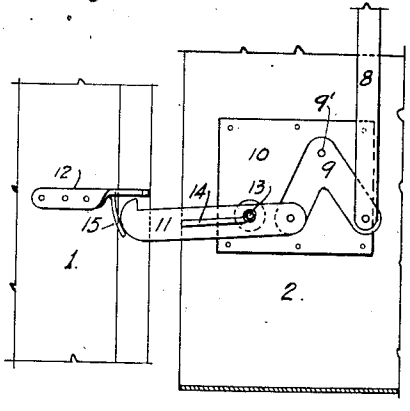

Fig 3.

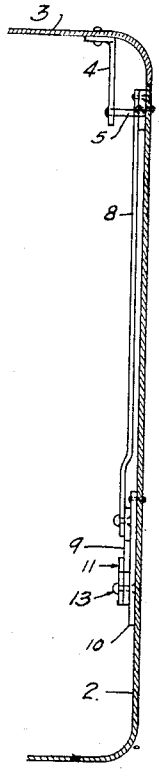

Fig 4.

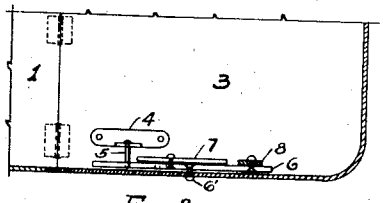

Fig 8.

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Patented Mar. 24, 1925. 1,531,090

UNITED STATES PATENT OFFICE.

PAUL W. GILBERT, OF SOUTH PASADENA, CALIFORNIA.

TRUNK LOCK.

Application filed April 16, 1923. Serial No. 632,281.

To all whom it may concern:

Be it known that I, PAUL W. GILBERT, a citizen of the United States, and resident of South Pasadena, in the county of Los Angeles, State of California, have invented a new and useful Improvement in a Trunk Lock, of which the following is a specification.

This invention relates to a lock for the side sections of a wardrobe trunk type of box having an open top.

Wardrobe trunks are commonly divided longitudinally into two side sections hingedly connected together, one of the sections having a hinged top. In closing the trunk, the sides are brought together and locked, then the top is swung into closed position and locked. In opening the trunk, the top is first swung open and then the sides are opened. In order to avoid a multiplicity of key operated locks, the sides have heretofore been provided with a lock operated by an inside rod, accessible upon opening the top. The top has been provided with a key operated master lock. In locking the sides of such trunks together, it is necessary that the parts be brought snugly together, and then the hinged leaf supporting the master lock swung into closed position. This is often a laborious and a difficult job. The objects of my invention are, first, to provide a lock structure for the sides, which will engage the sides before they are fully closed and whose parts are so arranged that they may be used to draw the sides into snugly closed position; second, to provide means whereby closing of the top draws the sides together and locks the same in closed position; and third, to provide a structure such that opening the top automatically unlocks the sides and will start opening of the trunk.

These objects together with other objects and corresponding accomplishments are obtained by means of the embodiments of my invention illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary longitudinal section through a trunk at right angles to the plane of division showing the lock structure, the trunk being fully closed and locked; Fig. 2 is a fragmentary view of the trigger portion of the structure with the top in partially open position during the operation of closing; Fig. 3 is a fragmentary view showing the sides partially open and with the latch about to engage the keeper; Fig. 4 is a section through the trunk taken on the line x—x in Fig. 1; Fig. 5 is a fragmentary view in section through the trunk showing the keeper in plan; Fig. 6 is a modified form of trigger shown in elevation; Fig. 7 is a side view of the structure shown in Fig. 6; and Fig. 8 is a section as seen on the line y—y of Fig. 1.

Referring more particularly to Figs. 1 to 5, inclusive, one side of the trunk having a closed top is indicated by 1. A side 2 is hingedly connected thereto and is provided with an open top 3. Secured to the top 3 is a finger 4 extending downwardly and provided with a laterally extending pin 5.

Pivotally mounted upon the side 2 by a pin 6′ is a trigger 6 disposed to be engaged by the pin 5. A pawl 7 is pivotally mounted upon trigger 6, and pin 6′ limits the swinging of the pawl in a clockwise direction. A link 8 is secured to one end of the trigger 6 and to a bell crank lever 9, which is pivotally mounted at 9′ upon a plate 10 secured to the side 2 of the trunk. Connected to the other end of lever 9 is a latch 11 having a rounded nose and a hook to engage the keeper 12 which is secured to side 1. The latch is guided by means of a pin 13 fixed to plate 10 and riding in a slot 14 having an upwardly inclined inner end. The keeper has an abutment 15 disposed to be engaged by the rounded nose on the latch.

Suppose the parts are in the position shown in Fig. 1, and it is desired to open the trunk. The top is swung into open position. In the opening movement of the top, finger 4 and pin 5 are swung upwardly so that the latter engages the pawl 7. The pawl cannot be moved clockwise upon the trigger 6 and therefore causes the trigger to be swung in a clockwise direction. This depresses the link 8 and swings the lever 9 into the position shown in Fig. 3. Swinging of the lever causes the latch 11 first to be protracted longitudinally, forcing the trunk sides apart as shown in Fig. 3 by reason of the latch pressing against abutment 15. At the end of the longitudinal movement of the latch, the pin 13 rides into the inclined end of the slot 14 causing the latch to be swung so that the hook moves out of the slot in the keeper, thereby unlocking the sides. At the upper end of the movement of the trigger 6, pin 5 on finger 4 will ride from beneath the pawl 7. In closing the

trunk, top 3 is brought into closed position. The pawl 6 is disposed in the path of pin 5 and the latter may pass it as shown in Fig. 2. The pin 5 then engages the trigger 6 and swings the latter so that link 8 is drawn upwardly to the position shown in Fig. 1. Lever 9 is swung from the position shown in Fig. 3, first causing the latch 11 to be swung upwardly so that the hook engages keeper 12. Thereafter, continued movement of the latch due to pressure upon the cover 3 causes the latch to be retracted longitudinally bringing the sides 1 and 2 together. The pin 5 rests upon the finger 6 holding the latter in its locked position so that the sides cannot be opened. By locking the cover 3 closed, the sides are also maintained closed.

Referring particularly to Figs. 6 and 7, a modified form of structure is shown wherein the lock may be operated from a key and not from the cover. A leaf 16 carrying a master lock is hinged to a section secured to a pivot pin 17. Thus, the leaf may be turned to be in line with its keeper and then swung into locked position. Pin 17 is pivotally mounted in side 2 and is secured to an arm 18 mounted on the inside of the trunk. Link 8 is pivotally secured to arm 18. It is obvious that by turning leaf 16 the lock for the sides is operated. When the leaf is in position to be locked the lock for the sides is locked.

While I have disclosed my invention as embodied in a wardrobe trunk, it is obvious that it is not limited to such use. Any box may be equipped with my invention, suitable mechanical changes being made where necessary.

What I claim is:

1. A device of the character described comprising in combination with side members mounted to be moved toward each other to closed position and a top hinged to one of said side members and adapted to close over the other side member, a keeper mounted on one of said side members, a latch mounted on the other side member to be tilted so as to engage said keeper and then to be retracted so as to draw said side members together, means operated by swinging of said top from or to closed position to protract and retract said latch and to disengage it from said keeper at the end of its protracted position.

2. A device of the class described comprising in combination with side members mounted to be moved toward each other to closed position and a top hinged to one of said side members adapted to be closed over the other side member, a keeper having a slot and an abutment at the slot mounted on one of said side members, a latch having a hook for disposal in said slot so as to lock with said keeper and a nose to engage said abutment, said latch being mounted on the other side member so as to be tilted to engage said keeper and then to be retracted so as to draw said members together, and means operated by swinging of said top from and to closed position to protract and retract said latch and to disengage it from said keeper at the end of its protracted position.

3. A device of the class described comprising in combination with side members to be moved toward each other to closed position and a top hinged to one of said side members and adapted to close over the other of said side members, a keeper having a slot and a laterally extending abutment at the slot mounted on one of said side members, a latch having a hook for disposal in said slot so as to lock with said keeper and a nose to engage said abutment, said latch having a longitudinally extending slot with an inclined inner end, a pin fixed to the other of said side members slidably extending through said slot so as to support said latch, and means operated by swinging of said cover from and to closed position to protract and retract said latch.

4. A device of the character described comprising in combination with side members mounted to be moved toward each other to closed position, and a top hinged to one of said side members and adapted to close over the other side member, a keeper mounted on one of said side members, a latch mounted on the other side member to be tilted so as to engage said keeper and then to be retracted so as to draw said side members together, means to protract and retract said latch and disengage it from said keeper at the end of its protracted position, said means including a trigger, a finger device mounted on said top for engaging said trigger to lift the latter on opening said cover so as to protract said latch and to lower the trigger so as to retract said latch on closing said cover.

5. A device of the class described comprising in combination with side members mounted to be moved toward each other to closed position and a top hinged to one of said side members adapted to be closed over the other side member, a keeper having a slot and an abutment at the slot mounted on one of said side members, a latch having a hook for disposal in said slot so as to lock with said keeper and a nose to engage said abutment, said latch being mounted on the other side member so as to be tilted to engage said keeper and then to be retracted so as to draw said members together, means to protract and retract said latch and to disengage it from said keeper at the end of its protracted position, said means including a trigger, a finger device mounted on said top for engaging the trigger to lift the latter on opening said cover so as to

protract said latch and to lower the trigger so as to retract said latch on closing said cover.

6. A device of the class described comprising in combination with side members to be moved toward each other to closed position and a top hinged to one of said side members and adapted to close over the other of said side members, a keeper having a slot and a laterally extending abutment at the slot mounted on one of said side members, a latch having a hook for disposal in said slot so as to lock with said keeper and a nose to engage said abutment, said latch having a longitudinally extending slot with an inclined inner end, a pin fixed to the other of said side members slidably extending through said slot so as to support said latch, means to protract and retract said latch, said means including a trigger, a finger device mounted on said top for engaging said trigger to lift the latter on opening said cover and protract said latch and to lower the trigger and retract said latch on closing said cover.

7. A device of the class described comprising in combination with side members to be moved toward each other to closed position and a top hinged to one of said side members and adapted to close over the other of said side members, a keeper having a slot and a laterally extending abutment at the slot mounted on one of said side members, a latch having a hook for disposal in said slot so as to lock with said keeper and a nose to engage said abutment, said latch having a longitudinally extending slot with an inclined inner end, a pin fixed to the other of said side members slidably extending through said slot so as to support said latch, linkage connected to said latch and including a rod whereby longitudinal movement upwardly of said rod will operate said linkage to retract said latch and longitudinal movement of said rod inwardly will cause said linkage to protract the latch, a pivotally mounted trigger secured to said rod and having a pawl pivotally mounted thereon free to swing downwardly toward said trigger at its outer end and limited against movement in the other direction, a pin secured to said top for engagement beneath said pawl to lift said trigger on opening said cover so as to protract said latch, and on closing said cover to pass said pawl, engage said trigger and lower the latter to retract said latch.

In witness that I claim the foregoing I have hereunto subscribed my name this 11th day of April, 1923.

PAUL W. GILBERT.