May 5, 1925. 1,536,268

M. RASMUSSEN

TRUNK LOCK

Filed July 7, 1923

Fig. 1.

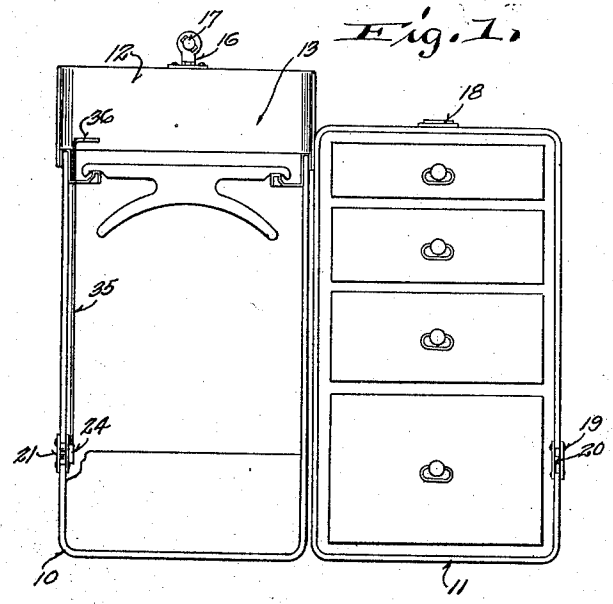


Fig. 4.

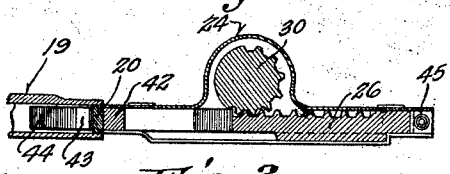


Fig. 6.

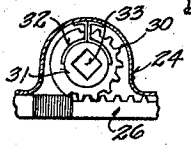


Fig. 3.

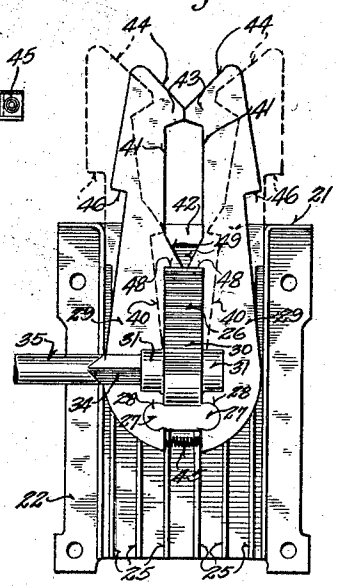


Fig. 2.

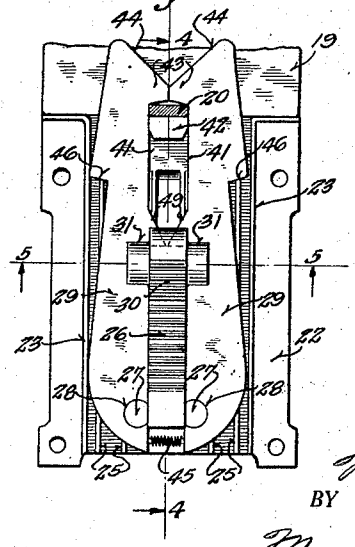
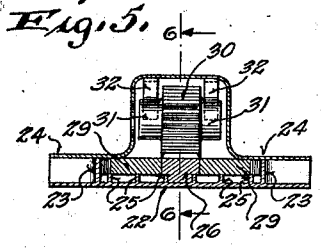


Fig. 5.



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UNITED STATES PATENT OFFICE.

MARTIN RASMUSSEN, OF RACINE, WISCONSIN, ASSIGNOR TO HARTMANN TRUNK COMPANY, OF RACINE, WISCONSIN, A CORPORATION OF WISCONSIN.

TRUNK LOCK.

Application filed July 7, 1923. Serial No. 650,185.

To all whom it may concern:

Be it known that I, MARTIN RASMUSSEN, a citizen of the United States, and resident of Racine, in the county of Racine and State of Wisconsin, have invented new and useful Improvements in Trunk Locks, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to trunks, and has for one of its objects to provide a lock of a non-automatic type, particularly adapted for locking together sections of a wardrobe trunk.

A further object of the invention is to provide a manually operated lock for wardrobe trunks which will receive the keeper member before the sections are entirely closed, and will clampingly draw the same to the fully closed position and there positively lock it.

A still further object of the invention is to provide a trunk lock in which the locking members are normally positioned when the sections are opened to yieldingly receive the keeper member.

A still further object of the invention is to provide a lock of the class described which will be simple in construction, comparatively inexpensive to manufacture and more efficient in use than those which have been heretofore proposed.

With the above and other objects in view, which will appear as the description proceeds, the invention consists in the novel details of construction and combinations of parts more fully hereinafter described and particularly pointed out in the appended claims.

Referring to the accompanying drawings in which like reference characters designate like parts in all the views,

Figure 1 is an elevational view of a wardrobe trunk, the sections in open positions, and with a lock made in accordance with the present invention applied thereto;

Fig. 2 is an enlarged elevational view of the lock in its closed position, a portion of the casing being removed and the lock being shown in the position at right angles to the position shown in Fig. 1;

Fig. 3 is a view similar to Fig. 2, showing the lock in its open positions;

Fig. 4 is a central sectional view, taken approximately on the plane indicated by the line 4—4 of Fig. 2, looking in the direction of the arrows;

Fig. 5 is a cross-sectional view, taken approximately on the plane indicated by the line 5—5 of Fig. 2, looking in the direction of the arrows; and

Fig. 6 is a fragmentary detail sectional elevational view, taken approximately on the plane indicated by the line 6—6 of Fig. 5, looking in the direction of the arrows.

Referring to the said drawings, the numeral 10 indicates the wardrobe section of any suitable trunk to which is hingedly secured, in the usual and well known manner, the drawer section 11 and the top cover section 12, adapted to close the open upper end 13 of the said wardrobe section. The top cover section may be provided with the usual hasp member 16, bearing any suitable trunk lock 17, adapted to engage the escutcheon plate 18 carried by the drawer section 11, as will be readily understood.

The said drawer section 11 is also provided with an escutcheon plate 19, having a keeper lug or bar 20, which is adapted to be engaged by the locking members of the lock 21, constituting the present invention, and carried in co-operative relation to the said escutcheon plate 19 by the wardrobe section 10.

The said lock assembly 21 comprises a casing 22 provided with the rigid angularly disposed guide flanges, 23, and with the cover plate or member 24, which may be secured to the body portion of the casing 22 in any suitable manner. The said body portion of the casing 22 may also be provided with a plurality of relatively short ribs 25, serving to space and guide the moving parts of the lock, as will readily appear.

Slidably mounted between an adjacent pair of the said ribs 25 is a rack member 26, which is provided adjacent one end with a pair of rigid cylindrical protuberances or pivot members 27, which are received in corresponding recesses 28, formed adjacent the ends of the locking members 29, see especially Figs. 2 and 3. A mutilated pinion 30, having the reduced hubs 31, is journalled in suitable bearing members 32, carried by the cover plate or member 24, see especially Figs. 5 and 6, and the said pin-

ion is provided with a squared hole 33, adapted to receive a squared end 34 of the vertically extending rod 35.

The said rod 35 extends upwardly and is suitably supported and journalled adjacent the wall of the wardrobe section 10, as will be clear from Fig. 1, and its upper end may be bent as indicated at 36 to provide an operating handle for oscillating the rod, as will presently appear.

The locking members 29 are preferably shaped substantially as shown in Figs. 2 and 3, their lower portions being cut away as indicated at 40 to accommodate the rack member 26, and the upper portions of the said members are also cut away as indicated at 41 to provide a recess to accommodate the keeper lug or bar 20, as well as the lug 42, rigidly carried by the casing 22. The extreme upper portions of the members 29 are provided with the meeting toes 43 and with the converging inclined surfaces 44, adapted to co-operate with the keeper lug or bar 20 for locking the trunk, as will likewise appear more fully below.

A suitable spring 45 is interposed between the lower spaced ends of the members 29, see Figs. 2 and 3, and normally tends to urge the upper ends of the said members, together as shown in full lines in the said figures. The said members 29, however, are further provided upon their outer edges with the shoulders 46 which are adapted to engage the inner surfaces of the guide flanges 23 to positively force the upper ends of the said members 29 together in case the spring 45 breaks or otherwise fails to do so.

The inner surfaces of the members 29 between the cut away portions 40 and 41, are further provided with a pair of lugs 48, having the inclined surfaces 49, adapted to engage the lug 42 to force the locking members 29 apart to the dotted line position illustrated in Fig. 3, when at their extreme uppermost limit of movement.

The operation of the lock will be clear from the foregoing but it may be briefly summarized as follows. Supposing the trunk sections to be in the positions illustrated in Fig. 1, in which condition the lock parts will be in the full line positions shown in Fig. 3, and it is desired to close and lock the trunk. The drawer section 11 of the trunk is swung on its hinges toward the wardrobe section 10, until the keeper lug or bar 20 engages the inclined surfaces 44 of the locking members 29. Further movement of the drawer section will cause the said keeper lug to force the upper ends of the members 29 apart against the pressure of the spring 45, until the said keeper bar snaps past the toes 43 of the said members 29 and enters the cut away portions 41.

In this position the sections 10 and 11 are not completely closed, but they may be by now grasping the handle 36 and moving the vertically extending rod 35 through an arc of a circle, which movement will be communicated to the mutilated pinion 30 and through it to the rack member 26, which will be moved downwardly, as viewed in Fig. 3, to the position shown in Fig. 2, carrying with it the locking members 29. These said members, either through the instrumentality of the spring 45 or by reason of the engagement of the shoulders 46 with the guide flanges 23, will be caused to move inwardly about their pivots 27 to the position shown in Fig. 2, thereby securely retaining the keeper lug 20 within the cut away portions 41 below the toes 43. The wardrobe and drawer sections being thus securely locked, the top cover section 12 may be swung downwardly upon its hinges to engage its lock 17 with the escutcheon plate 18, as will be readily understood, in which positions the three sections of the trunk are securely locked together.

When it is desired to unlock the trunk a reverse procedure is followed, the lock 17 being first disengaged from the plate 18 and the top cover section raised, as shown in Fig. 1. The rod 35 is then rotated by means of its handle 36, which movement is transmitted through the pinion 30 to the rack 26, which will be raised, carrying with it the locking members 29.

When the said members 29 reach their extreme uppermost position as viewed in Fig. 3, the inclined surfaces 49 of the lugs or projections 48 will engage the lug 42 carried by the casing 22 and will force the pivoted locking members 29 apart to the dotted line position shown in Fig. 3, thereby permitting the keeper lug or bar 20 to be withdrawn between the toes 43, as will be readily understood.

While one form of the invention has been illustrated and described, it is obvious that those skilled in the art may vary the details of construction as well as the arrangement of parts without departing from the spirit of the invention, and therefore it is not wished to be limited to the above disclosure except as may be required by the accompanying claims.

What is claimed is:

1. In a trunk lock, a keeper member; a longitudinally slidable and pivoted locking member adapted to be engaged and moved about its pivot by said keeper member when the parts are in their partially open positions; means normally urging said locking member to keeper engaging position; and manually operable means for sliding said locking member to clampingly draw said keeper member to its fully closed position.

2. In a trunk lock, a keeper member; a longitudinally slidable and pivoted locking member adapted to occupy open and closed

positions, and to be engaged by said keeper member when the parts are in their partially closed positions to move it about its pivot to open position; resilient means normally urging said locking member to keeper engaging position; additional means for positively forcing said locking member to keeper engaging position; and manually operable means for sliding said locking member to clampingly draw said keeper member to fully closed position.

3. In a trunk lock, a keeper member; a slidable pivoted locking member adapted to occupy open and closed positions, and to be engaged by said keeper member when the parts are in their partially closed positions; resilient means normally urging said locking member to keeper engaging position; additional means for positively forcing said locking member to keeper engaging position; manually operable means for sliding said locking member to clampingly draw said keeper member to fully closed position; and means for positively moving said locking member to fully open position to disengage said keeper member.

4. In a trunk lock, a keeper member; a casing; a rack slidably mounted in said casing; a gear engaging said rack; a pair of locking members pivotally carried by said rack, adapted to receive said keeper; means for yieldingly urging said locking members to keeper engaging position; and means for rotating said gear, and to thereby move said rack to draw said locking members to locked position.

5. In a trunk lock, a keeper member; a casing; a rack slidably mounted in said casing; a gear engaging said rack; a pair of locking members pivotally carried by said rack, in spaced relation and provided with toes adapted to receive said keeper; means comprising a spring interposed between said locking members for yieldingly urging said locking members to keeper engaging position; and means for rotating said gear, and to thereby move said rack to draw said locking members to locked position.

6. In a trunk lock, a keeper member; a casing provided with a pair of spaced guide flanges; a rack slidably mounted in said casing; a mutilated gear engaging said rack; a pair of spaced locking members pivotally carried by said rack, provided with meeting toes adapted to engage said keeper member; a spring interposed between said locking members for yieldingly urging said toes toward each other; means coacting with said guide flanges for positively urging said toes toward each other; and manual means for oscillating said gear to reciprocate said rack and locking members.

7. In a trunk lock, a keeper member; a casing provided with a pair of spaced guide flanges; a rack slidably mounted in said casing; a mutilated gear engaging said rack; a pair of spaced locking members pivotally carried by said rack, provided with meeting toes adapted to engage said keeper member; a spring interposed between said locking members for yieldingly urging said toes toward each other; means comprising shoulders carried by said locking members coacting with said guide flanges for positively urging said toes toward each other; manual means for oscillating said gear to reciprocate said rack and locking members; and means comprising coacting lugs carried by said locking members and said casing for positively moving said toes away from one another.

In testimony whereof, I affix my signature.

MARTIN RASMUSSEN.