(No Model.) 2 Sheets—Sheet 1.

H. D. THACKER & J. V. DOWN.

TRUNK.

No. 495,851. Patented Apr. 18, 1893.

Fig. 1.

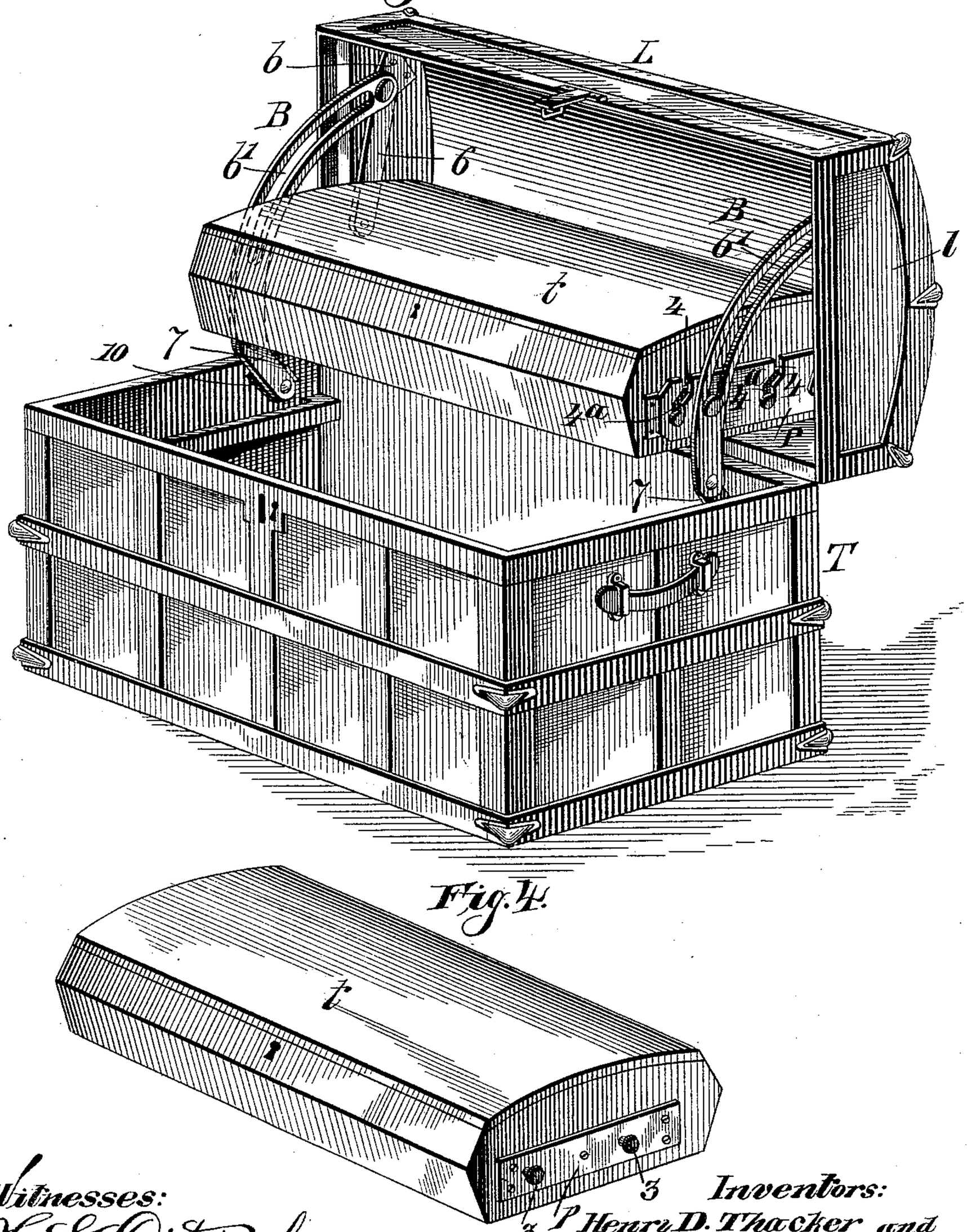

Fig. 4.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

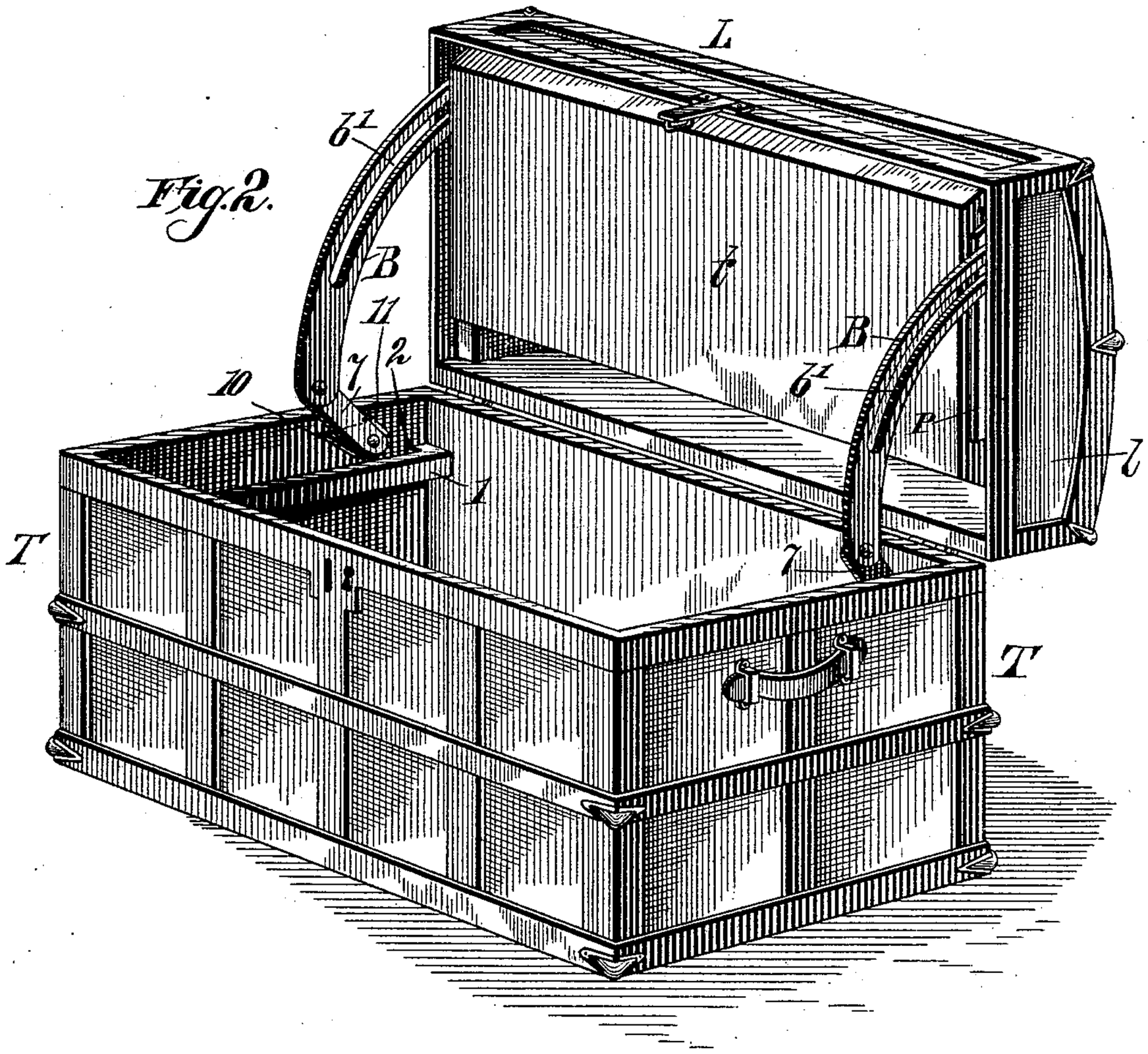
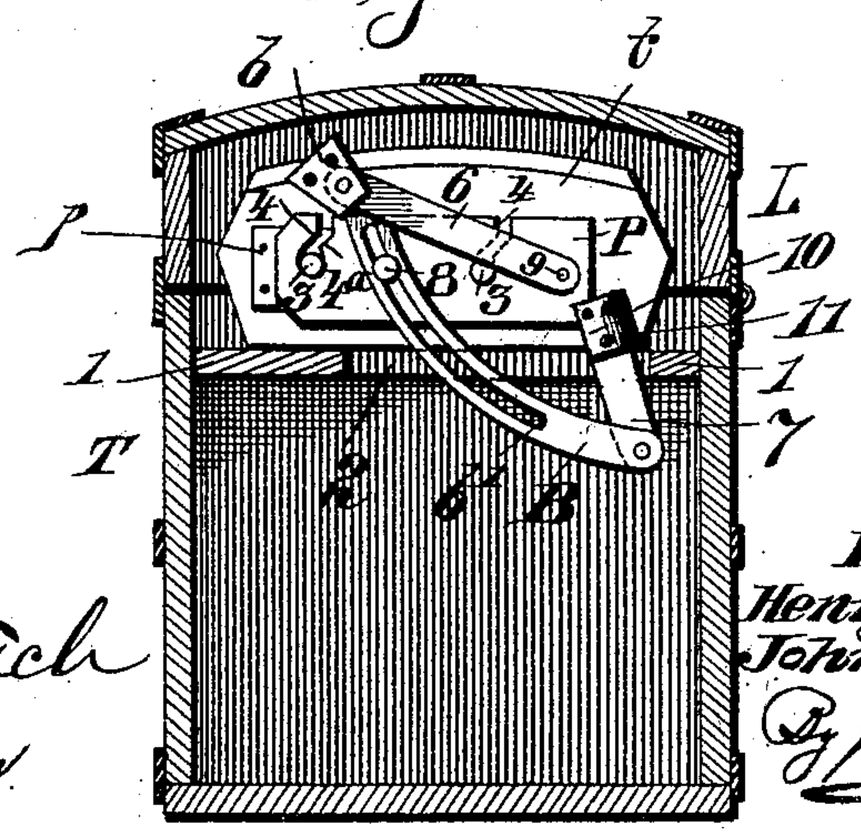


Fig. 3.



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UNITED STATES PATENT OFFICE.

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TRUNK.

SPECIFICATION forming part of Letters Patent No. 495,851, dated April 18, 1893.

Application filed October 14, 1892. Serial No. 448,848. (No model.)

To all whom it may concern:

Be it known that we, HENRY D. THACKER and JOHN V. DOWN, citizens of the United States, and residents of Petersburg, in the county of Dinwiddie and State of Virginia, have invented certain new and useful Improvements in Trunks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Our invention relates to, and has for its object, certain improvements in the construction of trunks and similar packing cases, and more especially to the provision of means whereby the tray is raised by and with the trunk lid and held in a horizontal position above the body of the trunk partly within the lid, so that access may be had to both, and to the provision of means whereby said tray when lifted by and with the trunk lid may be tilted from its horizontal position into said lid clear of the trunk body, as will now be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a trunk having a tray adapted to be lifted by and with the trunk lid and held in a horizontal position and adapted to be tilted from that position into the lid out of the way. Fig. 2 is a like view showing the tray tilted into the trunk lid. Fig. 3 is a sectional end elevation showing the devices by means of which the tray is lifted by and with the lid, and Fig. 4 is a perspective view of the tray removed from the trunk.

Similar symbols indicate like parts wherever such may occur in the described figures of drawings.

The trunk, T, may be constructed in any usual or preferred manner, its lid, L, being of sufficient depth to accommodate the tray, *t*, or substantially so, when the lid is closed or when the tray is tilted into the same when open. The trunk, T, is provided at a proper distance from its upper edge with cleats, 1, that serve as supports for the tray, the said cleats being slotted or provided with a recess, 2, in their faces proximate to the end walls of the trunk to form a passage for one of the lifting and supporting arms. The tray, *t*, is provided at each end with two hooks or headed studs, 3, adapted to engage slots, 4, formed in a supporting plate, P. As shown, the ends of the slots are substantially at right angles to the longitudinal axis of the plate, P, while the intermediate portion of said slots is more or less inclined to prevent the studs, 3, from moving out of the slots, 4, when said tray turns on its pivots, either when lifted by and with the lid, or when turned to a substantially vertical position into the open trunk lid, or when said lid is closed while the tray is held in a horizontal position.

If it is desired to detach the tray when held in a horizontal position by the lid, as shown in Fig. 1, it is lifted so as to move the studs, 3, out of the vertical end portions of slots, 4, then moved so as to move said studs along the inclined portions, 4^a, of said slots, when said tray can be lifted off its supporting plate, P. In practice we prefer to secure the studs, 3, to a plate, *p*, secured to the ends of tray, *t*, to avoid wear or abrasion of the latter due to friction of the supporting plate, P.

To a suitable plate or bracket, *b*, secured to the inner face of the opposite end walls *l*, of the trunk lid, L, is pivoted one end of a link, 6, whose opposite end is pivotally connected with the supporting plate, D, near the rear edge thereof, as shown at 9, Fig. 3, on which latter pivot the supporting plate, P, and consequently the tray, *t*, turn, and to said bracket, *b*, is also pivoted one end of a segmental slotted supporting and lifting arm or bar, B, that works in the slot or recess, 2, of the cleats, 1, secured within the body of the trunk. The opposite end of this guide arm is pivotally connected with one end of a link, 7, whose opposite end is pivoted to the end wall of the trunk.

The supporting plate, D, has secured thereto a headed stud 8, that extends through the slot in the arm, B, so that when the lid is lifted the said arms will move with it for a certain distance, determined by the length of the slot, without lifting the forward end of

the tray, which is also the case when the lid is closed and said forward end of the tray impinges upon its bearings or supporting cleats, 1, said arms also serving to guide the forward end of the tray when tilted on its pivots, 9, into the trunk lid, L.

In practice we prefer to pivot the link, 7, to a plate or bracket, 10, that has a flange, 11, at its rear edge whereby an abutment is formed for the link and its movement toward the rear wall of the trunk limited.

It will readily be seen that the link, 7, forms practically a continuation of the arm, B, but being pivotally connected therewith and with the trunk at a proper point said link will assume such angular position relatively to the arm when the lid, L, is thrown back as to perform the function of a brace or stay to hold said lid in its open position, which would not be the case were the arm, B, constructed of a single piece and not connected with the trunk.

When the trunk is closed the parts will be in the position shown in Fig. 3; if now, the lid is lifted, the links, 6, and arms, B, will be moved upwardly without moving the tray, T, until the said links, 6, have assumed a given position, when the rear end of the tray will be lifted by said links to the position the tray assumes when the lid is fully open. Before this takes place, however, the arms, B, will have been drawn out to such an extent that the studs, 8, on the supporting plates, P, will lie at the lower end of the slot in said arms, so that the front end of the tray is now lifted also by the arms. This movement of the tray continues until the lid, L, is fully open, when said tray will be held in a horizontal position, as shown in Fig. 1, at such a distance above the trunk and partly within the lid as to admit of ready access both to the tray and trunk, as shown in said Fig. 1. Of course these movements of the tray are determined by the length of links, 6, and the length of the slot *b'*, in arms, B. When the lid is fully open the links, 7, will assume such angular position relatively to the arms, B, as to act as a stay or brace to prevent the lid from accidentally closing or falling forward under the weight of the tray, *t*.

In packing or unpacking a trunk it is desirable that there should be no obstruction that may in any way interfere with or impede free access to the body of the trunk; although the tray, *t*, is held some distance above the trunk and partly out of the way laterally, yet it interferes more or less with the packing or unpacking. By means of the described devices this is avoided, since the tray can be readily disconnected from its supporting plates whenever this becomes desirable, or said tray can be tilted on its pivot, 9, into the trunk lid entirely out of the way, as shown in Fig. 2, by simply lifting the front end of the tray so as to cause it to turn on said pivots 9, until it is in a vertical position when it will be contained in the lid, L, or substantially so. This feature of our invention is of great importance, as the removal of the tray from its supports is thereby avoided.

If desired the supporting plates, P, and consequently the headed pins or studs, 3, can be dispensed with, and the links 6, pivoted directly to the tray or to the wear plate *p*, thereof; the headed pin, 8, in this case being also secured to the tray or its wear plate; and in order that said tray may be disconnected from its supports, the head of the studs or pins, 3, can be constructed in the form of a nut, screwing onto a screw-threaded stem, the pivot pin, 9, being similarly threaded to receive a retaining nut, as will be readily understood.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. The combination with a trunk and its lid, of a tray provided with a pin projecting from the end thereof near the lower forward corner, and supporting and lifting devices comprising slotted arms pivotally connected with the opposite ends of the trunk and lid, into the slots of which the pins on the tray project, and links pivotally connected with the ends of the lid and with the ends of the tray near the lower rear corner thereof, substantially as and for the purpose set forth.

2. The combination with a trunk and its lid, of a tray provided with a pin projecting from the ends thereof near the lower forward corner, and supporting and lifting devices comprising segmental slotted arms pivotally connected with the opposite ends of the trunk and lid, into the slots of which the pins on the tray project, and links pivotally connected with the ends of the lid and with the ends of the tray near the lower rear corner thereof, substantially as and for the purpose set forth.

3. The combination with a trunk and its lid, of a tray provided with a pin projecting from the ends thereof near the lower forward corner, and supporting and lifting devices comprising articulated segmental slotted arms pivotally connected with the opposite ends of the trunk and lid, into the slots of which the pins on the tray project, and links pivotally connected with the ends of the lid and with the ends of the tray near the lower rear corner thereof, substantially as and for the purpose set forth.

4. The combination with a trunk, its lid, and a tray adapted to seat in the upper portion of the trunk, and provided with two pins or studs, 3, of a supporting plate, detachably secured to said pins, said plate having a pin or stud, as 8, the link, 6, pivotally connected with the trunk lid and with the supporting plate near the rear edge of the latter, and a segmental slotted arm, as B, through the slot of which said pin or stud 8 passes, said arm being connected with the trunk lid, for the purpose set forth.

5. The combination with a trunk, its lid, and a tray adapted to seat in the upper portion of the trunk, and provided with two pins or studs, 3, of a supporting plate detachably

secured to said pins, said plate having a pin or stud as 8, the link, 6, pivotally connected with the trunk lid and with the supporting plate near the rear edge of the latter, and a segmental slotted arm, as B, through the slot of which said pin or stud, 8, passes, said arm being connected at one end with the trunk lid, and a link, as 7, connecting the other end of the arm with the trunk body, substantially as and for the purpose set forth.

6. The combination with a trunk, its lid, and a tray provided with a plate, as, *p*, at each end, said plates having locking studs or pins, 3, projecting therefrom, of the supporting plates, P, having angular locking slots, 4, for the pins, 3, and a stud or pin, 8, projecting therefrom, the links, 6, pivoted to the trunk lid and to the plates, P, near the rear edges thereof, the segment-arms, B, slotted to receive the stud, 8, and connected at one end to the trunk lid, and the links, 7, connecting the opposite end of said arms with the body of the trunk, substantially as and for the purpose set forth.

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