No. 782,671. PATENTED FEB. 14, 1905.

L. LIEBERMAN.

TRUNK.

APPLICATION FILED OCT. 1, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

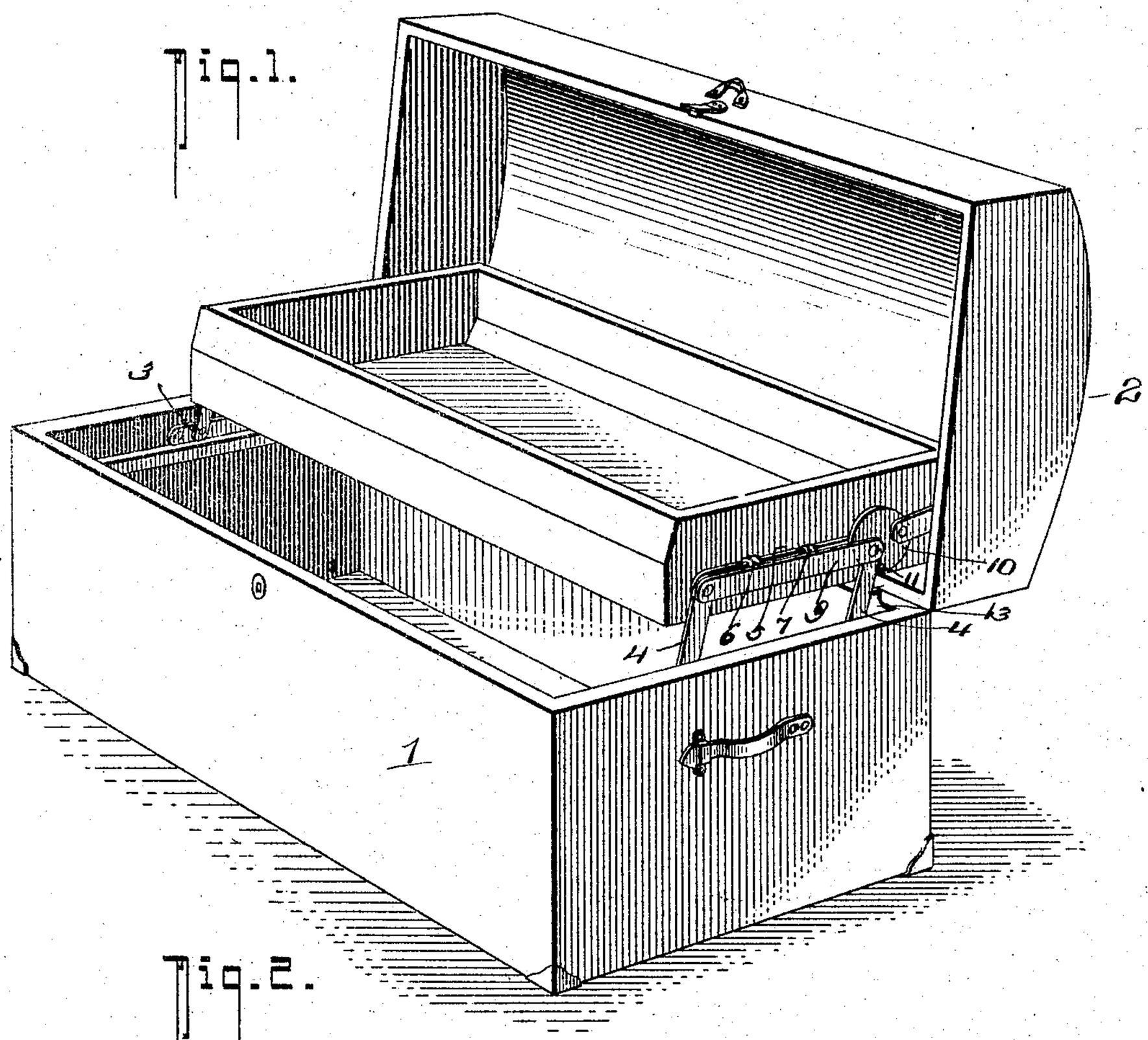
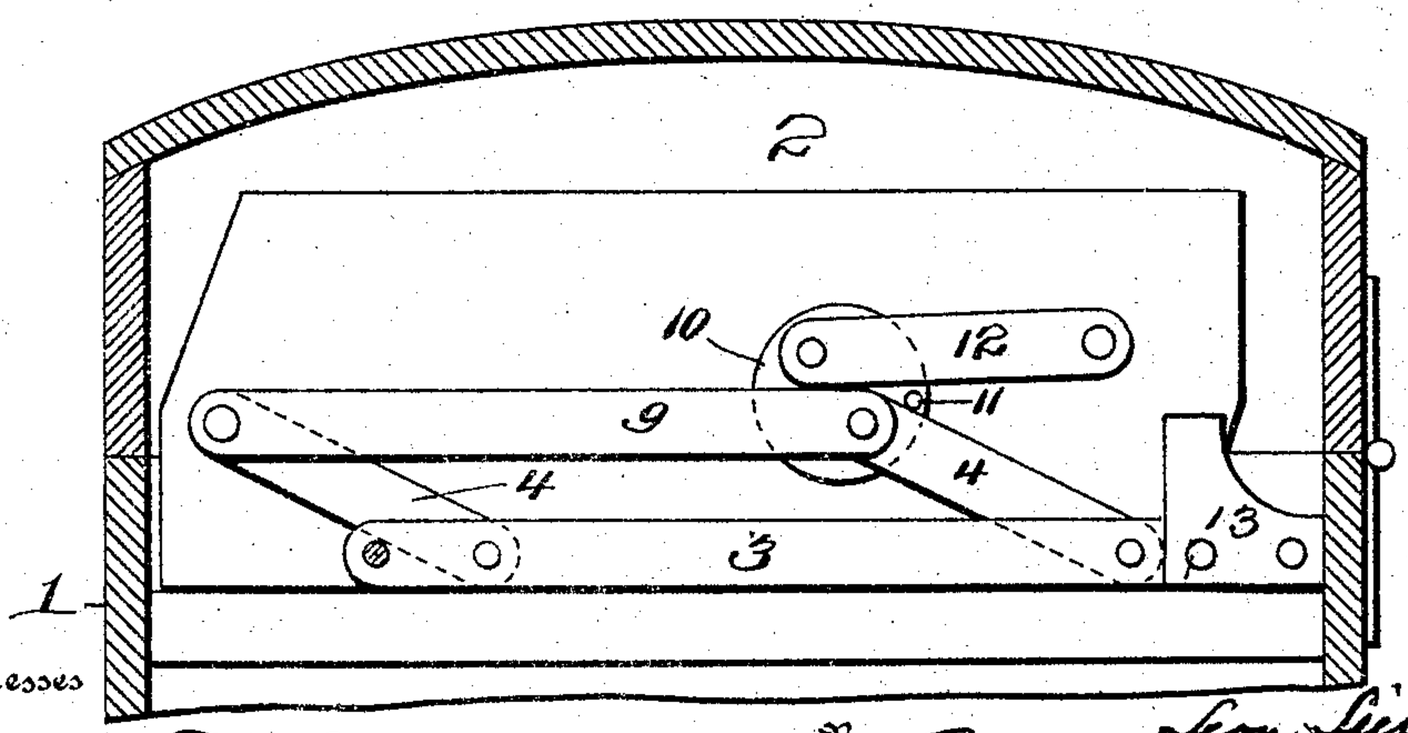


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

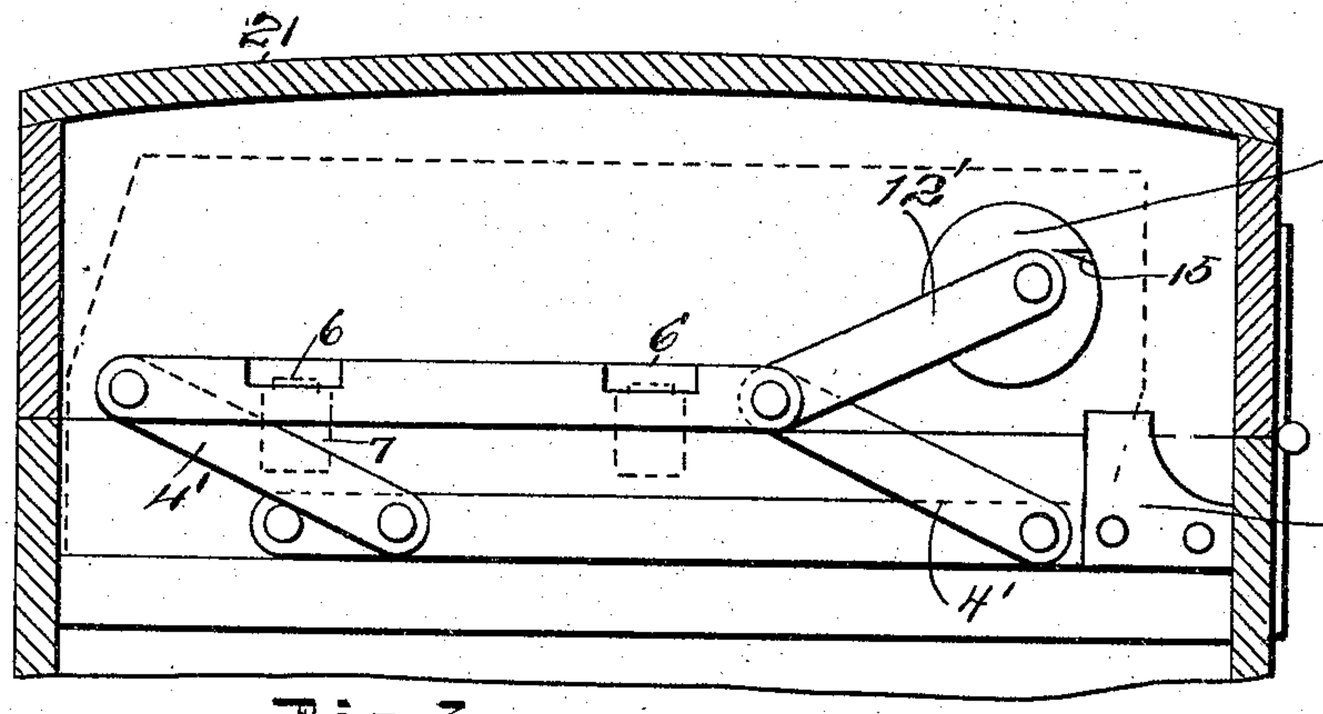


Fig. 6

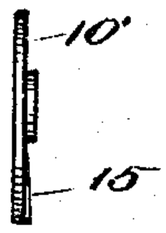


Fig. 3.

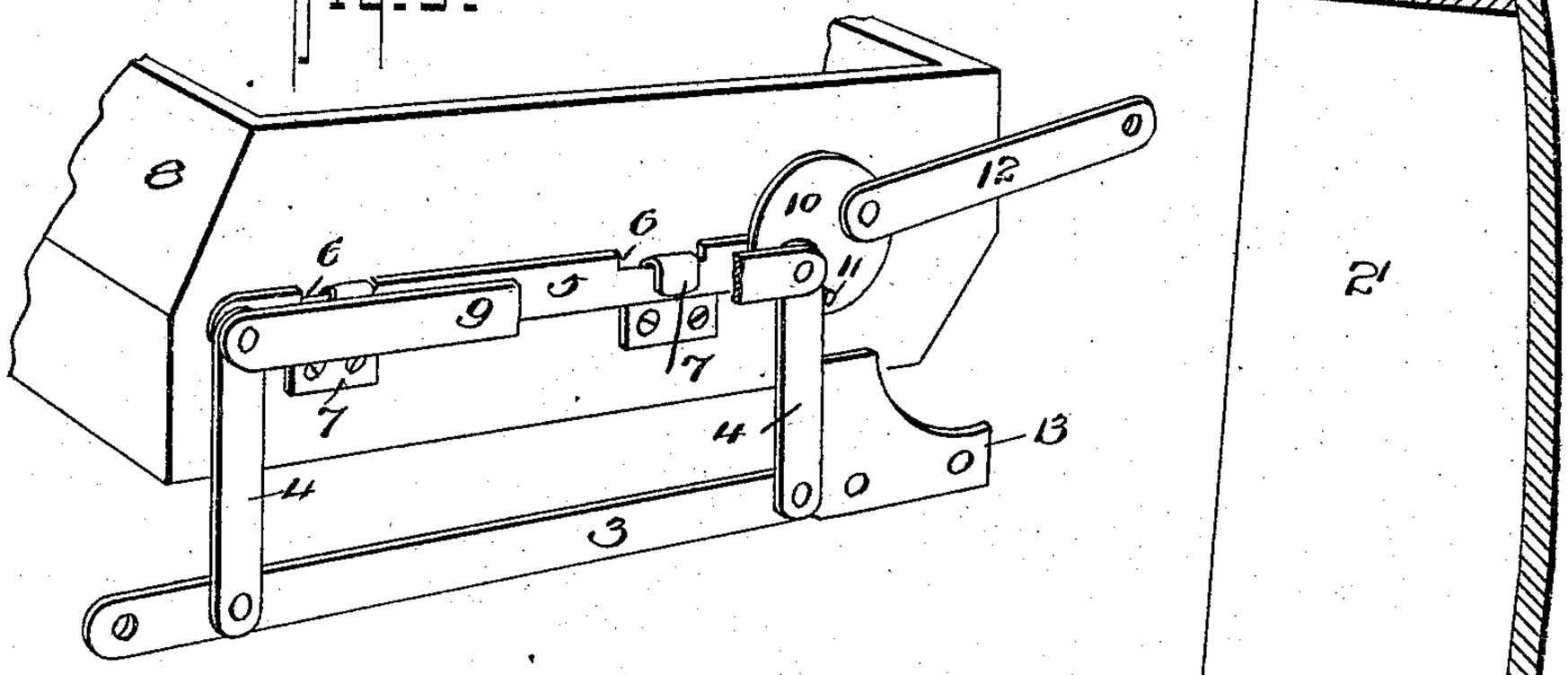
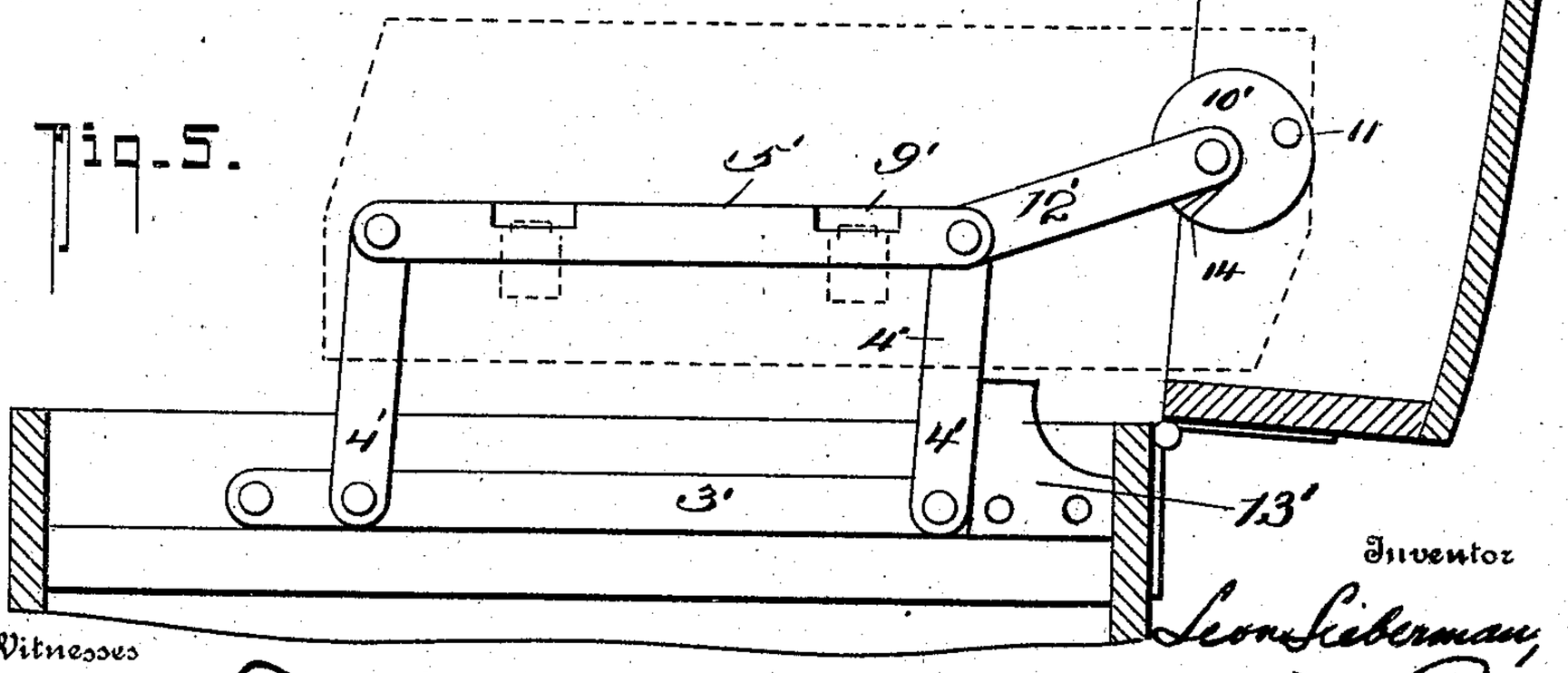


Fig. 5.



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No. 782,671. Patented February 14, 1905.

UNITED STATES PATENT OFFICE.

LEON LIEBERMAN, OF ATLANTA, GEORGIA.

TRUNK.

SPECIFICATION forming part of Letters Patent No. 782,671, dated February 14, 1905.

Application filed October 1, 1904. Serial No. 226,843.

To all whom it may concern:

Be it known that I, LEON LIEBERMAN, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Trunks; and I 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.

This invention relates to improvements in trunks, and more particularly to combined means for supporting and elevating a tray and limiting the degree to which the trunk-lid may be opened.

The object in view is the provision of means for normally supporting a trunk-tray within a trunk in the desired closed position and for lifting said tray to a raised position when the trunk is opened, the same means employed for supporting and elevating the tray also serving to limit the degree to which the trunk-lid may be opened.

With this and further objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of a trunk fitted with a tray-support and lid-stay embodying the features of the present invention. Fig. 2 represents a transverse vertical section through the trunk, taken on the plane lying between the end of the trunk and the present improved tray-supporting means contiguous said end. Fig. 3 represents an enlarged detail perspective view of one of the present improved tray-supports and lid-stays attached, parts being broken away and a fragment of the tray being illustrated. Fig. 4 represents a transverse vertical central section taken through a trunk, a modified form of the tray-support and lid-stay being illustrated in elevation, the tray being seen in dotted lines and the trunk being shown in a closed condition. Fig. 5 represents a similar view of the same, the trunk being illustrated as opened. Fig. 6 represents a detail view of a modified form of the eccentric disk.

Referring to the drawings by numerals, 1 indicates any ordinary type of trunk provided with the usual hinged lid 2. At each end of the trunk 1 is arranged a transverse bar 3, fixed to the respective end of the trunk and carrying two or more pivotally-mounted links 4 4, the upper ends of which links pivotally carry a bar 5, sustained at all times parallel to the bar 3, the said bar 5 by its pivotal connection with the links 4 and their pivotal connection with the bar 3 being free to move vertically toward and away from the bar 3, the said bar 5 being shown in its uppermost position in Figs. 1 and 3 and in its lowered position in Fig. 2. The bar 5 is preferably provided with a plurality of notches 6 6 in its upper edge adapted to receive hooks 7 7, depending from the end of a tray 8, whereby said tray is designed to be supported upon the bar 5, there being a bar 5 at each end of the tray. Arranged outside of the links 4 and pivotally connected thereto is a bar 9, adapted to prevent contact of the ends of the trunk and tray, and thus obviate rubbing and chafing of the parts. In addition the bar 9 adds strength and rigidity to the parts. Between the rear link 4 and the rear end of the bar 5 is pivoted an eccentric plate or disk or member 10, which is provided with a stop 11, limiting said plate or disk from rotation in the wrong direction. The stop 11 may be a lug or other suitable means projecting laterally from the disk. A link 12 pivotally engages the eccentric plate or disk 10 at a point off center with respect to the pivotal connection of said plate or disk with the link 4 and bar 5. The rear end of the link 12 is pivotally connected to the side wall of the top 2. A stop or bracket 13, approximately triangular in form, is preferably carried just in the rear of the rearmost link 4 in position for sustaining the same in a vertical plane against further rearward movement. The stop 13 is preferably secured to the respective end of

the trunk 1 and is of suitable thickness for engaging the link 4 whenever the same is brought to its vertical position.

The tray-support is duplicated at each end of the trunk in every detail, and it is therefore unnecessary to describe more than one of said devices.

In operation, assuming the parts to be in the position indicated in Fig. 2 with the lid 2 down, it is only necessary to lift the lid for causing the parts to assume the position indicated in Fig. 1, this result being accomplished during the elevation of the lid 2 by the draft upon the links 12, which in turn elevate the eccentric plates or disks 10, and said plates or disks, due to their pivotal engagement with the rear links 4 and the contact of the stops 11 therewith, cause the links 4 to swing upon their pivots to a vertical position, thus raising the bars 5 and of course the bars 9. Under ordinary circumstances the stops 11 will remain in contact with the rearmost links 4 during the moving operation. When the lid 2 has been raised to the position indicated in Fig. 1, the rearmost links 4 will rest against the stops 13 and prevent further movement of the lid, whereby the parts described will serve as a stop for the lid as well as elevating means for the tray, the tray of course moving upwardly and rearwardly with the upward rearward movement of the bars 5. When it is desired to depress the tray to the position indicated in Fig. 2, it is only necessary to grasp the lid when in the position indicated in Fig. 1 and lower the same to a closed position. This movement will first cause the plates or disk 10 to revolve upon their pivotal connections with the links 4 until the stops 11 contact with the links 12, whereupon a longitudinal movement of the links 12 will occasion swinging of the links 4 upon their pivots and the second lowering of the bars 5 until the position of the parts seen in Fig. 2 is assumed.

In Figs. 4, 5, and 6 I have illustrated a slightly-modified form of the present improved tray-support, which modification consists principally in the particular point of mounting of the eccentric plates. By reference to said figures it will be observed that the usual bars 3′, corresponding to bars 3, are employed, each carrying links 4′ 4′, pivotally mounted and pivotally sustaining notched bars 5′, adapted to receive the hooks of the tray. (Illustrated in dotted lines in Figs. 4 and 5.) Links 12′ are pivotally mounted between the respective bar 5′ and its rearmost link 4′, each of said links 12′ at its outer end pivotally engaging an eccentric plate or disk 10′, each of the said plates or disks 10′ in turn pivotally engaging the side wall of the end of the trunk-lid 2′. If preferred, a bar 9′ may be mounted in a manner similar to bar 9 for each pair of the links 4′, and the parts will operate in approximately the same manner as described with respect to the disclosure in Figs. 1 to 3, inclusive. The eccentric plate or disk 10′, however, instead of being provided with a stop formed of a laterally-projecting lug may be provided with a tangential slit 14 and part of the body portion of the plate bent outwardly, as at 15, for engaging the link 12′ for preventing rotation of the plate 10′ in the wrong direction. A suitable bracket or stop 13′ is preferably arranged in the rear of each of the rearmost links 4′ for limiting their rearward swing.

In operating the device illustrated in Figs. 4, 5, and 6, assuming the parts to be in the position indicated in Fig. 4, the operator raises the lid 2′, and thus causes the eccentric plates or disks 10′ to rotate upon their pivotal connections with the said top until the pivotal connection of the link 12′ comes into line with the pivotal point of attachment of the plate or disk 10′ with the lid 2′, and further movement of the lid will then occasion lifting of the links 4 and a corresponding elevation of each of the bars 5′. When it is desired to close the trunk, the lid is lowered, which movement effects rotation of the plates or disks 10′ upon their pivotal connection with the lid 2′ until the point of pivotal attachment of each of the links 12′ with the respective plate or disk 10′ arrives in line with the pivotal connection thereof with the lid 2′ on the opposite side from that assumed during the raising of the lid, and further movement of the lid will then effect longitudinal movement of the links 12′, and thereby occasion lowering of the links 4′ and the bars 5′ carried thereby until the parts are in the position shown in Fig. 4.

From the foregoing it will be seen that the bars 5 have a parallel-ruler movement with respect to bars 3 or with respect to the points of attachment of the link supporting said bars, the said points of attachment, as illustrated, being contiguous to the ends of the bars 3; but of course the links 4 may be pivoted directly to the ends of the trunk and the bars 3 omitted.

As above mentioned, the tray 8 is supported by means of the hooks 7, which engage notches 6, each of the hooks 7 being preferably relatively narrow and each of the notches 6 being relatively long for permitting movement of the hooks within said notches longitudinally with respect to the respective bar 5, whereby the tray 8 may readily accommodate itself to the various adjustments of the bars 5.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end thereof, a bar connecting the links of each of said pairs, and

links and eccentric disks pivotally connected together and pivotally connecting the bars with the lid of said trunk.

2. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end thereof, a bar connecting the links of each of said pairs, an eccentric disk pivotally connected to each of said bars, and a link pivotally connecting said eccentric disk with the lid of said trunk.

3. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end of said trunk, a bar pivotally connecting the links of each pair, an eccentric member pivotally engaging each of said bars, a link pivotally engaging each of said plates and pivotally connected with the lid of the trunk, and a stop on each of said eccentric members for governing the movement thereof.

4. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end thereof, a bar connecting the links of each pair, a disk eccentrically mounted and engaging each of said bars, and a link pivotally engaging each of said disks near the periphery thereof opposite the pivotal mounting of the disk, a stop limiting the degree of rotation of each of said disks, and a pivotal connection between each of the last-mentioned links and the lid.

5. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end of said trunk, a stop in the rear of one of the links of each pair for limiting the rearward movement of said link, a bar connecting the links of each pair, and a link and eccentric disk connecting each of said bars to the lid of the trunk.

6. In a device of the class described, the combination with a trunk, of a pair of links pivotally mounted at each end thereof, a substantially triangular stop arranged in the rear of the rearmost link of each of said pairs, a bar connecting the links of each of said pairs, and an eccentric member and link connecting each of said bars with the lid of the trunk.

7. In a device of the character described, the combination with a trunk, of links pivotally mounted at each end thereof, parallel members pivotally connecting one end of each of the links at each end of the trunk, a tray disposed between said members, and means connecting said members with the trunk-lid.

8. In a device of the character described, the combination with a trunk, or the like, of links pivotally mounted at each end thereof, parallel members connecting the upper ends of the links mounted on each end, and eccentric members and links connecting said parallel members with the lid of the trunk.

9. In a device of the character described, the combination with a trunk, of links pivotally mounted at each end thereof, parallel members pivotally connecting said links, links pivotally secured to the lid of said trunk, eccentric members of greater width than the links secured to the lid, pivotally connecting said links with the parallel members, and a tray disposed between said parallel members.

10. In a device of the character described, the combination with a trunk, of members secured near one end to each end of the trunk, a bracket secured to each end of said trunk and forming a stop for limiting movement of said members, movable, parallel members connecting said members secured to the ends of the trunk, means formed upon one of said parallel members for receiving tray-supporting means, disks eccentrically mounted between the parallel members, and means connecting said disks with the lid of the trunk.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

LEON LIEBERMAN.

Witnesses:

A. B. MOSES,

IRA E. BURKETT.