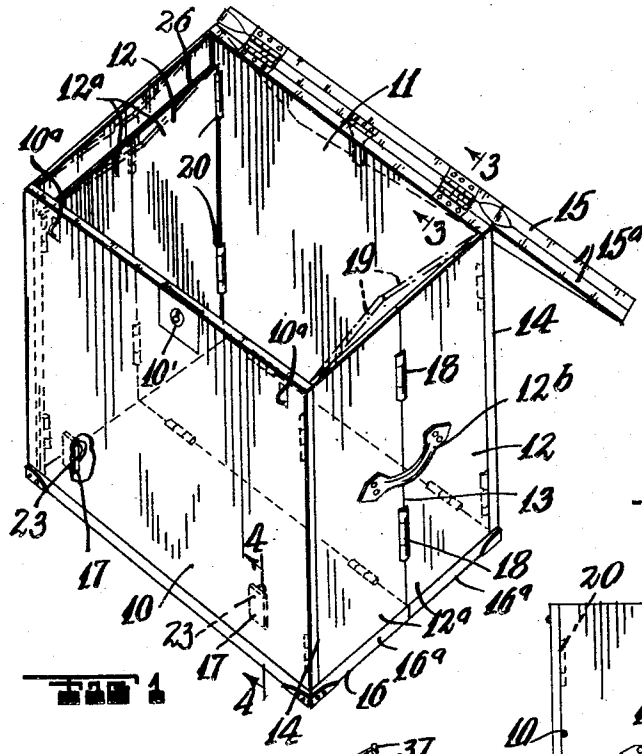
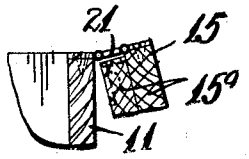
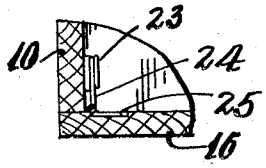
Sept. 27, 1932. J. J. COLLINS 1,879,102

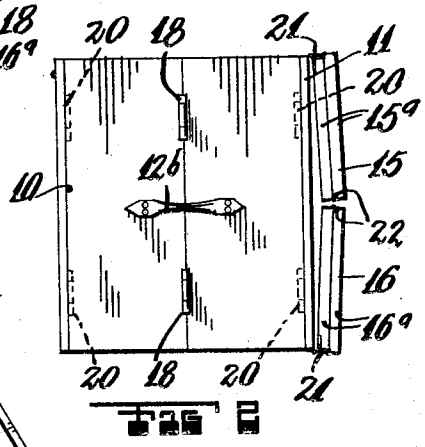
FOLDING TRUNK

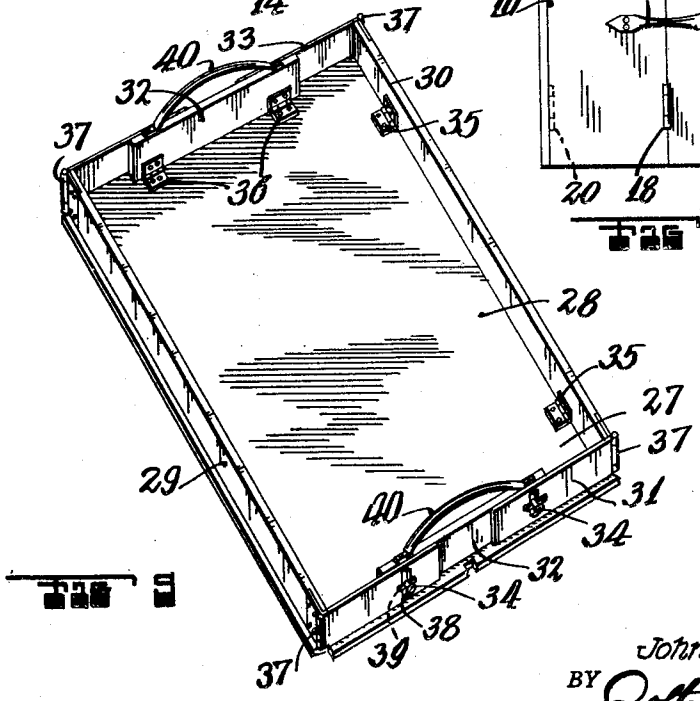
Filed Sept. 29, 1930











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UNITED STATES PATENT OFFICE

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FOLDING TRUNK

Application filed September 29, 1930. Serial No. 485,063.

This invention relates to new and useful improvements in a folding trunk.

The invention has for an object the provision of a device of the class mentioned which is of simple durable construction, dependable in use and efficient in action, and which can be manufactured and sold at a reasonable cost.

The invention has for a further object the provision of a folding trunk of box construction, rectangular in horizontal cross section and provided with front and rear sides and ends across the ends of these sides, a top and a bottom, all hingedly connected to fold so that when folded all of said parts are in parallel planes adjacent each other.

The invention also proposes that said ends, top and bottom be each made from a pair of hinged sections arranged to be superimposed when folded.

It is another object of this invention to arrange the various parts so that they fold to the front and to the rear of the said rear side so that this element constitutes a core. It is further proposed to arrange flexible handles upon the said ends of the trunk so that the trunk may be handled without interfering with the folding of said ends. Catches are also proposed to be arranged upon certain of the parts so as to hold the trunk in an opened condition.

It is also proposed to recess the top edges of the ends so as to support a foldable tray. A further object of this invention being the provision of a foldable tray to engage upon said recessed ends and to include a flat base of triangular shape, front and rear sides and ends across said sides, all hingedly arranged to fold so that when folded all of these parts are in parallel planes adjacent to each other.

It is also proposed to form the said ends in three sections, namely a central section hinged to move downwards flat against the base and end sections hinged to move laterally flat against the front and rear sections, and the front and rear sections to hinge downward flat against the base.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a perspective view of a device constructed according to this invention.

Fig. 2 is an end elevational view of Fig. 1, shown with the top and bottom fold flat against the rear side.

Fig. 3 is a fragmentary enlarged sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary enlarged sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a perspective view of the tray as used in this invention.

The folding trunk comprises a rectangular front vertical side 10 parallel with a similar rear vertical side 11, vertical ends 12 between said sides and each formed of a pair of equal sections 12^a having vertical edges 13 in edge contacting relation hingedly connected, and the outer edges 14 of said sections 12^a being hingedly connected with the ends of the front and rear sides 10 and 11, and a top and bottom side 15 and 16 respectively hingedly connected at one of their edges respectively with the top and bottom edges respectively of the rear side 11, said top and bottom being each of a pair of equal sections 15^a and 16^a having longitudinal edges in edge contacting relation hingedly connected, and coacting means 17 on the front side 10 and on the free section of the bottom 16 for connection to hold the trunk opened.

The hinged connection between the contacting edges of the sections 12^a comprising the vertical ends 12 consists of hinges 18 on the outer corners of the edges so that the contacting edges serve as stops and prevent outward pivoting of the sections, allowing only inward pivoting as indicated by the dot and dash lines 19. The sum of the lengths of any pair of the sections 12^a must be slightly less than the length of the front or rear side so that when the ends are completely collapsed inwards to bring the front and rear sides as close together as is possible, no overlapping of the ends occurs.

The hinged connection of the outer edges 14 of the sections 12^a is accomplished by hinges 20 upon the inner corners of the outer edges of the section 12^a and spaced slightly from the edges of the front and rear sides so that the contacting outer edges of the ends and the inner faces of the front and rear sides limit outward pivoting of the sections 12^a but allow inward pivoting as indicated in the dot and dash lines 19.

The hinged connection between the top and bottom sides 15 and 16 respectively and the the top and bottom edges of the rear side 11 is accomplished by compound hinges formed by links 21 pivotally connected at one of their ends upon the outer corners of the edges of the rear side 11 and at their other ends upon the outer corners of the top 15 and the bottom 16. This is very clearly shown in Fig. 3. When thus constructed, the top or the bottom may be pivoted to a position as shown in Fig. 2, or to a position in which the hinged edge of the top or bottom engage against the links 21 and then rest flatly across the top or the bottom of the trunk structure.

Suitable lock 10′ and latches 10^a are provided for securing the top side 15 to the front vertical side 10 of the trunk.

The hinged connection between the sections 15^a and 16^a comprising the top and the bottom 15 and 16 respectively is accomplished by hinges 22 arranged upon the top corners of the adjacent edges so that the outer free sections may pivot around for contacting the outer faces with the outer faces of the inner sections. This is clearly shown in Fig. 2. In this figure the top and bottom sides 15 and 16 are also shown pivoted around so as to be parallel with the near side wall 11. The means 17 for holding the trunk open comprises several studs 23 attached upon the inner face of the front side 10 and coactable with hooks 24 pivotally mounted upon brackets 25 attached near the free edge of the outer section 16^a of the bottom side 16. The brackets 25 are so set as to act against the inner face of the front side 10 to hold it against motion towards the rear side 11. The inner corners of the top edges of the ends 12 are recessed so as to form shoulders 26 for receiving a tray 27. Flexible handles 12^b are connected between the sections 12^a of the ends so that the trunk may be carried. Since the handles are flexible they do not interfere with the collapsing of the sections when the trunk is folded. In Fig. 1 the tray is not shown in place, but this tray is shown in detail in Fig. 5.

The tray 27 comprises a flat rectangular base 28, front and rear sides 29 and 30 respectively hingedly mounted at their bottom edges on the top and near the front and rear edges respectively of the base 28, and ends 31 between the sides 29 and 30 and each end comprising a central section 32 hingedly connected at its bottom edge at the top and near the ends of the base 28, end sections 33 hingedly connected at the ends of the front and rear sides 29 and 30, and coacting means 34 on said central and end sections 32 and 33 respectively to hold these parts together.

The hinged connection between the front and rear sides 29 and 30 respectively and the base 28 is accomplished by hinges 35 arranged on the inner corners of the bottom edges of the sides 29 and 30 and the top face of the base 28 so that the bottom edges are in contact with the top face and serve to limit pivoting of the sides 29 and 30 to the vertical or to positions in which they are flush against the base 28. The hinged connection between the central sections 32 and the base 28 is accomplished by hinges 36 arranged upon the inner corners of the bottom edges of the sections 32 and the top face of the base 28 so that the bottom edges of the sections 32 act against the top face of the base 28 and limit pivoting of the sections 32 to vertical positions or to positions in which they are flush against the top of the base 28.

The hinged connections between the outer ends of the end sections 33 is accomplished by hinges 37 arranged upon the outer corners of the vertical edges of the end sections 33 and of the front and rear sides 29 and 30 so that the inner faces of the end sections 33 act against the edges of the front and rear sides 29 and 30 respectively to limit pivoting of the end sections 33 to the positions shown in Fig. 5 or to positions in which they swing around 270° so as to be flush against the outer faces of the sides 29 and 30.

The coacting means 34 comprises head members projecting from the central sections 32 and engageable through slots 38 formed in the end sections 33, and the head members being pivotally mounted so as to be capable of pivoting to positions transversely, as indicated by the dot and dash lines 39, to latch the parts together. Handles 40 are shown arranged upon the top edges of the central sections 32 for manual manipulation of the tray.

The operation of the device may be traced by assuming the tray 27 in place in the trunk and the trunk completely closed. The top side 15 of the trunk may be opened to gain access to the tray, and the tray removed to gain access to the interior of the trunk. In the event that the trunk is not in use and it is desirable to collapse it so as to take up a minimum amount of space, the tray 27 must first be removed and then the top 15 and the bottom 16 folded around to the positions shown in Fig. 2. Next the hooks 24 are disengaged from the studs 23 and the ends 12 collapsed inwards so that they are folded against the rear side 11, and the front side 10

is drawn towards the rear side so as to be flat against the outer portion sections of the ends 12. It should be noticed that the rear side 11 constitutes a core around which all of the other parts fold.

Next the tray 27 should be folded, and this is accomplished by first disengaging the holding means 34, then pivoting the central sections 32 downwards flush against the base 28, next the end sections 33 should be pivoted against the outer sides of the front side 29 and the rear side 30. Then the front and rear sides should be folded downwards flat against the base 28. The lengths of the central sections 32 should be such that when the front and rear sides 29 and 30 are folded down, these parts do not overlap.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A collapsible tray for a collapsible trunk, comprising a flat rectangular base, front and rear sides hingedly mounted at bottom edges on the top and near the front and rear edges respectively of said base, and ends between said sides, each comprising a central section hingedly connected at its bottom edge on the top and near the ends of said base, end sections hingedly connected on the ends of said front and rear sides, and coacting means on said central and end sections to hold these parts together.

2. A collapsible tray for a collapsible trunk, comprising a flat rectangular base, front and rear sides hingedly mounted at bottom edges on the top and near the front and rear edges respectively of said base, and ends between said sides, each comprising a central section hingedly connected at its bottom edge on the top and near the ends of said base, end sections hingedly connected on the ends of said front and rear sides, and coacting means on said central and end sections to hold these parts together, the various hinged connections between the parts mentioned being such as to limit pivoting of the parts in one direction to form the tray and in the other direction to allow the parts to be flat against each other.

In testimony whereof I have affixed my signature.

JOHN J. COLLINS.