

Oct. 27, 1931.

S. H. McKNIGHT

1,828,780

COLLAPSIBLE CONVEYER

Filed Nov. 15, 1927

2 Sheets-Sheet 1

Fig. 1.

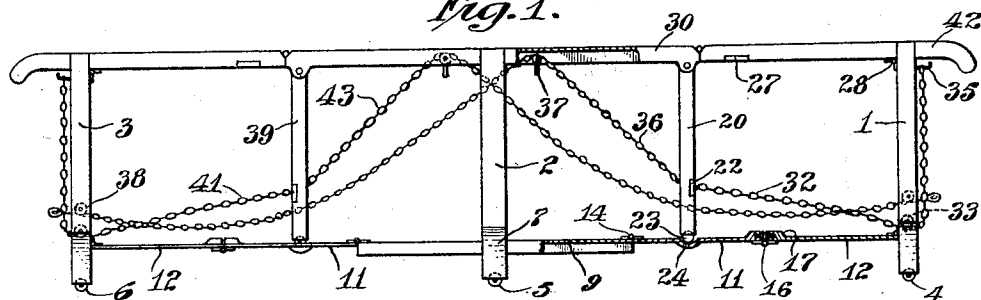


Fig. 2.

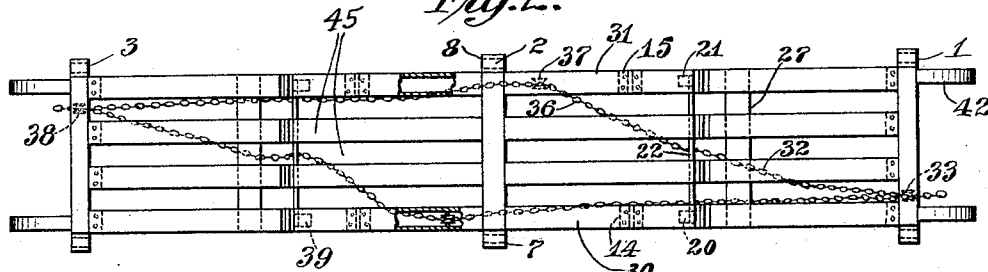


Fig. 3.

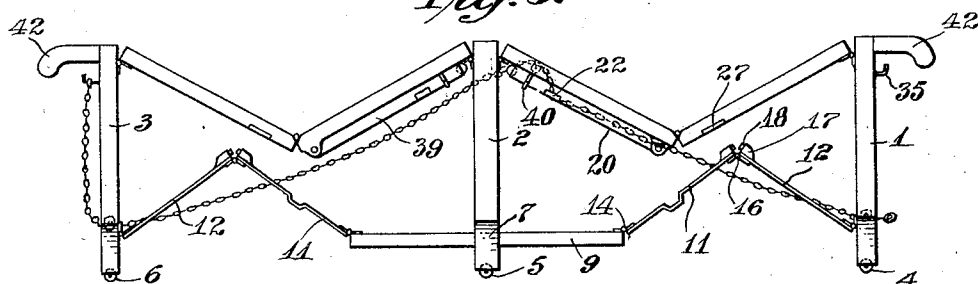
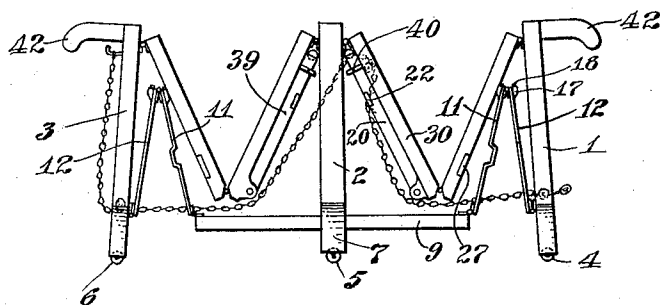


Fig. 4.



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Fig. 5.

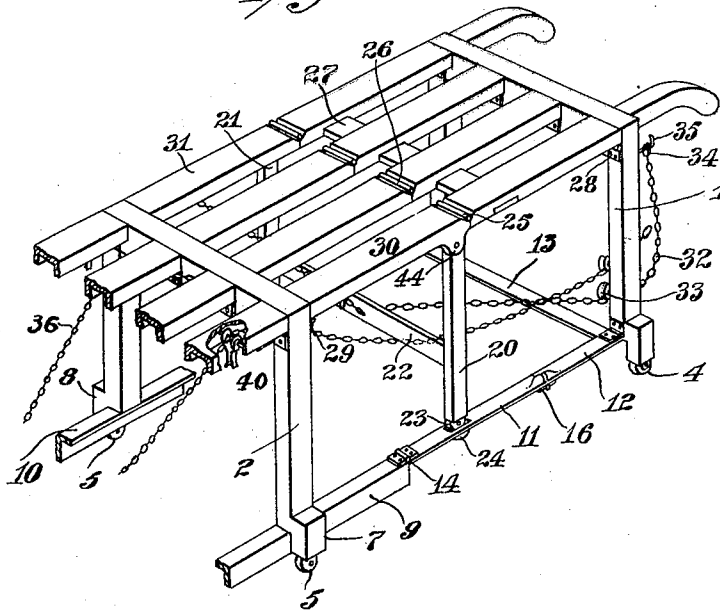


Fig. 6.

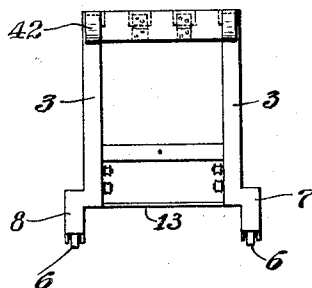
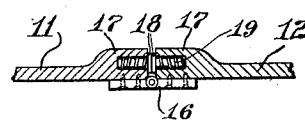


Fig. 7.



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UNITED STATES PATENT OFFICE

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COLLAPSIBLE CONVEYER

Application filed November 15, 1927. Serial No. 233,467.

This invention relates to conveyers and especially to a conveyer in the form of a collapsible table.

In certain kinds of establishments, for example, in laundries, it is necessary at times to convey materials from one point to another on trays or tables. Thus, for example, in laundries employing large flat work ironing machines the usual operation comprises first the laying out of the garments upon a tray or rack at one place in the establishment whereupon the trays are moved into proximity to the ironing machine usually located at some distance away. Obviously then, after the garments on a particular tray have passed through the ironing machine it is necessary to remove the empty tray and bring it back to where it may be again charged with garments. In the case of very large ironing machines it is, of course, necessary to employ trays of correspondingly great length and therefore when such a tray has been emptied a relatively large amount of unobstructed floor space is necessary in order that the tray may be properly turned about if necessary and brought from the ironer back to the point for recharging.

Accordingly, it is an object of the present invention to provide a tray in the form of a collapsible table which when collapsed occupies comparatively little floor space.

A feature of the invention pertains to a table constructed in longitudinal sections which may be collapsed to reduce the overall length of the table together with easily adjusted means for providing a rigid and stable structure when the table is in its elongated position.

A further feature has reference to a collapsible table provided with upper and lower longitudinal frame works which are adapted to be flexed toward each other to reduce the overall length of the table.

Other features and advantages not specifically enumerated will be apparent after a consideration of the following detailed description and the appended claims.

Referring to the drawings in which similar parts in the several figures are represented by the same characters, Fig. 1 shows

a view in elevation of a table constructed according to the invention, with the table in its extended position.

Fig. 2 shows a plan view of the table of Fig. 1.

Fig. 3 shows a view of the table in partially collapsed position.

Fig. 4 shows the table completely collapsed.

Fig. 5 is a perspective view of a portion of the table.

Fig. 6 is an end view of the table.

Fig. 7 is a view showing a detail of the flexing and locking member.

The table proper comprises three sets of inverted U-shaped uprights 1, 2 and 3 having offset lower extremities in which are suitably mounted the sets of rollers 4, 5 and 6. The legs of upright 2 have permanently secured to their lower extremities the channel bars 9 and 10 respectively. Connected to the right-hand ends of bars 9 and 10 by hinges 14, 15 is a frame comprising hinged side members 11, 12 and a cross member 13. A similar frame is provided at the opposite end of the table, between the left-hand ends of bars 9 and 10 and the uprights 3. Each of the members 11, 12 is of a length approximately one-third that of the distance between the uprights 1 and 2. Sections 11 and 12 of each side member are united by a hinge 16 and each section is provided with a raised portion 17 (Fig. 7) having a cavity within which is seated a spring pressed plunger 18. As is obvious from an inspection of Fig. 7, when the members 11 and 12 are in their aligned or non-flexed position the heads of the plungers engage and act as a stop to prevent downward pressure of the frame. Springs 19 are so designed that they exert a force normally tending to flex the members 11 and 12 upwardly toward the position shown in Figs. 3 and 4. For the purpose of maintaining members 11 and 12 in their non-flexed position against the force of springs 19, there is provided a swingable frame comprising legs 20, 21 and the cross member 22. Each leg 20 is provided at its lower end with a roller 23 adapted to register with depressions 24 in side members 11 to lock the same in their straightened position,

and to prevent unintentional displacement of the swingable frame, as will appear hereinafter. Extending between the upper ends of the uprights 1 and 2 is a tray-like structure comprising a number of parallel strips 45, preferably of metal, for example, channel-iron or the like, which are hinged midway between their ends by hinges 25, 26 etc. The strips of this frame are rigidly connected together by the cross bar 27 and are hinged at their ends to the uprights 1 and 2 by hinges 28, 29, etc. As shown clearly in Fig. 5, outer strips 30 and 31 are in the form of channel bars and are provided with extensions 44 in which is pivotally mounted the swinging frame 20—21—22. When the table is in its elongated position this latter frame is vertical and the rollers 23 register with the depressions 24 in strips 11, preventing downward flexure of the upper strips 30, 31 etc. and upward flexure of strips 11 and 12, this providing a rigid and stable table structure.

Connected to the cross bar 22 of the right-hand swinging frame is a chain 32 which passes around a pulley 33 suitably mounted on the inner face of the upright 1, said chain at its end being provided by means such as link 34 whereby the attendant may directly swing the frame toward the right. A hook 35 is conveniently mounted on upright 1 for receiving the link 34. For the purpose of swinging the frame in the opposite direction a chain 36 has one end fastened to said frame, the chain passing over a pulley 37 mounted within the channel of the side member 31 whence it passes around a pulley 38 suitably mounted on the upright 3. Duplicate chains 41 and 43 are provided and are connected to the swinging frame 39 at the left-hand end of the machine, as shown in Fig. 1. For the purpose of holding the swinging frames 20—21—22 in the raised positions against the top of the table while it is being collapsed, as shown in Figs. 3 and 4, there are provided suitable spring slips such as 40 with which the legs 20, 21, etc. engage. In order to elongate the table from the completely collapsed position, as shown in Fig. 4, the attendants at each end of the machine pull on the handles 42 after having removed chains 32 and 41 from their respective hooks, thus causing the members 30, 31, etc. to be straightened out to the position shown in Fig. 1. The attendants then pull their respective chains 32 and 41 to remove the swinging frames 20 and 39 from the hook clips 40. During the downward movement of the frames the rollers 23 engage the respective side members 11 to force the same to their horizontal positions whereupon the rollers 23 engage with depressions 24 thereby locking the table rigidly in its elongated position. When it is desired to collapse the table the attendants pull chains 36 and 43

until the swinging frames engage the respective hook clips 40. The attendants may then push on the handles 42 to collapse the table and may either transport the same bodily or move it on the rollers 4 and 6 to the desired point.

What I claim is:

1. A collapsible table having upright end members, a top for said table connected to said upright members, said top comprising two sections hinged at a point midway between said upright members, a frame hingedly connected to the lower ends of said upright members, said frame comprising a plurality of sections hinged together at a point unequally distant from said upright members, one of said sections being connected to one of said upright members by means of a fixed spacing member.

2. A collapsible table having upright end members, upper and lower folding members connecting said upright members, means comprising a flexible tension member for folding said members to reduce the length of the table and for straightening said members to elongate the table, and means comprising a swinging frame for locking said members in straightened positions to provide a rigid and stable structure.

3. A collapsible table comprising upright end members, an upper frame pivotally connected at opposite ends to said upright members and adapted to be flexed intermediate its ends, means comprising a flexible tension member for flexing and straightening said frame, said frame when in straightened position serving as the table top, and means including a swinging frame for locking said frame in straightened position.

4. A collapsible table comprising upright end members, a table top pivotally connected at opposite ends to said upright members, said top being adapted to fold intermediate its ends, a folding frame connecting the lower portions of said upright members, means including a flexible tension member for straightening both the table top and said frame from their folded positions, and means for locking said top and said frame in straightened position to provide a rigid and stable structure.

5. A collapsible table having upright end members, a top for said table comprising a plurality of sections hingedly connected, said sections being pivotally connected at opposite ends to said upright members, a framework hingedly connected to one of said upright members and adapted to fold intermediate its ends, means for folding both the top and said frame toward each other to reduce the length of the table and for straightening said top and side frame to elongate the table, and means for locking said top and said frame in straightened positions.

6. A collapsible table having upright end

members, a top for said table connected at the ends to said upright members, said top being adapted to flex downwardly at its middle portion, a lower frame having fixed and hinged sections, said fixed section being rigidly connected to one upright member and the hinged section being pivotally connected to the other upright member, means for flexing said top and said lower frame toward each other to reduce the length of the table and for straightening said frames to elongate the table, and means comprising a swingable frame for locking said upper and lower frames in straightened position.

7. A laundry conveyer in the form of a collapsible table comprising upright end members, a top for said table connected to said uprights and adapted to fold downwardly at its middle, a frame extended between the lower ends of said upright members and adapted to fold upwardly, a swingable member for locking said top and said frame in straightened positions, means for swinging said member to a locking position, and means for swinging said member to a non-locking position.

8. A laundry conveyer in the form of a collapsible table comprising upright end members, a top for said table connected to said upright members and adapted to fold downwardly at its middle, a lower frame extending between said uprights, said frame having hinged side members adapted to fold upwardly, each of said side members having a depression therein, a swingable member for locking said top and said frame in non-folded position, said swingable member being pivoted at one end to said top, the other end of said member carrying a roller for engaging one of said depressions in a corresponding side member of the lower frame.

9. A laundry conveyer in the form of a collapsible table comprising end legs, a top having two sections hinged together intermediate said legs, a swinging leg situated substantially midway between said end legs, means for bringing said swinging leg into substantial alignment with the top, means for bringing said swinging leg into a vertical position, a lower frame extending between said end legs having side members hinged together at a point unequally distant from said end legs, each side member having a depression therein for locking said swinging leg when the latter is in its vertical position.

10. A laundry conveyer in the form of a collapsible table having upright end members, a central upright member, collapsible frames extending between said central upright and each of said end members comprising upper and lower frames adapted to fold toward each other, a swinging frame pivotally connected to each of said upper members and adapted to be swung to a vertical position to engage a corresponding one of

said lower members to straighten and lock the said lower member in its straightened position.

11. A laundry conveyer in the form of a collapsible table having a plurality of serially connected sections, each section comprising end supports and an upper frame serving as a table top and adapted to fold downwardly, a lower frame for each section having a portion adapted to fold upwardly, a swinging member for locking said frames in non-folded position, means connected to said frame and extending to a point convenient for manipulation by an attendant enabling said attendant to swing said member to lock said frames in straightened position, and other means for enabling the attendant to swing said frame to an ineffective position whereby said table may be collapsed.

12. A collapsible conveyer comprising a pair of end supports, a table top member having each of its ends hinged to a corresponding one of said supports, said top member being also hinged intermediate its ends, a spacer frame member having one end hinged to one of said supports at points below said top, said frame member being also hinged intermediate its ends, and a locking element pivotally connected to one of said members and adapted positively to space said members apart.

13. A device according to claim 12 wherein means manually operable from one end of the table is provided for actuating the locking element.

14. A collapsible conveyer comprising upright end members, an upper frame pivotally connected at opposite ends to said upright members and adapted to be flexed intermediate its ends, tension means for flexing and straightening said frame, said frame when in straightened position serving as the table top, means for locking said frame in straightened position, and handle means secured to the end members for aiding in the opening and transporting of said table.

In testimony whereof, I have signed my name to this specification this 11th day of November, 1927.

SAMUEL H. McKNIGHT.