

April 30, 1940.

W. DUBILIER

2,198,661

COLLAPSIBLE TABLE

Filed Nov. 8, 1937

4 Sheets-Sheet 1

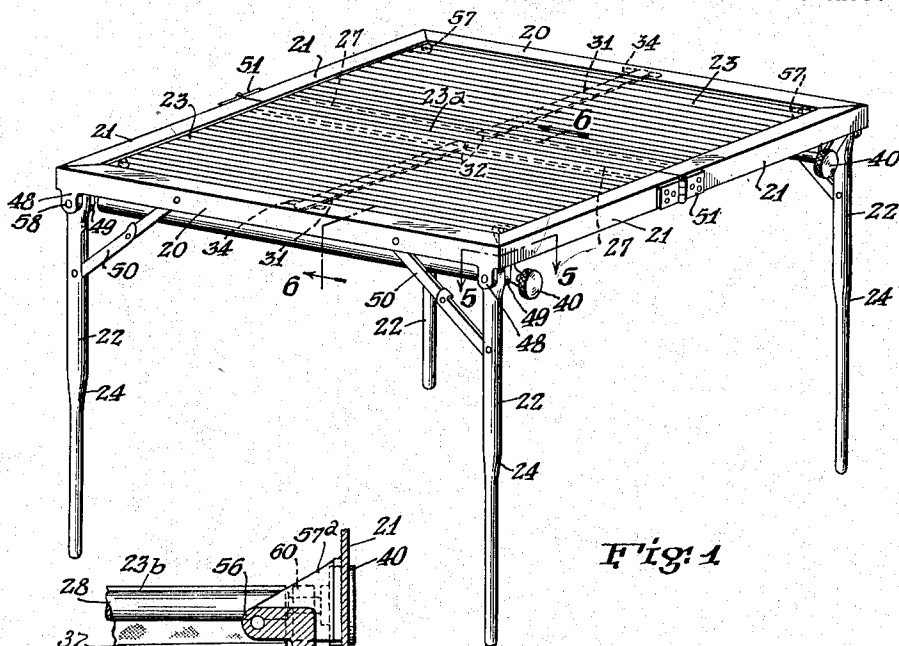


Fig. 1

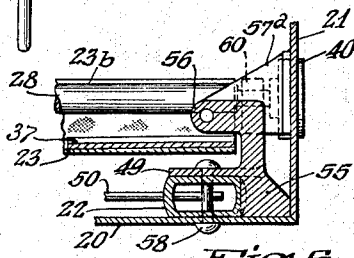


Fig. 5

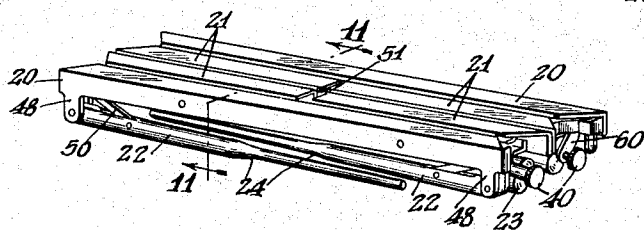


Fig. 2

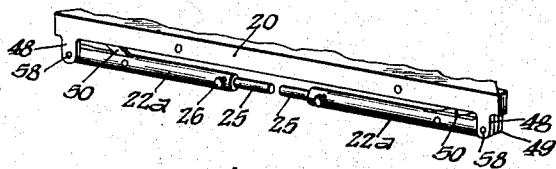


Fig. 4

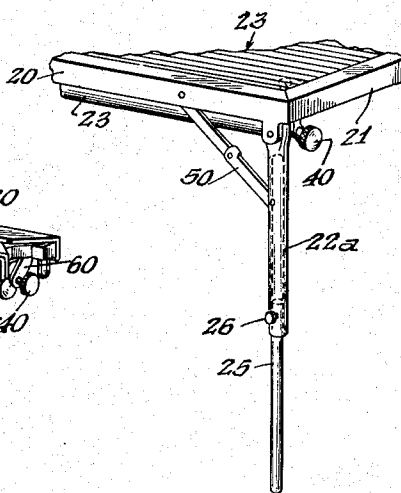


Fig. 3

INVENTOR.
William Dubilier
BY *Ostrolenk, Greene & Marcin*
ATTORNEY.

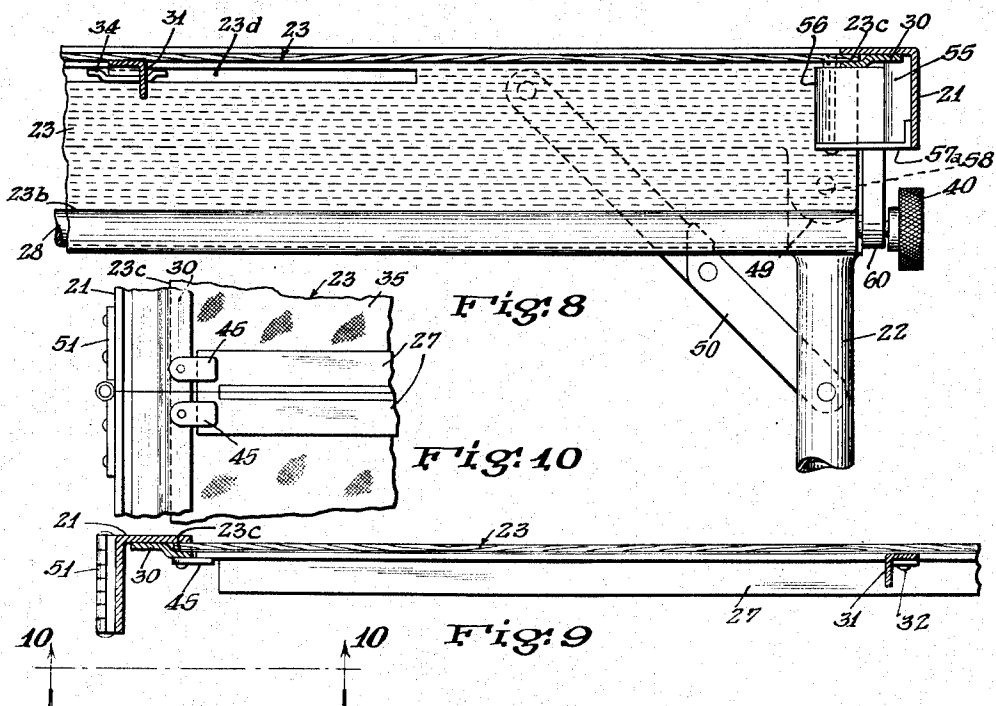
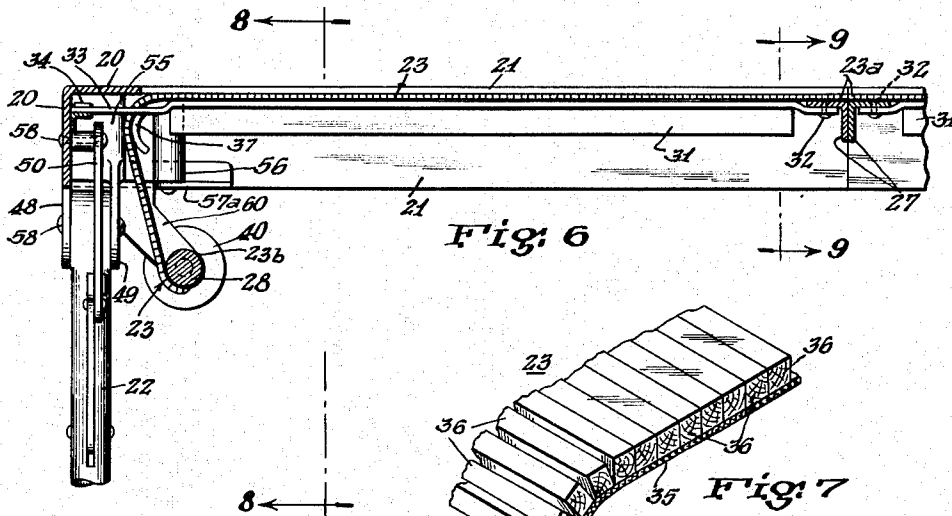
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W. DUBILIER
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4 Sheets-Sheet 2



INVENTOR.
William Dubilier
BY *Ostrolenk, Greene & Marsen*
ATTORNEY.

April 30, 1940.

W. DUBILIER

2,198,661

COLLAPSIBLE TABLE

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4 Sheets-Sheet 3

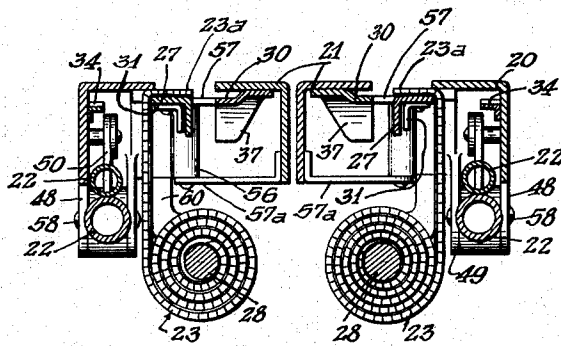


Fig. 11

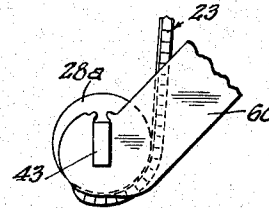


Fig. 13

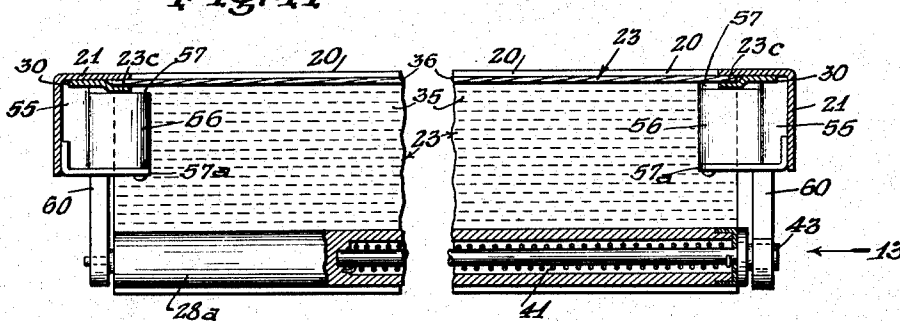


Fig. 12

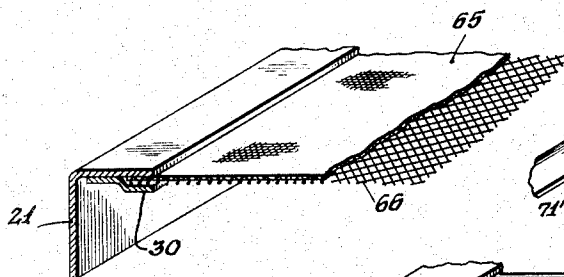


Fig. 14

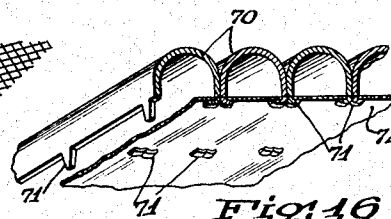


Fig. 16

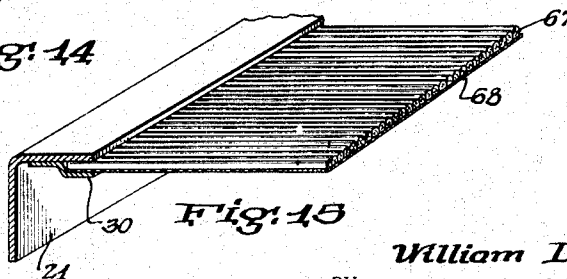


Fig. 15

INVENTOR.
William Dubilier
BY *Patrolink, Greene & Marsen*
ATTORNEY.

April 30, 1940.

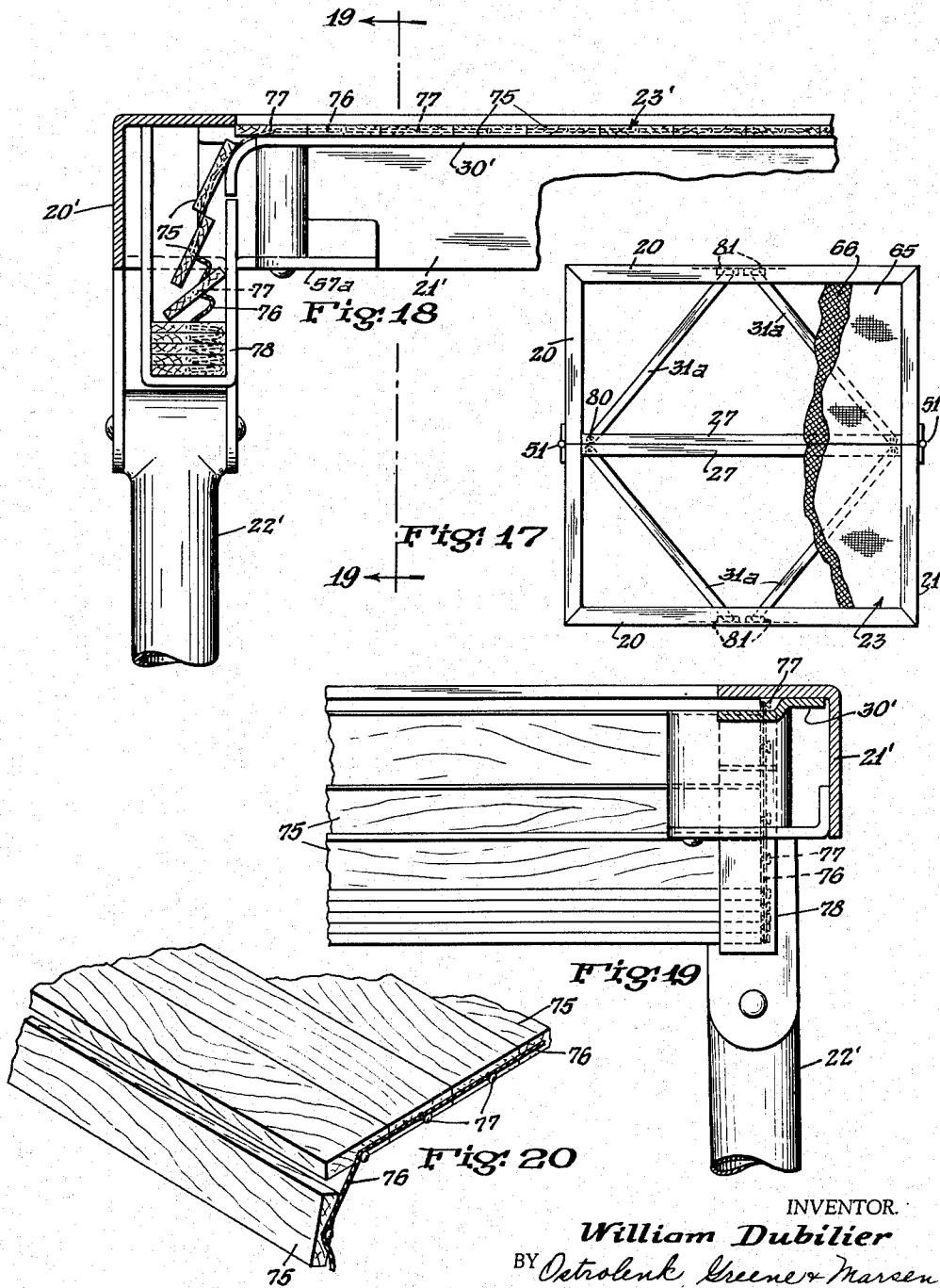
W. DUBILIER

2,198,661

COLLAPSIBLE TABLE

Filed Nov. 8, 1937

4 Sheets-Sheet 4



INVENTOR.

William Dubilier

BY *Ostrolenk, Greene & Marsen*

ATTORNEY.

UNITED STATES PATENT OFFICE

2,198,661

COLLAPSIBLE TABLE

William Dubilier, New York, N. Y.

Application November 8, 1937, Serial No. 173,283

3 Claims. (Cl. 311-89)

This invention relates to collapsible tables and more particularly relates to a novel construction for a table which permits collapsing thereof into a very compact form.

6 An object of my present invention is to provide a table having a collapsible frame containing means into which the horizontal portion or table top is rolled or stored for the collapsed form.

10 Another object of my present invention is to provide a novel collapsible table having a flexible top portion which is stored or rolled into one or two opposite sides of the table for the collapsed position.

15 Still another object of my present invention is to provide a novel table which is collapsible into a very compact unitary structure.

Still further objects of my present invention reside in novel constructions for a collapsible table for permitting collapsing thereof into a compact portable unit.

20 These and further objects of my present invention will become apparent in connection with the following detailed description taken in connection with the drawings, in which:

Figure 1 is a perspective view of a preferred construction of a collapsible table embodying the principles of my invention;

Figure 2 is a perspective view of the table of Figure 1 fully collapsed;

30 Figure 3 is a partial perspective view of a modified construction for the legs of the table of Figure 1;

Figure 4 is a partial perspective view of the table as collapsed utilizing the modified legs of Figure 3;

Figure 5 is a detailed cross-sectional view taken along 5-5 at the foldable joint of the table, Figure 1;

40 Figure 6 is a partial cross-sectional view taken horizontally through the table of Figure 1 along 6-6;

Figure 7 is a partial perspective view of a preferred flexible table top;

45 Figure 8 is an enlarged cross-sectional view taken through the table along 8-8 of Figure 6;

Figure 9 is a cross-sectional view taken along 9-9 of Figure 6;

50 Figure 10 is a partial under-side view of the extended table as seen from 10-10 of Figure 9;

Figure 11 is a cross-sectional view taken along 11-11 of the table as collapsed;

55 Figures 12 and 13 are details of a modified construction for storing the flexible table top into the sides of the table frame;

Figures 14, 15 and 16 are modified constructions for the flexible table cover;

Figure 17 is a plan view partially broken away of a modified construction for reinforcing the flexible table top; and

Figures 18, 19 and 20 are detailed illustrations embodying a modified form of my present invention.

Referring to Figure 1, which is a preferred embodiment of my invention as applied to a square table particularly useful for card games such as bridge, the collapsible table is seen to comprise a frame having ends 20 and sides 21 coacting with legs 22. The frame, consisting of the ends, sides and legs, is constructed to be collapsible after the table top 23 is withdrawn from the in-use position illustrated. The table top 23 is held in rigid position and is supported when in use but is of a flexible construction which permits its storage on a roller or in a compartment arranged in both of the ends 20 of the table frame. The sides 21 of the table frame contain adequate guides for the flexible table cover or top 23 which also serve to rigidly hold the cover in the in-use position.

Figure 2 is a perspective illustration of the table of Figure 1 in its fully collapsed condition. The legs 22 are tapered at 24 so as to permit overlapping at the central region of the legs when collapsed in the position shown in Figure 2.

Figure 3 is a partial perspective illustration of a modified form for the leg 22 shown in Figures 1 and 2. The leg 22a of Figure 3 contains a rod 25 which is movable within a corresponding hollow portion in 22a. A set screw 26 mounted in tubular leg portion 22a serves to fasten the leg extension 25 in open or closed position corresponding to that in Figures 3 and 4 respectively. This modified form for the leg of the table somewhat decreases the bulk to which the table may be collapsed as will now be evident.

Figure 6 is a cross-sectional view taken along 6-6 of the table in its open form. The flexible table top 23 is attached at its exterior end 23a to an angle bar 27 and at opposite or internal end 23b to a rod or roller 28 rotatably supported in one of the ends 20 of the table frame. In the preferred form, the table cover is constructed of two equal and symmetrically arranged portions which are drawn from both table ends 20 and interlocked at the center of the table. The sides 23c of the table top 23 ride in guides or grooves formed by a channel 30 welded or otherwise secured to both table sides 21 as illustrated in the cross-sectional view, Figure 8.

An important feature of the table construction resides in the reinforcement bar 31 extending from and pivoted centrally of the angle bars 27 at pivot 32. The length of the reinforcing bar 31 is approximately equal to one-half the length of the table and extends from the center of the table directly toward one of the sides 20 as clearly shown in dotted lines in the perspective view, Figure 1, and as shown in elevation in Figure 6.

The reinforcing bar 31 is preferably made in the form of an angle or beam for the greater part of its length. The free end 33 of the reinforcing bar 31 passes through an opening 23d in flexible cover 23 and is arranged to engage in a clip 34 mounted internally within each of the ends 20 to lock the bar 31 in position. The top surface of the reinforcing bar 31 is about one inch in width to act as a substantial center support for the individual slabs or components of the flexible table cover sections 23.

The flexible table cover 23 shown in detail in Figure 7 as consisting of a fabric or sheet backing surface 35 upon which is secured a plurality of transverse bars, slabs or the like 36. The bars 36 may have a rectangular or square shape and may be constructed of wood, metal, composition material or the like. It is to be understood that the flexible cover 23 may have various other forms of construction such as, for example, as illustrated in Figures 14 to 19, and which will be hereinafter described in further detail. The flexible cover section 23 is guided over a rounded plate 37 integral with and extending from channel plates 30 as clearly shown in Figure 6. The flexible table cover 23 is rolled up upon the roller or rod 28 in the initial stages of the collapsing of the table and before the collapsing of the table frame. A knob 40 is affixed to one end of the roller 28 for manually winding up the flexible table cover 23 upon the roller as may be clearly seen in Figure 8.

Figure 12 illustrates a modified form for rolling up the flexible cover section 23 upon roller 28a. This modification utilizes a torsional spring 41 within the body of the roller 28a which mechanically biases the cover section 23 toward the wound up position and effects its winding into the end 20 after the reinforcing bar 31 is removed from its in-use position as will be evident. Figure 13 is an end view of the roller modification of Figure 12 showing the preferred mounting of the end for the roller pin 43 projecting from one side thereof which construction is similar to that employed in window shade construction.

The angle bars 27 supporting the ends 23a of the flexible table sections 23 are supported in their center or in-use position by means of prongs or clips 45 fastened to the table sides 21 as illustrated in Figures 9 and 10. The clips 45 prevent the sagging of the angle bars 27 and serve to support the table covers 23 rigidly in the center portion of the table.

It will now be evident that my novel collapsible table contains a unitary combination of a flexible table cover 23 constructed in one or two sections which are rollable into the end portion 20 of the table frame and comprises a fully collapsible table frame built up of sides, ends and legs as already described. The legs 22 are foldable about hinges therefor provided by a lug 48 projecting from each corner of the table ends 20 coacting with a lug 49 extending from a casting member 55 (see Fig. 5) mounted internally within and at each end of the end members 20. The legs 22 fold into a position substantially parallel to

the ends 20. Toggle braces or hinges 50 serve to keep the legs 22 in extended position as will be evident.

The side members 21 are constructed in two halves which are hinged at their center portion by their hinges 51 permitting sides 21 to fold inwardly after the flexible table cover 23 is rolled into the collapsed position. Figure 2 illustrates the completely collapsed position of the table frame illustrating how the side members 21 are folded in between the end members 20 in the collapsed position. To enable such collapsibility, the respective sections of the side members 21 are pivoted at the respective corners of the table and the table ends 20.

Figure 5 shows the manner in which the frame side 21 may be hinged to the frame ends 20. A casting 55 is secured to the table end 20 and contains a lug or projection 56 which serves as a hinge for the table sides 21 through the bottom plate 57a secured to the sides 21. The top plate 57 is preferably integral with and extends from the guide bar 30 shown in Figures 8, 9 and 10 for guiding the ends of the flexible cover. The casting 55 is welded to the frame member 20 or otherwise secured thereto and contains a lug 49 which coacts with a corresponding lug 48 in the frame 20 to hinge the legs 22 by means of a pin 58 inserted therethrough.

The casting 55 further contains an ear 60 which serves as a bearing for one end of the roller 28 for the flexible table top 23. It is to be understood that a similar casting to 55 is mounted on the opposite end of the table end 20 which supports the opposite table side members and the opposite end of the cover roller 28. Figure 12 illustrates such mounting of the roller 28a.

Figure 11 is a cross-sectional view through the table as completely collapsed. The flexible table cover 23 is shown rolled upon the rollers 28. The table sides 21 are shown in position between the table ends 20. The extension bottom plates 57a secured to each member of the sides 21 are welded to the inside surface of the sides 21 as already described. The extension plates 57 and 57a are hinged to the section 56 of the casting as hereinabove described in connection with Figure 5. The top hinge plates 57 are integral with and extend from the guide bars or channels 30 which channels form corresponding grooves in conjunction with the top of the table sides 21 for guiding the flexible table cover into position as hereinabove described.

The angle bars 27, secured to the ends 23a of the flexible curtain 23, remain in position near the top surface of the table as shown in order to be readily gripped in setting up the table for pulling the flexible curtain 23 into position along the guiding grooves in the side members 21. The reinforcing bars 31 hinged to the angle bars 27 are shown in their folded up position for the collapsed table in this sectional view of Figure 11. The preferred construction of my collapsible table permits a unitary form for the collapsed table with a bulk approximating three inches in height by five inches in width along the dimensions of Figure 11 and 30 inches in length corresponding to the original length of the table. The table when set up in this construction will be 30" by 30" square by 26" or other distance high.

My invention may be practised with other types of flexible covers as will be evident to those skilled in the art. In lieu of the adjacent rectangular slabs mounted upon a flexible fabric as shown in Figure 7, I may use a flexible fabric,

leather and the like 65 reinforced by a flexible wire netting 66 as illustrated in Figure 14. Although I have shown a composite single cloth and single wire layer 65 and 66 in Figure 14, it is to be understood that an additional fabric layer may be added beneath the wire screen 66 to fully enclose the screen. Further modifications are also feasible in constructing the flexible cover with reinforced screening. The flexible cover corresponding to this modification is useful in the collapsible table otherwise constructed as already described. Another modification resides in the use of semi-circular slabs or bars 67 adhered to a flexible fabric 68 as shown in Figure 15. Still another form for the flexible table cover resides in the use of hollow semi-circular metal or other material forms 70 containing prongs 71 which are attached to a fabric or other flexible sheeting 72 in the manner illustrated by the enlarged perspective view of Figure 16 thereof. The hollow members 70 are arranged adjacent each other and may be constructed of aluminum or any other suitable material.

Figure 17 is a plan view partially broken away, illustrating a modified construction of reinforcing the table cover when the table is fully opened. This modified form employs four reinforcing bars 31a individually hinged from each end of the horizontal reinforcing bars 27. The bars 31a are hinged by means of a hinge member such as 80. The reinforcing bars 31a are adapted to collapse to a position adjacent and parallel to the bars 27a in a manner similar to the centrally hinged bar modification shown in connection with Figures 1 to 11. In the present modification, two reinforcing bars 31a are positioned at the outer side of the angle bars 27. The free ends of each of the reinforcing bars 31a are inserted in clips 81 set into the end members 20 of the table frame.

The reinforcing construction as illustrated in Figure 17 is useful in that it reinforces the flexible table cover adjacent the positions of use, namely near the outside corners thereof. This four bar construction, for example, is very useful for the type of flexible cover illustrated in Figure 14 and used in the modification in Figure 17 employing wire screening 66 and a fabric covering 65. However, this type of reinforcing construction for the table cover is not to be understood as limited to such type of flexible table covering but is similarly applicable to other types of flexible coverings for the table such as those already described.

In Figures 18, 19 and 20 still another modification of my invention appears employing individual slabs 75 arranged in a chain-like progression by a wire or cord 76 attaching adjacent slabs at pivotal pins 77 centrally located in each end of the slabs 76. The slabs 77 may be of wood, metal, composition or other material. Modified construction of these figures employs a receptacle or enclosure 78 where the individual slabs 75 are piled up or stored for the collapsed position of the table in lieu of the roller construction hereinabove described. The enclosure 78 is sup-

ported along and at the ends 20' of the table which is otherwise constructed in the manner shown in connection with the modification of Figure 1. The sides of the table 21 form, together with a bar or channel 30', a guide for the slabs 75 to hold the slabs 75 in their proper position at the top of the table to form the rigid but collapsible table top or cover 23'.

Although I have described various modifications and constructions embodying the broadest principles of my invention, it is to be understood that variations are entirely feasible which may fall within the broader spirit and scope of my invention and accordingly I do not intend to be limited except as set forth in the following claims.

I claim:

1. A collapsible table comprising a frame having opposed side and end members foldable into a compact unit; a flexible cover for said table arranged to be supported by said frame in two sections, and means for storing the flexible cover sections in a rolled-up condition in said frame; and a bar secured to the forward end of each of said cover sections, and means for securing the bars centrally of the frame when extended for reinforcing said flexible cover in the corresponding central region of the table.

2. A collapsible table comprising a frame having opposed side and end members foldable into a compact unit; a flexible cover for said table arranged to be supported by said frame in two sections, and means for storing the flexible cover sections in a rolled-up condition in said frame; a bar secured to the forward end of each of said cover sections, and means for securing the bars centrally of the frame when extended for reinforcing said flexible cover in the corresponding central region of the table; and means for reinforcing said flexible cover sections at portions intermediate of the central and end regions thereof comprising a reinforcing rod mountable beneath said flexible cover sections, said reinforcing rods being hinged at the ends of said bars and arrangeable diagonally across the corners of the table when extended.

3. A collapsible table comprising a frame having opposed side and end members and depending telescoping legs, said side and end members and legs being foldable into a compact unit; a flexible cover for said table arranged to be supported by said frame in two sections, means for storing the flexible cover sections in a rolled-up condition in said frame comprising a roller rotatably mounted in each of said end members, one end of said cover sections being secured to said rollers; said side members having guides for co-acting with the sides of said cover sections for guiding and maintaining the flexible cover in opened position on the frame; an angle bar secured to the forward end of each of said cover sections; and means for reinforcing said flexible cover sections comprising reinforcing rods mountable beneath said flexible cover sections between said bars and said end members.

WILLIAM DUBILIER.