May 5, 1931. G. A. LEWIS 1,804,171

FOLD TYPE TABLE

Filed Aug. 12, 1927

Fig. 1

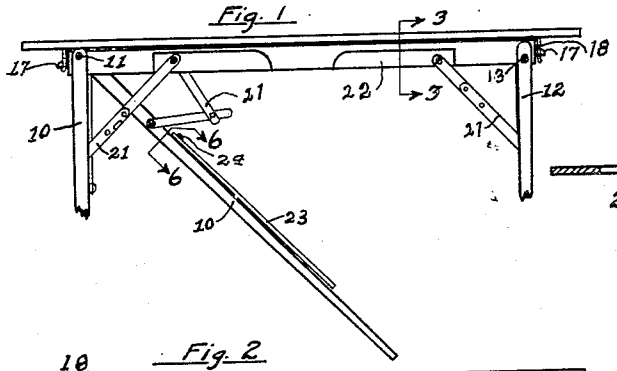


Fig. 5

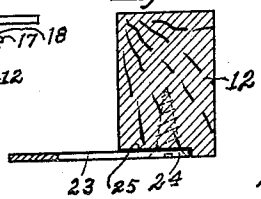


Fig. 6

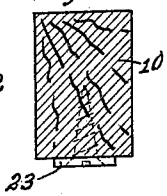


Fig. 2

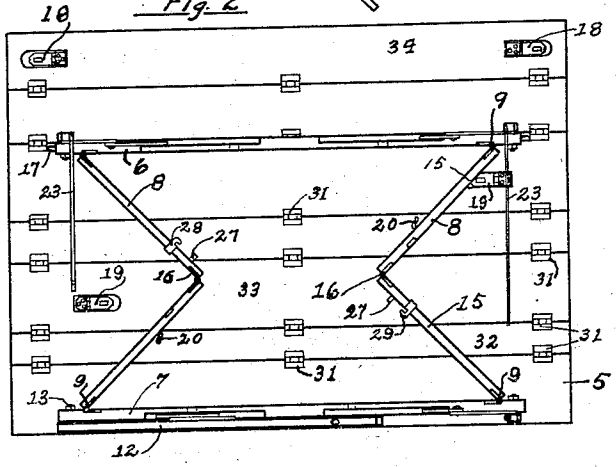


Fig. 8

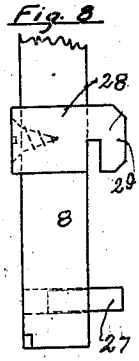


Fig. 7

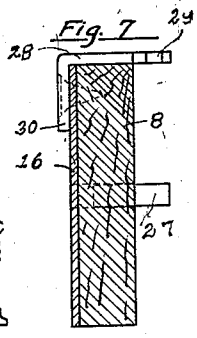


Fig. 3

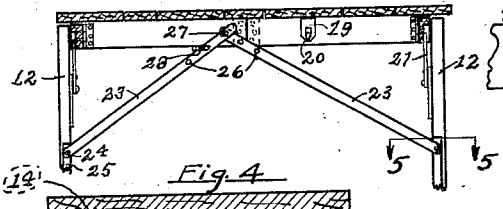


Fig. 9

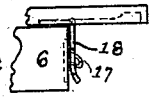


Fig. 10

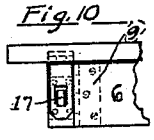


Fig. 4

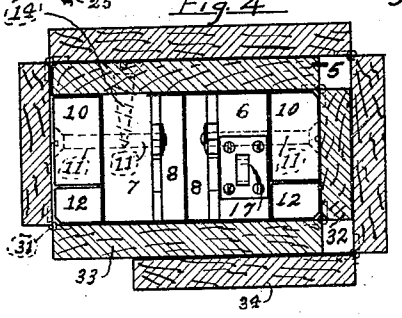


Fig. 11

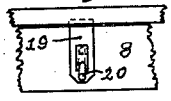


Fig. 12

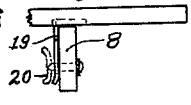


Fig. 13

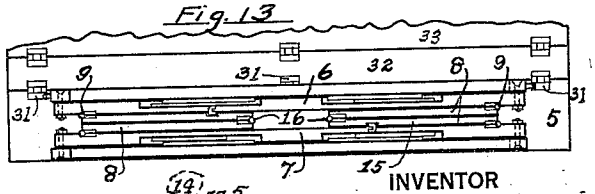
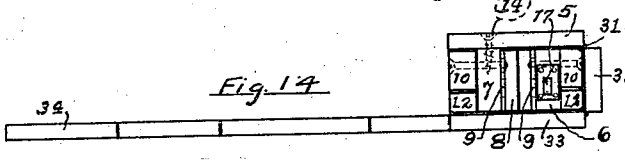


Fig. 14



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UNITED STATES PATENT OFFICE

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FOLD-TYPE TABLE

Application filed August 12, 1927. Serial No. 212,470.

This invention relates to fold-type tables, and more especially to knock-down tables which may be used by tourists, or by anyone seeking a table that may be suitably folded together in very compact form, and yet may be opened out to serve as a flat-topped table of suitable size and mounted upon legs properly spaced. It may easily be manufactured of wood, though some of the metals may be used instead.

To attain my special object of designing a table that may be rolled up in very compact space, I have planned, as will be further explained hereinafter, to form the flat top of the table of a series of thin slats intended to be mounted edge to edge when open, and making these slats of different widths, so that the narrower slats will be rolled first, the succeeding slats widening as they are applied to the outer surface of the roll, the last slats being the broadest, and the entire roll being substantially rectangular in cross section.

A further object of my invention is to provide a table top formed of longitudinal slats hinged together edge to edge, all the hinges being on the lower surface of the top when in unrolled position, so that the said hinges will all be within the compact roll when the table is folded into compact form.

Other objects and advantages will appear in the following detailed description of the construction, combination and arrangement of parts particularly recited in the appended claim, reference being made to the accompanying drawings forming part of this specification, and in which:

Figure 1 is a side elevation of my structure, certain parts being broken away;

Figure 2 is an inverted plan view of the same, a portion of the device being partially collapsed;

Figure 3 is a cross sectional view, the section being taken on the line 3—3 of Fig. 1;

Figure 4 is a view in cross section of the folded device;

Figure 5 is a cross section of a leg of the table together with an end of a brace, taken on the line 5—5 of Fig. 3;

Figure 6 is a similar view, but shown on the line 6—6 of Fig. 1;

Figure 7 is a cross section of one of the end support bars, showing a hinge plate attached thereto, and a hook end pin in detail;

Figure 8 is a detail view of the same parts in bottom plan;

Figures 9 and 10 are detail views of a latch device to secure temporarily the end of the side bar to one of the slats;

Figures 11 and 12 are detail views of a latch device to secure temporarily the end bars to an intermediate slat;

Figure 13 is a bottom plan view of one side slat after all the table legs and supporting bars with their braces have been collapsed into position thereon, with other slats hinged thereto, and

Figure 14 is an end view of the table top shown after the broad slat of Fig. 13 with its attached parts have been folded over upon the adjoining slat, and a second fold made over upon the third slat.

Referring to the drawings it will be seen that the top of my table is made up of a series of slats of equal length but of different widths, this being for the purpose of folding all parts of the table except the top, initially upon one of the outside slats 5, the support frame for holding the top upon the table legs comprising side bars 6 and 7, and end bars shorter in length, 8, the end bars being hinged to the side bars at 9 at points somewhat spaced from the ends of the side bars.

All the legs are pivoted adjacent the ends of the side bars 6 and 7 and on their outer surface. The two legs 10 at one end of the table are pivoted on the outer face of the side bars at points 11 quite closely to the un-

der surface of the top, for all the bars 6, 7, and 8, 8 form a four sided frame with the edge of the bars contacting the under surface of the top. The legs 12 at the opposite end of the frame are pivoted on the outer face of the side bars at points somewhat lower on the side bars at 13, as shown in Fig. 1, so that the legs 10 will fold closely against the slat 5, leaving space upon the outer surface of the bar 6 or 7 in which the legs 12 may fold upon the surface of the legs 10, the thickness of the pair—one leg 10 and one 12 will together cover the outside surface of the side bar.

By mounting the legs 10 and 12 upon the outside surface of the bars 6 and 7, the sections of the end bars 8 will fold, not only in direct contact with each other, but also with their flat surfaces in direct contact with the inner surface of the bars 6 and 7, when the frame is collapsed.

The end bars, 8, 8 are each formed of two sections 15, 15 hinged together at their ends at 16 midway of the length of the bar 8, the other ends of the sections being connected by the hinges 9, 9 to the side bars. The hinges at 16 are on the outer surface of the bars 8, so that when it is desirable to collapse the frame, the sections will bend inwardly of the frame, as shown in Fig. 2.

The side bar 7 is fixedly secured at its edge to the outside slat 5 by screws 14 entering the slat from the upper surface and preferably sunk beneath such surface, as shown in Figs. 4 and 14. Bar 6 is not fixed to a slat of the top but is carried by the end bars 8 by means of the hinges 9. When, however, it is desired to temporarily secure the frame upon the top in extended position, the ends of the bar 6 are latched to the adjacent slat by means of dowel pins 17 on the ends of the bar which are adapted to enter slots in the hinged plate 18 which is carried by the slat 5 opposite the slat to which the bar 7 is fixed. One such slotted latch plate 18 is provided in the slat in proper position to receive its corresponding pin 17. A latch plate 19 is also carried by certain intermediate slats and adapted to receive pins 20 on the inner surface of corresponding sections 15 to make the extended end bars 8 more rigid. The pins 20 are adapted to be rotated for locking them in the slots.

Each of the legs 10 and 12 is provided with collapsible hinged braces 21 for connection between the outer surface of the side bar and the leg hinged to the outer surface. Sockets 22 are also provided in the outer surface of the side bars to receive such braces 21 when the legs are folded down in position upon the pins 11 and 13, respectively, into parallelism with the outer surface of their side bars 6 and 7. The pins 11 and 13, respectively, extending outward from the bars 6 and 7 can be conveniently located at a position far beyond that of the hinges 9, and are so located, being in fact closely adjacent the ends of bars 6 and 7; and each one of the four legs 10 and 12 carries thereupon a brace 23 hinged by a screw head 24 at one end of the brace to the leg, the surface of the leg being cut out somewhat at 25 to receive the brace when it is to be folded into such cut out portion. Each of the braces 23 is provided with a number of spaced apertures 26 to provide successive means for attaching the ends of the brace to the pins 24 and to a pin 27 on a section 15 of the end bar 8.

On the lower edge of one of the sections 15 of each pair, is mounted a hook piece 28 which projects inwardly from said edge, as shown clearly in Figs. 2, 3, 7, 8, 13, and the other leg 30 of the hook piece 28 at right angles to the hook 29, is fixedly secured to the section 15, so that the hook 29 may bear very hard strain, and receive the brace 23 therein when the aperture 26 adjacent the end of the brace is to be held in engagement with pin 27 on the section 15. While each leg 10 or 12 is provided with a brace 23, the four braces are latched upon but two pins 27, one on each end bar 8. Referring to Fig. 3 more especially, the brace 23 from one side of the frame is first applied to the pin 27 on the brace section 15, and thereafter the brace 23 from the other side of the frame is then overlapped on the same pin 27, and its edge caught within the hook 29, thereby holding the braces of that end of the frame upon the same pin 27. See also Fig. 2.

The braces 21, therefore, brace the legs 10 and 12 against strain in a direction lengthwise of the table, especially since the structure described permits the pivots of the legs to be as widely separated as possible, while braces 23 brace the same legs against lateral strain. This results in a very steady and strong table when the braces are all latched while the legs are in extended position, though permitting collapsing of the legs against the side bars 6 and 7.

Operation: To dismantle the table, first of all the latch plates 18 are unhooked from the hinges 17 and bent downwardly upon the surface of the corresponding slat of the top. The latches 19 are then unhooked from the hinge 20, after rotating the latter sufficiently to permit unlatching therefrom. The braces 23 are then unhooked from the pins 27 after the outermost braces 23 have been sprung outward and then unhooked from the hook piece 28, so that the braces 23 may be folded down upon their pivots 24 and into the cut out portion 25 of the several legs 10 and 12.

The side bar 7 now remains fixed to the slat 5, while the side bar 6 is free to move, together with the legs 10 and 12 folded thereon, bodily toward the bar 7, the sections 15 of the bars 8 meanwhile collapsing into the

position shown in Fig. 13. The slat 5 carrying the entire supporting frame including the legs, is now folded laterally by means of the hinges 31 over upon the adjacent slat 32 whose width corresponds to that of the bars 6, 7 and 8. The slat 32 is now folded laterally, together with the slat 5 and the structure carried thereby, by other hinges over upon a slat 33 which has the same width as slat 5, and occupies at this time, the position illustrated in Fig. 14.

The combined structure included between the slats 5 and 33 as well as the slat 32, is now folded over and over, the successive slats increasing in width, as the rectangular bundle increases in size, until the last slat 34 takes the final position shown in Fig. 4. A single strap will now readily serve to bind the entire table structure in an elongated bundle, secured carefully together, and rectangular in cross section, by a single strap, as will be well understood. The opening-up of the table requires merely a reversal of the steps outlined above.

My improved structure herein disclosed has the great advantage of providing in its open position, a smooth flat top surface made up of adjacent slats, whose edges on the lower side are attached by metal hinges, thus permitting folding of a slat downward to position at right angles to the next slat, but not permitting folding upwardly out of the smooth horizontal or flat position. This advantage includes a related one of connecting every part of the structure to another, so that in its use as a table or in its folded condition for storage or transportation, no danger arises of loss of any of the parts.

Another and special advantage accrues from the close attachment of the slats to one another together with the parts carried thereby, so that the bundle is never rolled in a loose manner upon itself, so that no sagging of intermediate slats will tend to move the frame and legs out of their proper position while the bundle is folded. Still a further advantage arises from the very positive protection and is given to the inner parts of the bundle, which are more or less delicate in their structure, by the hinged slats surrounding them.

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

A table comprising a top consisting of a plurality of members laterally movable one upon another, a supporting frame comprising side bars one of which is secured to the under surface of one of said members and sectional end bars hinged to the side bars so that the frame may be collapsed in compact relation with the side bar which is secured to the member, and a hinged latch mounted upon the other side member for detachably securing the outermost member to said side bar, and a pair of legs hinged to the outer lateral surface of each of said side bars, so that the legs may be folded down upon the outer surface of said side bars, the frame then folded compactly over one of the outermost members of the top, and the entire top collapsed into a bundle enclosing the said frame therein.

In witness whereof I have hereunto set my hand and seal this second day of July, 1927.

GEORGE A. LEWIS.