

Sept. 27, 1932.

E. E. EKVALL

1,879,665

FOLDING TABLE

Filed Dec. 12, 1931

2 Sheets-Sheet 1

Fig. 1

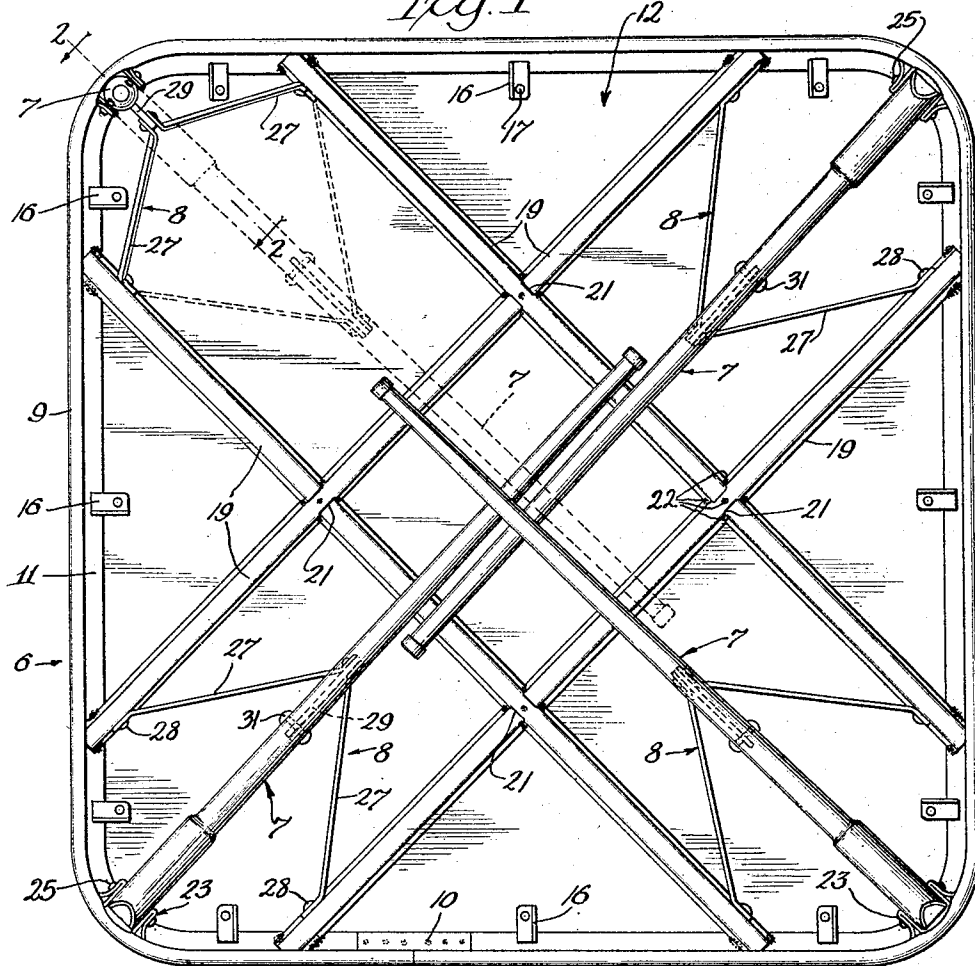


Fig. 3

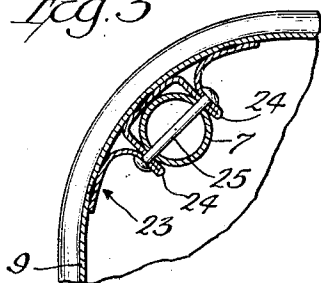
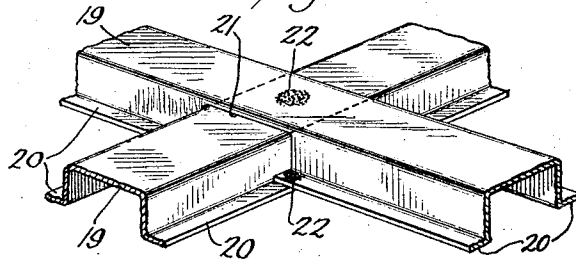


Fig. 4



Inventor:
Edward E. Ekvall
By *Wm. H. Cummings*
Attys.-

Sept. 27, 1932.

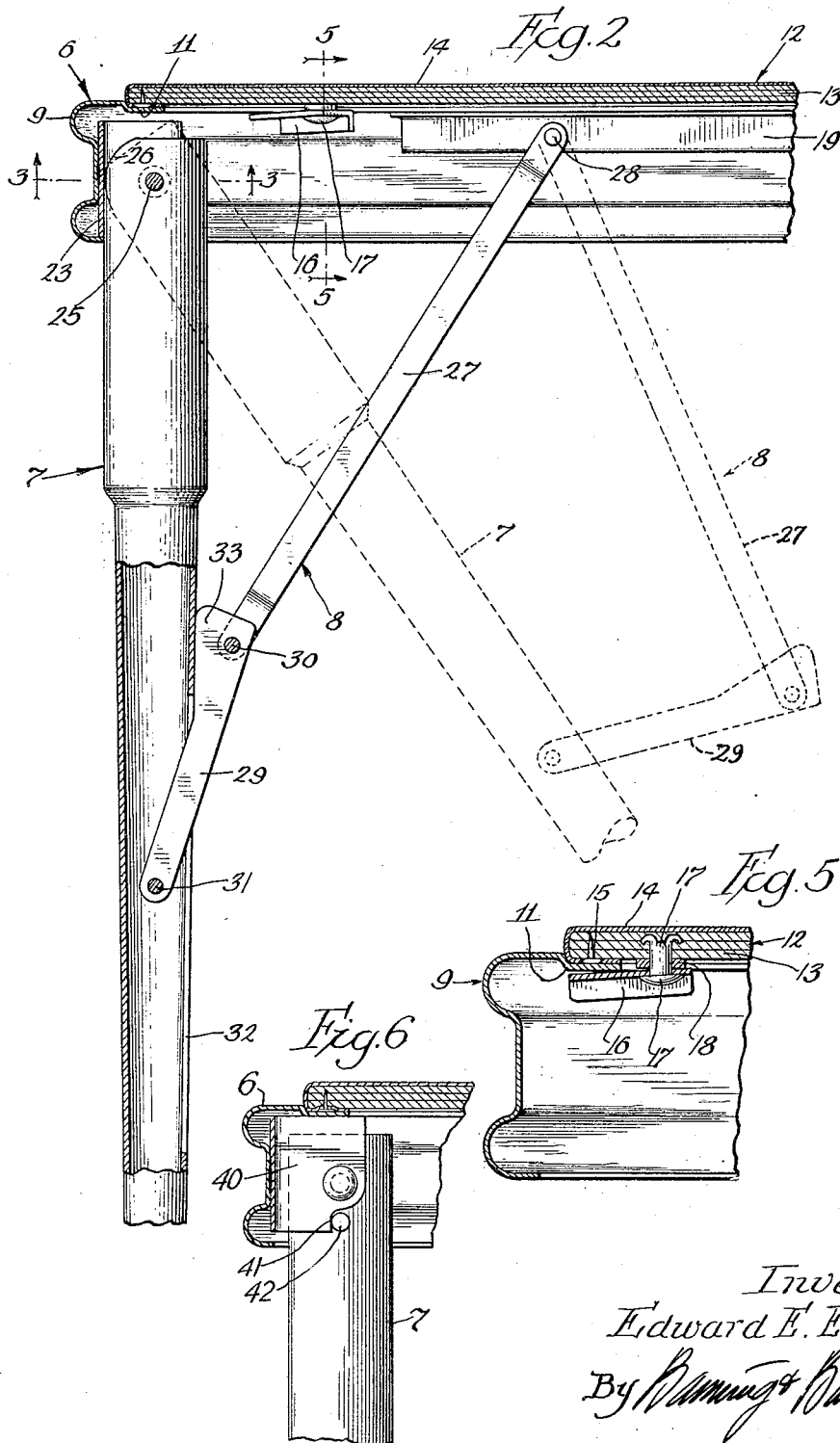
E. E. EKVALL

1,879,665

FOLDING TABLE

Filed Dec. 12, 1931

2 Sheets-Sheet 2



Inventor:
Edward E. Ekvall
By *Wm. H. Cummings*
Attys.

UNITED STATES PATENT OFFICE

EDWARD E. EKVALL, OF ELGIN, ILLINOIS, ASSIGNOR TO THE W. H. HOWELL COMPANY,
OF GENEVA, ILLINOIS, A CORPORATION OF ILLINOIS

FOLDING TABLE

Application filed December 12, 1931. Serial No. 580,523.

This invention relates to folding tables, and one of its objects is to provide novel means for holding the legs rigid when extended.

Another object is to provide a folding table having a frame composed of light gauge metal and a light top reinforced on its underside by intersecting beams anchored to the frame.

Another object is to provide a table in which the top is removably secured to its frame by novel means.

Other objects and advantages will appear in the course of this specification, and with these objects and advantages in view, this invention consists in the several novel features of construction, arrangement and combination of parts hereinafter fully set forth and claimed.

An exemplification of the invention is illustrated in the drawings accompanying this specification in which—

Figure 1 is an inverted plan of the table showing three of the legs folded against the top and one of them extended, the latter being shown folded back in dotted lines;

Fig. 2 is a detail vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a detail horizontal section taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmental perspective view of the reinforcement for the table top showing the same inverted;

Fig. 5 is a detail vertical section taken on the line 5—5 of Fig. 2, and

Fig. 6 is a fragmentary sectional view of a modified form of leg bracket.

Referring to said drawings, the reference character 6 designates the top of the table and 7 the legs which are swingingly connected to the top at the corners thereof and are adapted to be extended to support the top, as seen in Fig. 2, and also to be folded underneath the top. Foldable diagonal braces 8 connect each leg with the top and serve to hold the legs rigid and upright when extended. The legs are desirably of tubular form tapering from top to bottom.

The frame comprises a strip of light gauge sheet metal desirably rolled to provide the

ribbed cross section seen in Fig. 2, and said strip is bent upon itself to form four sides, the corners preferably being rounded as seen in Fig. 1. The ends of the metal strip may be joined at the place where they abut by a metal strip 10 spot welded or otherwise permanently fastened to the frame strip.

The upper side of the frame is formed with a depressed ledge 11 upon which is detachably secured a table top 12 desirably composed of a board 13 formed of laminated material covered on one side by a suitable fabric or other covering 14 which is brought around the side edges of the board and fastened to the underside thereof by tacks 15 or otherwise. Buttons 16 secured to the underside of the board by split rivets 17 (see Fig. 5) are provided for engagement with the underside of the ledge 11 to detachably secure the table top to the frame. Desirably each button is formed of a piece of flat sheet metal bent up along one edge to form a stiffening flange and a washer 18 may be interposed between each button and the underside of the laminated board, as seen in Fig. 5, although this may not be found necessary in all cases. The round shanks of the split rivets permit the buttons to be turned underneath the shelf of the frame to clamp the table top thereto.

In order to reinforce the frame and the table top, intersecting beams 19 are employed, which beams are anchored at their ends to the sides of the frame as by spot welding them thereto. They extend approximately in one and the same plane beneath the table top and prevent the same from sagging. Desirably the beams are formed of light gauge sheet metal rolled or struck up to form channel members, as seen in Fig. 4, preferably having out turned or lateral flanges 20. Each beam is notched at one place along its length, as indicated at 21 in Fig. 1, whereby the beam, which crosses it, may be received within the notched portion so as to permit the two intersecting beams to lie in substantially the same plane with their flanged sides supporting the table top.

In the drawings, the beams extend diagonally from one side of the frame to another and are arranged in pairs suitably spaced

apart so as to dispose the beams symmetrically across the area of the table top. In order to provide rigid joints at the intersecting portions of the beams, the main webs and lateral flanges thereof may be spot welded together as at 22.

Spot welded or otherwise secured to the frame at its corners are brackets 23 which are bent up to form ears 24 between which the upper ends of the legs 7 are swingably held by rivets or the like 25. The pivotal connections between the brackets 23 and the legs are so located with reference to the bottoms of the brackets that when the legs are held in upright position they bear against the bottom of the brackets, as is clearly seen in Figs. 2 and 3, and when moved into such position the diagonal braces serve to positively hold the legs in upright position in engagement with the bottoms of the brackets. The upper corners 26 of the legs are rounded off to permit them to be swung back underneath the top. The pivotal connections between the legs and top extend diagonally across the corners of the top permitting the legs to be swung back towards the center of the top, as seen in Fig. 1.

Each folding brace comprises a pair of diagonally extending links 27 swingingly connected to the beams by rivets or the like 28 and a companion link 29 joined thereto by a rivet 30 or other connection and swingingly connected to the associated leg by a rivet or the like 31. Each leg is provided with a longitudinal slot 32 in its wall through which the associated link enters the leg, and said slot is of sufficient extent to permit the link to swing back through the slot when the leg is folded against the underside of the top.

In the extended position of the folding brace, the jointed links occupy a position beyond the center line connecting the two rivets 28 and 31 with the link 29 abutting against the side of the leg, thereby locking the leg in its upright position. If desired, each link 29 may be provided with a toe 33 on one side arranged to engage the side of the associated leg to prevent buckling of the folding brace in the direction of the leg when in its extended position.

When in extended position, the legs may be folded back against the underside of the top by drawing the jointed ends of the links of each brace past the dead center line so as to break the joints after which the legs may be readily folded back towards the lower side of the top. To set the table up, the legs are drawn outward until they reach a position at right angles to the top and the jointed ends of the braces forced back past the dead center line to bring the toes of the links into engagement with the sides of the legs.

In the modified form shown in Fig. 6, each bracket 10 is provided with a stop 41 for engaging a projection 42 on the leg, limiting its

pivotal movement toward extended position. The projection may be in the form of a pin which extends through the leg and projects on each side thereof to engage the stops.

I claim:

1. A folding table in which is comprised a substantially rectangular top, legs swingingly mounted at the corners thereof and arranged to be swung from a position at right angles to the top to one approximately parallel therewith, and folding braces, one for each leg, each folding brace comprising a link swingingly mounted on the leg, and a pair of links joined to the first mentioned link and extending obliquely therefrom to the top and swingingly connected thereto.

2. A folding table in which is comprised a top having a marginal frame, legs swingingly connected to the frame at the corners thereof, folding leg braces swingingly connected to the top and to the legs, each brace comprising a link extending parallel with the associated leg, and two links joined to said first mentioned link and extending obliquely therefrom to the top, said first mentioned link being arranged to abut against the leg when the brace is extended.

3. A table in which is comprised a substantially rectangular frame, the sides of which are connected by obliquely extending beams for supporting a table top, legs swingingly connected to the frame at the corners thereof and limited to swing from a position underneath the table top to one at right angles thereto, and folding leg braces swingingly connected to the beams and legs respectively, each brace comprising a link extending parallel with the leg, and a pair of obliquely extending links joined to the free end of the first mentioned link.

4. A folding table in which is comprised a substantially rectangular top, a leg swingingly mounted thereon at a corner thereof and movable from a position underneath the top to one extending at right angles thereto, and a jointed brace connecting the leg with the top and comprising a link extending into the leg through a slot in its wall and swingingly mounted in said leg, and a pair of links joined to the outer end of the first mentioned link and extending obliquely to and swingingly mounted on the top, the first mentioned link having a toe adapted to abut against the leg to prevent buckling of the folding brace when in extended position.

EDWARD E. EKVALL.