Feb. 26, 1952 R. W. THOMPSON 2,587,010

FOLDING SECTIONAL ARTICLE OF FURNITURE

Filed May 10, 1950 3 Sheets-Sheet 1

Fig. 1

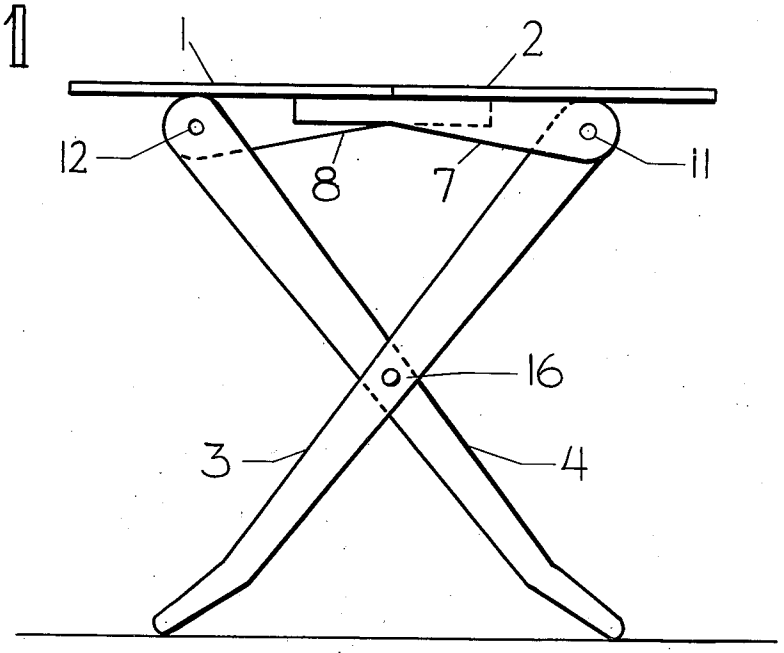
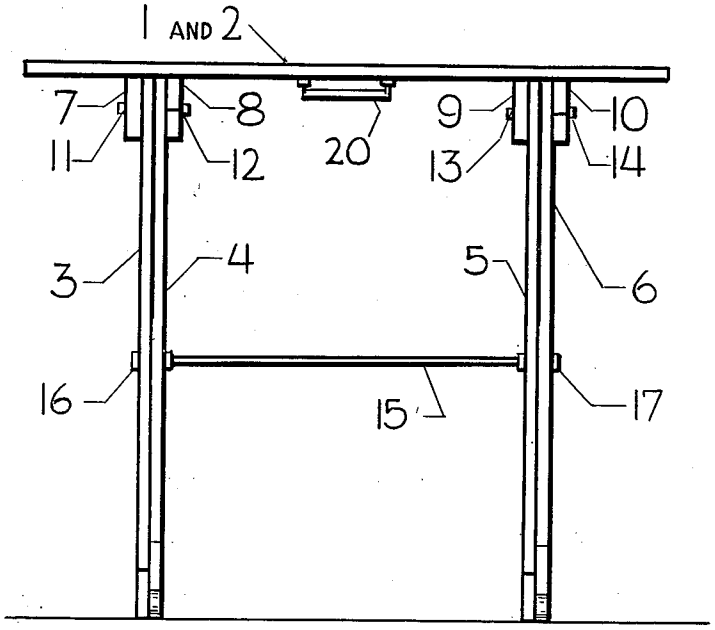



Fig. 2




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FOLDING SECTIONAL ARTICLE OF FURNITURE

Filed May 10, 1950 3 Sheets-Sheet 2

Fig. 3

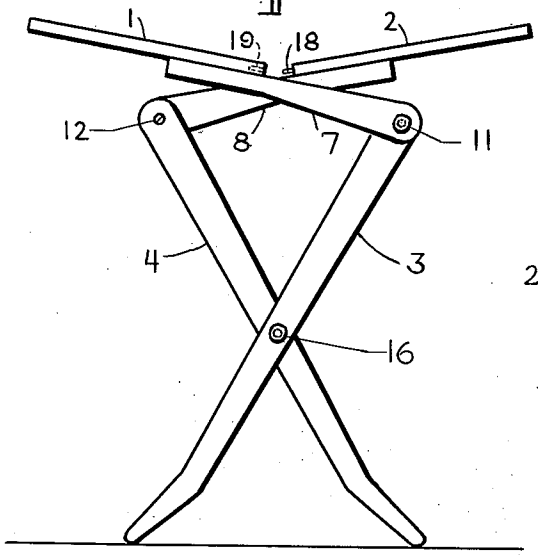



Fig. 4

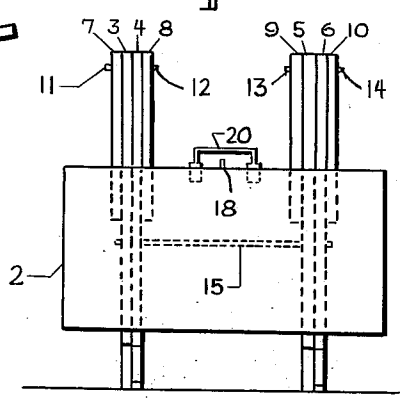



Fig. 5

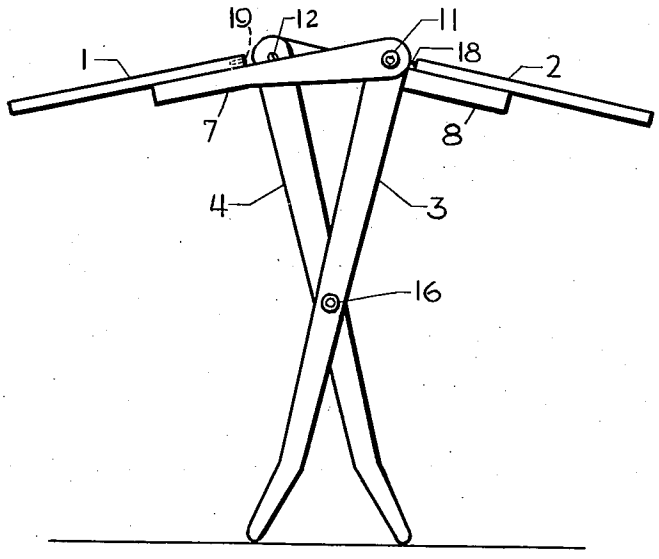
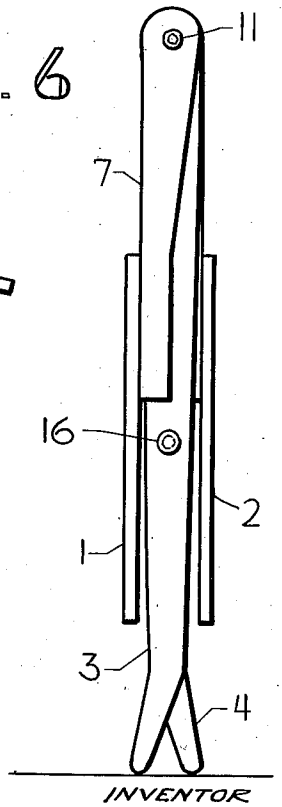



Fig. 6




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FOLDING SECTIONAL ARTICLE OF FURNITURE

Filed May 10, 1950 3 Sheets-Sheet 3

Fig. 7

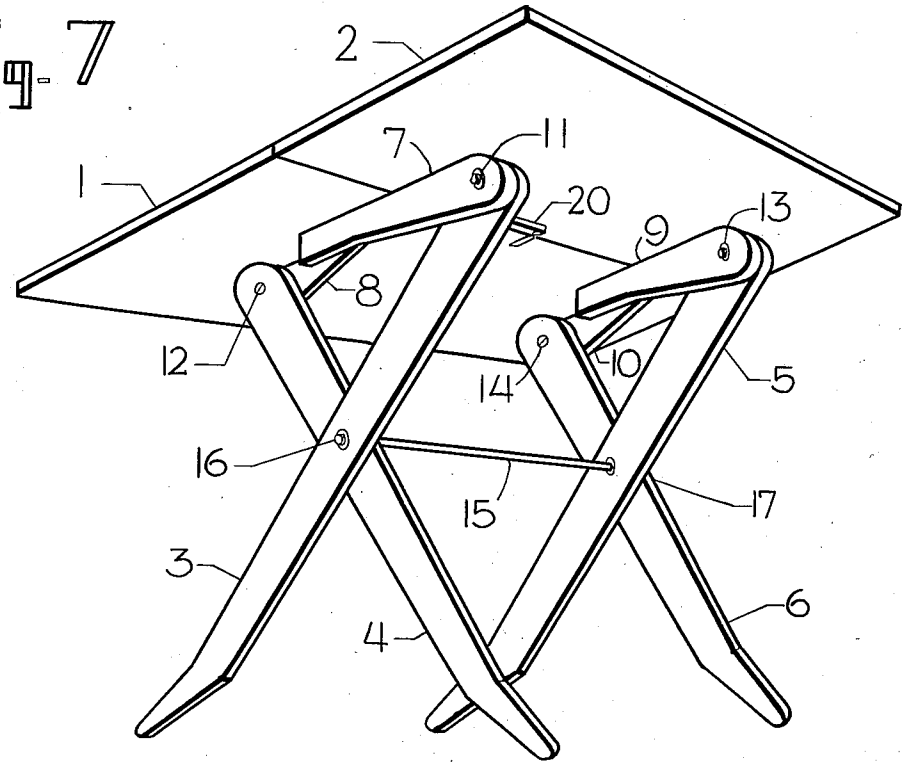
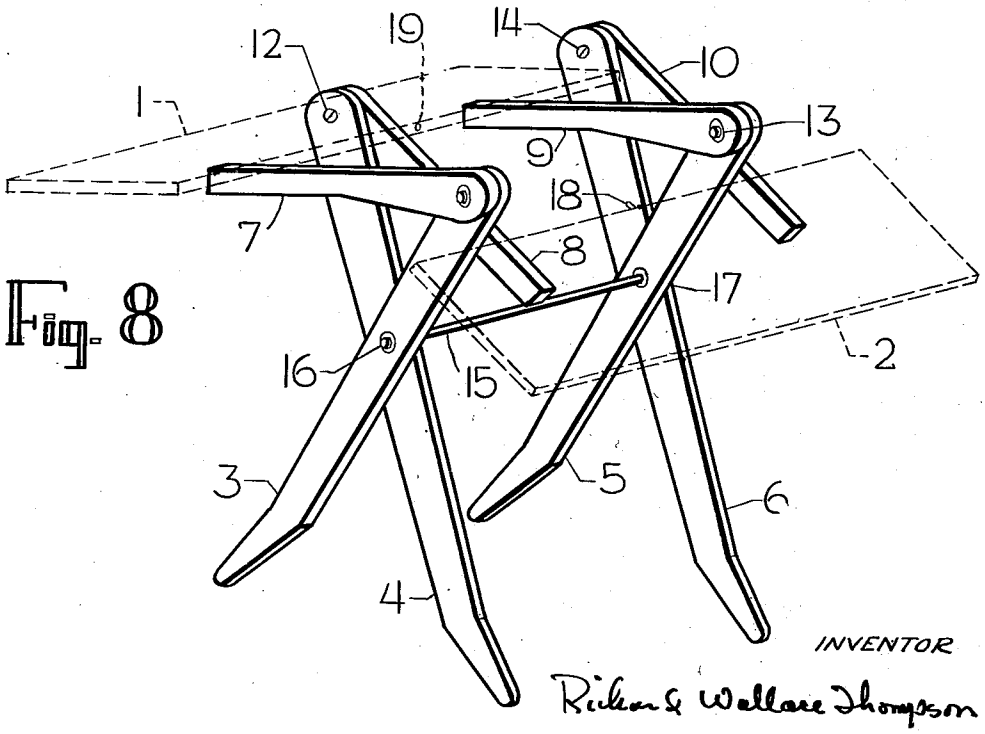



Fig. 8




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## FOLDING SECTIONAL ARTICLE OF FURNITURE

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Application May 10, 1950, Serial No. 161,193

6 Claims. (Cl. 311—91)

1

This invention relates to furniture construction and more particularly to new and useful improvements which have been incorporated in the folding table which is hereinafter described and illustrated.

An object of the invention is to produce for the general public, a folding article of furniture such, for example, as a sturdy and compact folding table, whose minimum number of parts and simplicity of production and assembly make possible the use of mass-production methods in its maufacture.

Another object of the invention is to produce a utility folding table whose light weight, ease of operation, and fold-away features, make it an ideal piece of furniture for any home and for countless uses, the foremost of which are: card table, coffee table, serving table, garden table, et cetera.

A third object of the invention is to produce a folding article of furniture which, by virtue of its unique mechanical principles and operation, automatically locks the two halves of the top or superstructure together and tends to bring their underneath surfaces into close contact with the substructure which supports said halves when the device is in its unfolded position. In addition, it should be noted that any weight or downward force exerted upon the superstructure, or supporting surface, of said device, tends to magnify the effect of said automatic self-locking feature.

With the foregoing and other objects in view, the invention relates to a new construction and combination of parts in folding tables, arranged according to the novel principles and mode of operation and assembly as herein explained, as well as shown in the accompanying drawings which illustrate a preferred form or example of the invention with its several uses and advantages, wherein:

Figure 1 represents a table embodying the principles of my invention as seen from one side, in its unfolded position.

Figure 2 is an end view of the table.

Figure 3 illustrates the first step in folding the table—that of lifting the outer edges of the two halves of the top piece. The table is seen from the same view as that in Figure 1, but in reduced scale.

Figure 4 represents the table when completely folded as seen from the same end as in Figure 2, in reduced scale.

Figure 5 is a view of the table in its second position for folding, as seen from the same side as in Figure 3.

2

Figure 6 shows the third and final position of the table in the folding operation.

Figure 7 shows the table in perspective as viewed from the under side.

Figure 8 shows a perspective view of the table viewed from the upper side of the table. The two top pieces are indicated by phantom lines to better show the arrangement of the cleats and legs.

To explain the construction and operation of the table in greater detail: the superstructure, or supporting surface of the table, is in any suitable shape and is divided laterally in a line parallel with the axis formed by passing a line through the points of intersection of the two pairs of X-type legs, thereby forming the top pieces 1 and 2, whose inboard edges abut one another when the table is in its unfolded position. By means of a small dowel 18 which projects perpendicularly out from the midpoint of the inboard edge of top piece 2, and which fits snugly into a hole 19 made to receive it in the inboard edge of top piece 1, perfect alignment of the two top pieces is attained and absolutely all lateral movement between the two top pieces is eliminated. Each half of the top piece is firmly secured to the fixed or inner end portions of the upper edges of a pair of cleats or runners, whose opposite free or outer end portions are, in turn, pivotally secured by means of countersunk flat-head machine screws (or other suitable pivot means which will leave the inside surfaces of the legs in either pair absolutely flat) to the upper ends of the two legs whose upper portions lie beneath and help support the opposite top piece. Thus, as seen especially well in Figures 7 and 8, top piece 1 is secured to cleats 7 and 9, the opposite ends of these cleats being pivotally attached to legs 3 and 5, at points 11 and 13, respectively. Similarly, top piece 2 is secured to cleats 8 and 10, and the opposite ends of these cleats are pivotally attached to legs 4 and 6 at points 12 and 14, respectively.

The arrangement of cleats and legs in this manner, therefore, provides a substructure or support for the top pieces not only at the four points where the tops of said legs make contact with said top pieces, but at all points on lines extending between the tops of legs 3 and 4, and between the tops of legs 5 and 6.

Cleats 7 and 9 are secured to the underside of top piece 1, and cleats 8 and 10 are secured to the underside of top piece 2, in such manner that all cleats are parallel to one another and at right angles to the longitudinal axis of the particular top piece to which they are secured. The other

end of each cleat, which projects beyond the edge of the top piece to which it happens to be secured, is pivotally attached to the top end of an X-type leg, as seen in Figures 2 and 8, and is placed in such position that all cleats and legs fall into close-fitting parallel position when the table is folded, as seen in Figure 4, and said legs folding between and flush with said cleats, as seen in Figure 6, with each pair of opposing cleats lying with the attached legs nested flush between them.

The four legs are arranged in pairs of X-type, each leg being outwardly flared at the lower portion thereof, and each pair of legs being foldable about an axle, or cross stretcher-bar 15, which extends from point 16 where legs 3 and 4 cross, to point 17 where legs 5 and 6 cross. In addition to providing an axle about which all four legs may rotate, the cross stretcher-bar maintains the correct distance between the two pairs of legs, and by means of an insert bushing and an adjustable nut and washer on each pair of legs, the legs are held in close contact with one another at their point of intersection.

The operation of folding the table from its position of use to its position for storage is done in the following manner: top pieces 1 and 2 are grasped by their longest outside edge and lifted up a few inches (Figure 3). Simultaneously, both top pieces are pulled apart until their inside edges have cleared the free ends of the cleats and the tops of the two legs upon which they normally rest (Figure 5). Both top pieces may then be rotated downwardly until they come in contact with the bottom portions of the four legs. By further applying slight pressure, the legs fold into alignment with one another and lie in close parallel position to the two pairs of cleats the outwardly flaring portions of the legs supporting the device in upright or standing position, while the top pieces assume a position substantially parallel to the folded legs; all of which is shown in Figure 6. The operation of unfolding the table is a mere reversal in sequence of the folding operation. A handle 20 is secured to the underneath surface of the inboard edge of one of the top pieces for ease in carrying.

It should also be pointed out that the design of this table eliminates the wobble inherent in practically all other folding tables, by providing exceedingly large bearing surfaces between the various legs and cleats at the points where wobble is most liable to occur (namely, points 11, 12, 13, 14, 16, and 17), and, further, by using low-tolerance metal fittings in the pivotal joints. In no instance is there a threaded metal surface bearing against wood, thereby insuring a permanent tight fit in all six points of bearing and friction in the table.

In view of the aforementioned unique features of construction and operation incorporated in this table which is illustrative of my invention, the following claims are made:

1. A foldable article of furniture comprising; a top piece of any suitable shape, which is composed of two halves and which forms a supporting surface, or table; four cleats, arranged in parallel spaced pairs, with one pair of cleats being secured to the underneath surface of one of the top pieces and projecting beyond one edge thereof, and the other pair of cleats being secured to the underneath surface of the other top piece and projecting beyond one edge thereof; and four legs arranged in pairs of X-type, with each pair pivotable at the legs' mid-point about a common axle which also acts as a stretcher-bar between the two pairs of legs, a leg of each X-type pair of legs being pivotally connected to the projecting portion of a respective cleat of one pair of cleats, the other leg of each X-type pair of legs being similarly connected respectively to a respective cleat of the other pair of cleats, in such manner that all legs and cleats are adapted to fold into close-fitting parallel position, with each pair of legs lying flush between the edges of the cleats to which said legs are attached, and with both top pieces lying in a substantially parallel position relative to the folded legs.

2. In an article of the character described, the combination of: a superstructure including at least two generally horizontal abuttable members each having a portion adapted to abut the corresponding portion of the other; and a substructure connected to and supporting said superstructure and including at least two generally horizontal supports each having fixed and free ends, said fixed ends of said supports being disposed beneath and being secured to said members, respectively, and said free ends thereof extending beyond said abuttable portions of said members, respectively, and extending beneath and supporting the others of said members, respectively, when said members are disposed in abutting relation, said substructure also including at least two legs interconnected intermediate their ends and pivotally connected at their upper ends to said free ends of said supports, respectively.

3. A foldable article of furniture, including: a pair of legs pivoted together intermediate their ends; a first cleat having a fixed end portion and a free end portion, said free end portion being pivotally connected to the upper end of one of said legs; a second cleat having a fixed end portion and a free end portion, said free end portion being pivotally connected to the other of said legs; and a pair of abuttable leaf members each having a portion adapted to abut the other, one of which leaf members is secured adjacent the abuttable portion thereof to the fixed end portion of said first cleat in spaced relation from the upper end of the leg to which said first cleat is pivoted and the other of which leaf members is secured adjacent the abuttable portion thereof to the fixed end portion of said second cleat in spaced relation from the upper end of the leg to which said second cleat is pivoted.

4. A foldable article of furniture as claimed in claim 3 wherein said abuttable leaf members have interengaging means adjacent the abuttable portions thereof to secure said members in abutting relation.

5. A folding table adapted to assume a folded or unfolded position, inculding: a pair of table legs pivoted together intermediate their ends; a first horizontally extending runner pivoted adjacent its outer end to one of said legs at the upper end thereof; a second horizontally extending runner pivoted adjacent its outer end to the other of said legs; and a table top including a pair of leaf members extending transversely of said runners and supported thereon, the first of said leaf members overlying the outer end portion of said first runner when said table is in unfolded position and overlying the inner end portion of said second runner, and the second of said leaf members overlying the outer end portion of said second runner when said table is in unfolded position and overlying the inner end portion of said first runner, said first leaf member being secured

to said second runner and said second leaf member being secured to said first runner.

6. A folding table adapted to assume a folded or unfolded position, including: a first pair of table legs; a second pair of table legs, each of said legs of said first pair being pivotally interconnected to one of the legs of said second pair of table legs; a first pair of cleats, each pivoted adjacent its outer end to one of the first pair of table legs at the upper end thereof; a second pair of cleats each pivoted adjacent its outer end to one of the second pair of table legs; and a table top including a pair of leaf members, the first of said leaf members overlying the outer end portions of said first cleats when said table is in unfolded position and overlying the inner end portions of said second cleats, and the second of said leaf members overlying the outer end portions of said



second cleats when said table is in unfolded position and overlying the inner end portions of said first cleats, said first leaf member being secured only to said second cleats and said second leaf member being secured only to said first cleats.

RICHARD WALLACE THOMPSON.


## REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

| Number | Name | Date |
|---|---|---|
| 559,743 | Ormsby | May 5, 1896 |
| 965,467 | Johanson | July 26, 1910 |
| 1,064,254 | Richardson | June 10, 1913 |
| 1,274,973 | Allen | Aug. 6, 1918 |
| 1,827,373 | Rosen | Oct. 13, 1931 |