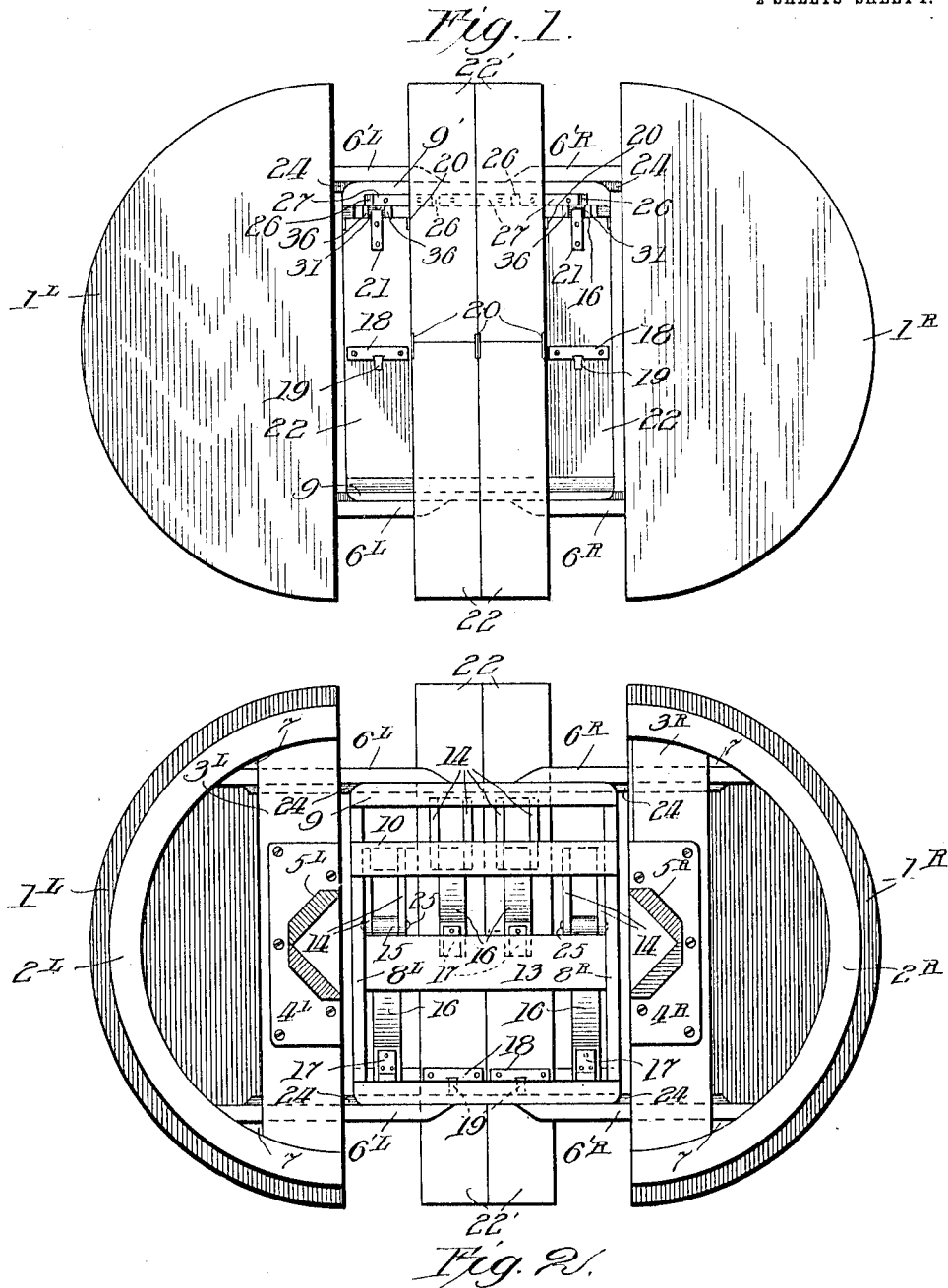


A. S. SHAPIRO.
EXTENSION TABLE.
APPLICATION FILED MAY 23, 1910.

984,244.

Patented Feb. 14, 1911.

2 SHEETS—SHEET 1.



Witnesses:

Harry S. Gaither
Edythe M. Anderson

Inventor:

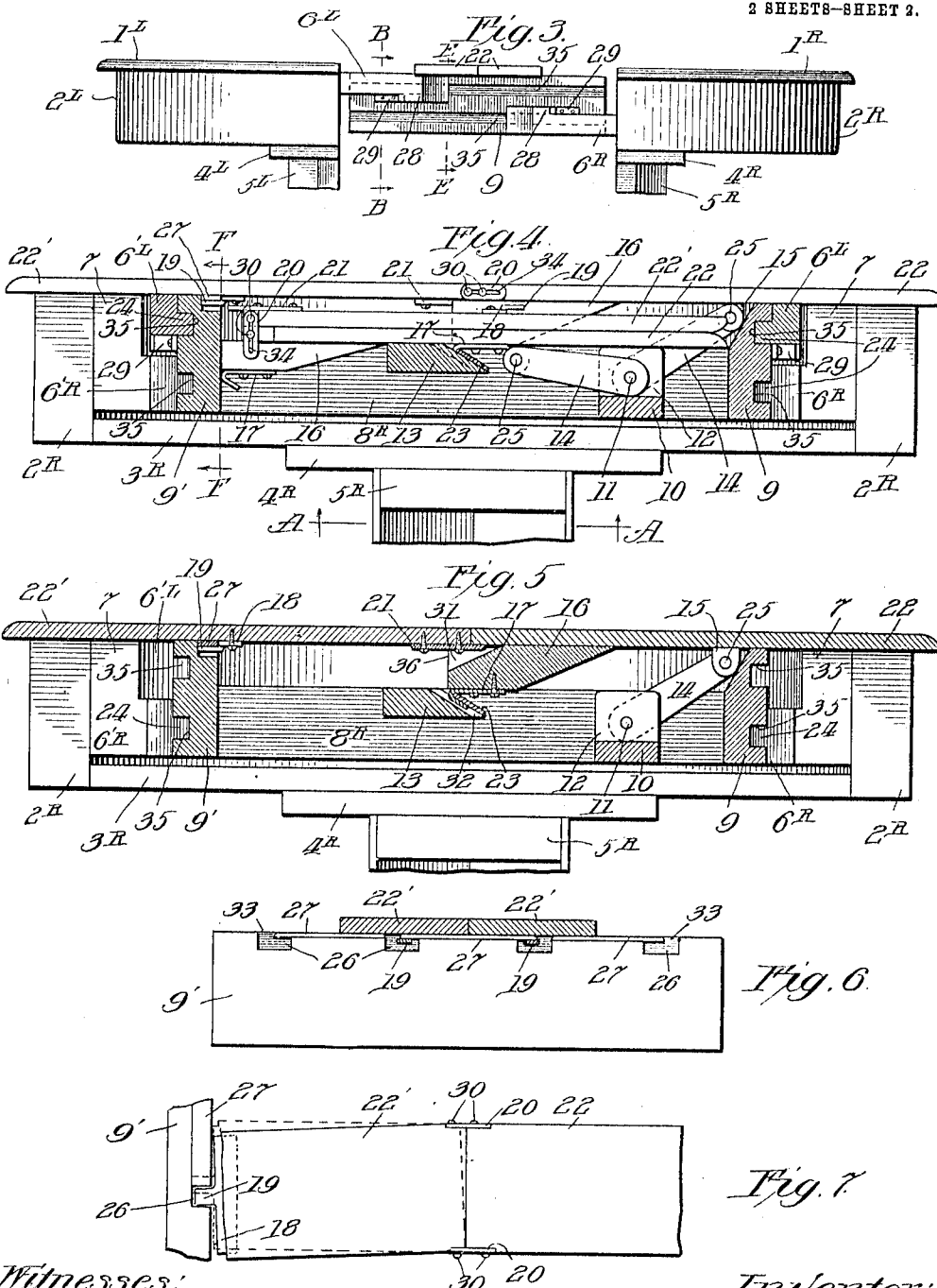
Alaron S. Shapiro
Sheridan, Wilkinson, Scott & Richmond
attys

A. S. SHAPIRO.
EXTENSION TABLE.
APPLICATION FILED MAY 23, 1910.

984,244.

Patented Feb. 14, 1911.

2 SHEETS—SHEET 2.



Witnesses:

Harry S. Gaither
Edythe M. Anderson

Inventor:

Aaron S. Shapiro

Sheridan, Wilkinson, Scott & Richmond
Attys

UNITED STATES PATENT OFFICE.

AARON S. SHAPIRO, OF CHICAGO, ILLINOIS.

EXTENSION-TABLE.

984,244.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed May 23, 1910. Serial No. 562,876.

To all whom it may concern:

Be it known that I, AARON S. SHAPIRO, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Extension-Tables, of which the following is a specification.

My invention relates to improvements in extension tables, such, for instance, as are ordinarily used for household furniture, and the like.

The chief objects of my invention are; first, to provide means for conveniently changing the length and capacity of such tables; second, to furnish suitable means for storing the extension members within the body of the table when they are not in use; third, to so connect and join the several parts that they shall not be detachable but shall remain connected to the table body at all times; fourth, to provide such means for extension purposes as shall not detract from the appearance and practical utility of the table in any way, either when shortened or elongated. These are the principal objects, but others will be manifest from the following description and specification of a preferred embodiment of my invention. I attain these objects by a novel leaf-folding mechanism and locking device, as illustrated in the accompanying drawings.

These drawings may be described as follows: Figure 1 is a top view of the complete table assembly with the sides drawn apart to the full length, showing the two central leaves raised into position for use and two similar leaves folded away ready for closing the two ends of the table against the central leaves. Fig. 2 is an underneath view of the table, as above described, with the pedestals broken off and shown in section along the line A A of Fig. 4. Fig. 3 is a front elevation of the table as described for Fig. 1, with the lower portion of the pedestals not shown. Fig. 4 is a vertical transverse section of the table along the line B B of Fig. 3. Fig. 5 is a vertical transverse section of the table along the line E E of Fig. 3. Fig. 6 is a vertical longitudinal section of the sliding element of the table along the line F F of Fig. 4, showing especially the locking slot catches that hold the leaves in place when opened. Fig. 7 is a top view of one of the folding leaves with the ends broken off so as to show the locking catch on one end.

The table containing the preferred embodiments of my invention comprises three fundamental parts or elements, namely, two end sections, each directly secured to and supported on a pedestal, or the like, and a middle or sliding section held in place by and between the two end sections. This middle element consists mainly of a tongue and groove supported sliding frame bearing the extension leaves, folding mechanism, and locking means.

Referring to the drawings, in all figures, like parts are represented by like designation numerals or equivalent signs. Parts which are of a like nature in both end sections are designated left and right by letters L and R, respectively, in connection with the particular numerals used to represent those parts. Likewise, certain similar parts which occur both on the front and rear sides are distinguished by the prime sign (') after the numerals, when the rear part is referred to.

The semi-circular end portions of the top 1^L and 1^R fit together when the table is closed, making in effect a plain round table. If preferred, however, the end sections can as well be rectangular or of other form without departing from the spirit of my invention. These end tops are supported on suitable end-frame rims 2^L and 2^R, as shown. Inside of these rims and attached thereto are cross bars 3^L and 3^R, respectively, which, being reinforced by strips 4^L and 4^R, are fastened to and supported at the central points by the upright pedestals 5^L and 5^R, as shown. My invention contemplates the use of other forms of pedestals or legs, as well as those shown, so that two or more supports could be used at each end instead of one if preferred.

Attached to the inner sides of the end-frame rims 2^L and 2^R, through the aid of support blocks 7, are four guide arms 6^L, 6^R, 6'^L and 6'^R which extend forward from each end toward the other and engage with the guide bars 9 and 9' of the sliding middle element by means of the tongues 24 and grooves 35. This middle element comprises a rectangular frame and a set of folding-leaves with mechanism for handling same. The slide frame proper consists of a left cross bar 8^L, a right cross bar 8^R, a front guide bar 9, a rear guide bar 9', a center beam 13 and a hinge bar 10, with minor details all rigidly fastened together. This

frame contains and supports the leaves and folding mechanism. It is preferably centrally located and only wide enough to admit the folded leaves between its front and rear sides. This enables the use of a relatively narrow frame for the table which is especially advantageous in a round table of the extension variety because it permits extending the supporting arms and frame well back into the end elements.

The guide bars 9 and 9' are each provided on the outer side with two grooves 35, an upper and lower, for the reception and guidance of the guide arm tongues 24, the left arms 6^L being above the right 6^R, thus enabling those on the left to slide past and over those on the right.

Each of the four guide arms is provided with a stop shoulder 28 integral with the arm to engage with the corresponding stop brackets 29 on the guide bars, so as to limit the degree of separation when the table is fully opened and prevent falling apart.

The center beam 13 and hinge bar 10 of the aforesaid slide frame are peculiar characteristics of my invention. They both extend longitudinally and are supported at the ends by the cross bars 8^L and 8^R. The center beam 13 is centrally located and serves as an anchorage and support for the middle or jointed portion of the folding leaves 22—22'. The hinge bar 10 lies about midway between the center beam 13 and the front guide bar 9. This hinge bar 10 supports a common hinge spindle 11 carried on a series of hinge blocks 12, one pair for each leaf.

By means of the leaf links 14, which turn on the spindle 11, the leaves are all permanently interconnected with and to the slide frame. The movable ends of the links 14 are hinged on the pivots 25 mounted in the ends of the leaf link brackets 15 which are attached to the under side of the leaves 22 near their middle point, as shown by Figs. 2, 4 and 5.

Each of the several folding leaves, four being shown in the drawings, consists of two equal parts 22 and 22' loosely hinged together at their inner ends by two side hinge links 20 held by the pivot pins 30. It will be seen that as one section 22 of the folding leaf is linked to the slide frame, the leaves are not normally detachable, but are intended to be retained attached to the table at all times, either when folded away or when in use.

In order to securely lock the leaves in place when in use, hooks 17, and catch pins 19 are provided. Each hook 17 is mounted on a hook bracket 16 attached to the under side of each leaf section 22 at its hinged end, so that when the leaf is swung up into its effective position, as shown by the two middle leaves in the drawings, the hooks

17 will engage with the slot 32 and hook-hold strip 23 on the center beam 13, as shown in Figs. 4 and 5.

The catch pin 19 is mounted on a bracket 18 attached to the under side of the outer end of the adjoining leaf section 22'. It will be noted that the two leaf sections are loosely hinged together by the links 20. This permits enough lateral play, to the outer end of section 22', as shown by Fig. 7, to enable the locking pin 19 to be lowered into the catch slot 26 and moved toward the center of the guide bar and under the cover strip 27. Then when the end sections are closed against the intermediate unfolded extension leaves, the latter cannot unlock, for the lock slots are all turned centrally under the cover strip 27, as shown by Fig. 6. The other end of the leaf section 22' is held in place by the hook 17 and the leaf links 14. It should be noted that although there is some play in the leaves in a longitudinal direction of the table and center beam, due to the somewhat loose link fitting and extra width of the slots 32, still extra play to the lock pin end of the leaf is enabled by the loose slot link and pivot joint connecting the two sections of each leaf. The leaf joint may be further described as follows: Each of the two side hinge links consists of a flat plate 20, perforated with a longitudinal slot 34, as shown in Fig. 4. These links are loosely pivoted to the inner ends of the leaf sections 22 and 22' by the hinge pins 30. Thus the leaf sections are free to fold and adjust themselves, and when in place will present a continuous and uniform surface. In order to insure and maintain horizontal alinement of the two leaf sections in exactly the same plane at the joints, the hook bracket 16 on 22 is made to project so as to form a shoulder 36 for the inner end of 22' to rest on. As assistance to insure this object, a leaf hinge stop 21 is attached to 22' with a projecting end to extend under the adjacent end of 22, as shown by Fig. 5. A slot 31 is provided through the shoulder of the hook bracket 16 to accommodate the free turning of the stop 21 in opening and folding the leaf, as shown in Figs. 1 and 5.

The center beam 13 has its side next the hinge bar inclined and equipped with slots 32 and a hook-hold strip 23 to engage the center hooks 17 of the folding leaves. The inclination of the slots 32 and this strip 23 is such that their planes are approximately parallel to a plane tangent to the arcs described by the outer ends of the links 14, said tangent being taken at their position of rest against the guide bar 9 when the leaves are opened.

Having described the mechanism in detail, I will explain generally the operation. First assuming the leaves are all folded and the table closed,—in order to extend the

table, draw the two end sections apart till the shoulders 28 engage the stops 29, then unfold as many leaves as desired. When the leaves are in the open position, the end sections are pushed together against them. To shorten the table, reverse the operation. The detailed process of unfolding a leaf is generally as follows: First press down on the hinged end of the folded sections. This will raise the other end of the sections so as to facilitate taking hold of them. Then they may be swung up, guided and assisted by the links 14 into place on the guide bar 9. In swinging down to rest, however, care must be taken that the hook 17 is made to engage with the slot 32 and strip 23. Then the leaf section 22' may be swung back on its hinge links 20 till it rests on the guide bar 9' and the shoulder 36. In doing this the section 22' will be pushed close up against the other section 22 and the catch pin 19 will be let into the opening 33 of lock slot 26. Then when as many leaves of the table are pushed forward against the leaves and force them all together centrally so as to make a uniform smooth top. By this last action, the lock pins 19 are caused to slide centerward under the cover strip 27, whereby the leaves are thus locked in place.

Being well aware that various other extension tables have already been made, I do not claim such a device broadly, but

Having thus described my invention, I claim:

1. In an extension table, the combination with a folding leaf of means for locking same in open position comprising a pair of links 14 each attached at one end to one of the leaf sections and at the other end to the table frame, a central bracket 16 attached to the inner end of and adapted to support said leaf section, hook 17 attached to bracket 16 and adapted to hold it in place on a frame center beam 13 by engagement with strip 23 mounted thereon, a shoulder 36 attached to the first said leaf section for the adjacent leaf section to rest on, a hinge stop 21 on the inner end of the said adjacent leaf section to engage with and prevent rising above the first said section, and an outwardly turned pin 19 attached to the outer portion of the second said section on its under side and adapted to engage with a

downwardly and laterally turned slot on the upper side of the frame.

2. In a device of the class described, means for fastening unfolded table leaves in place comprising an oscillatory element pivoted at one end to a frame and at the other to a leaf section and adapted to retain the outer portion of one section in place by downward and inward tension, a hook element attached to the inner end of said section and adapted by tension substantially parallel to first said tension to retain the inner portion of both sections in place by engagement with said frame, said sections being hinged together at their inner ends, a shoulder mounted on the under side of the outer portion of the second section and adapted to abut against a frame element and prevent outward motion of said second section, an outwardly extending pin mounted on said shoulder and adapted to engage a downwardly and laterally turned slot in said frame element and prevent said second section from moving upward, said shoulder and pin coacting as a lock to hold the leaf in place.

3. In a device of the class described, means for fastening an unfolded table leaf in place comprising an oscillatory link element and a hook element both attached to one section of a folding leaf and adapted to engage with and pull downwardly and inwardly toward a table frame, and a shoulder attached to the under side of the other section of said folding leaf and adapted to abut against the inner side of an element of said table frame, said shoulder having an outwardly projecting pin combined therewith and adapted by relative lateral movement of the said leaf and frame to engage and interlock with a downwardly and laterally turned slot and shoulder on the said frame element and thus by the combined effect of said leaf shoulder and pin acting on said frame element prevent the said second section of the leaf from moving outward or upward.

In testimony, whereof, I have subscribed my name.

AARON S. SHAPIRO.

Witnesses:

GEO. L. WILKINSON,
HENRY A. PARKS.