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FOLDING TABLE.

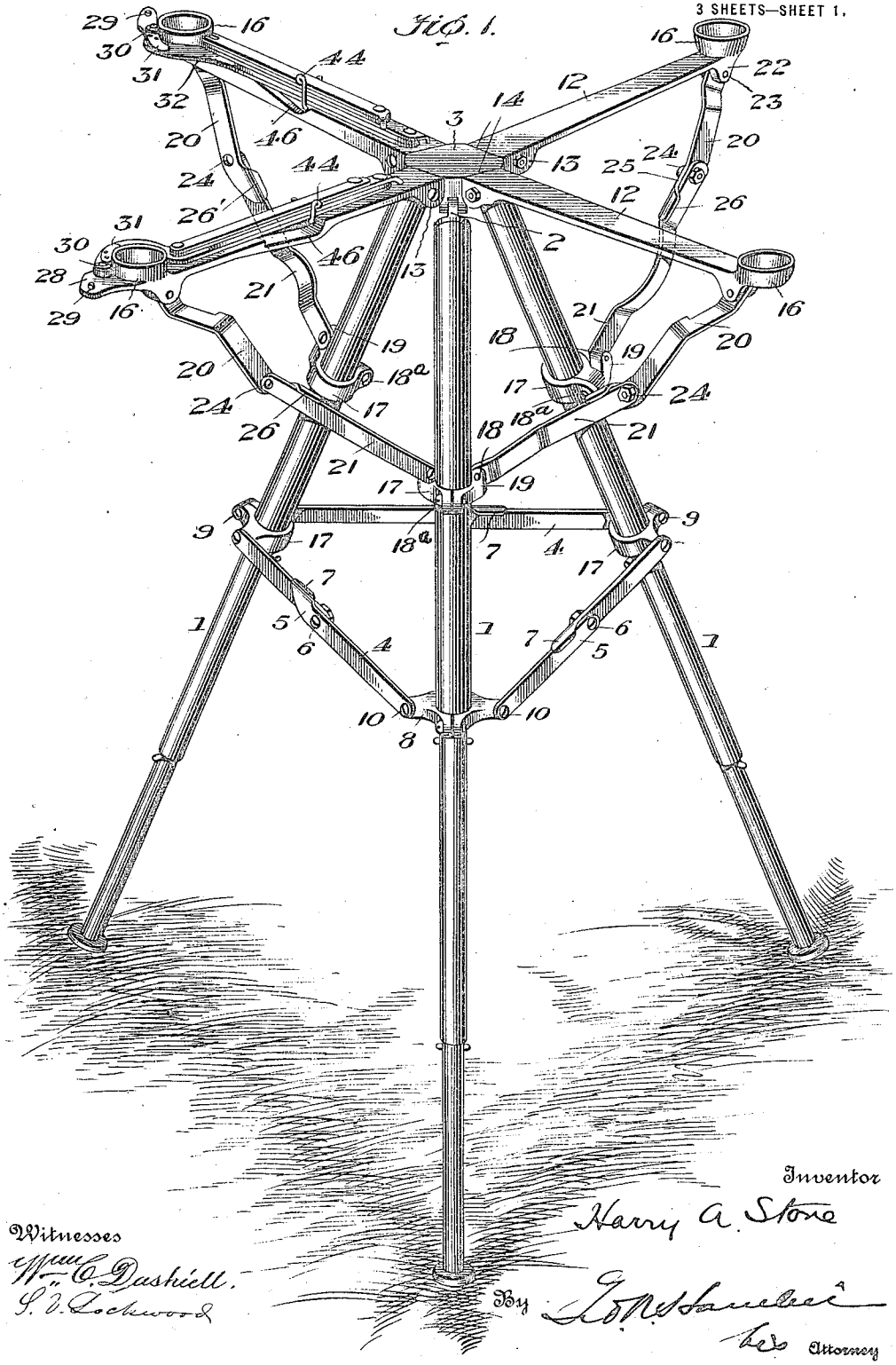
APPLICATION FILED OCT. 20, 1913. RENEWED JAN. 20, 1917.

1,239,136.

Patented Sept. 4, 1917.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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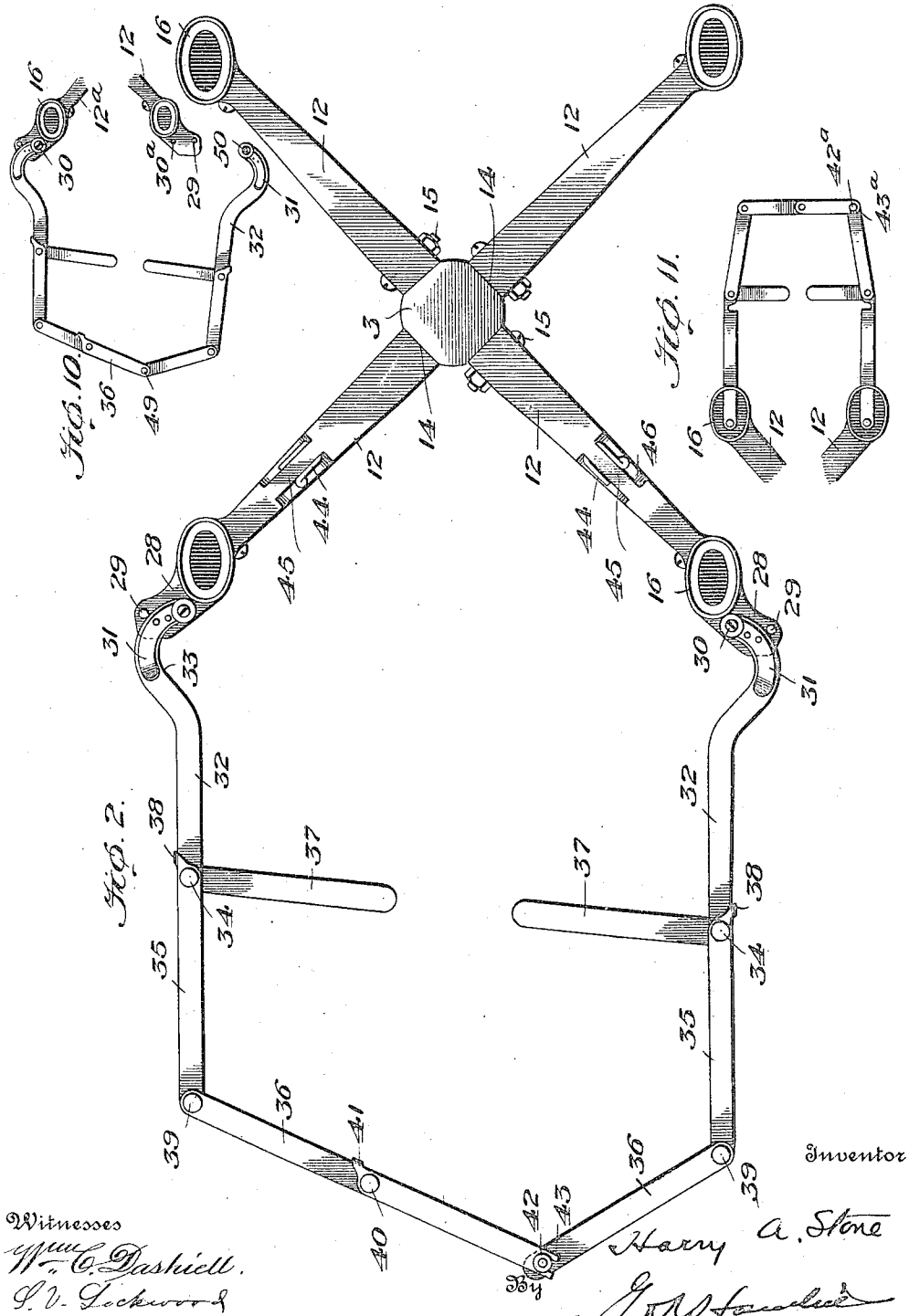
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Patented Sept. 4, 1917.

3 SHEETS—SHEET 2.



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1,239,136.

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3 SHEETS—SHEET 3.

Fig. 3.

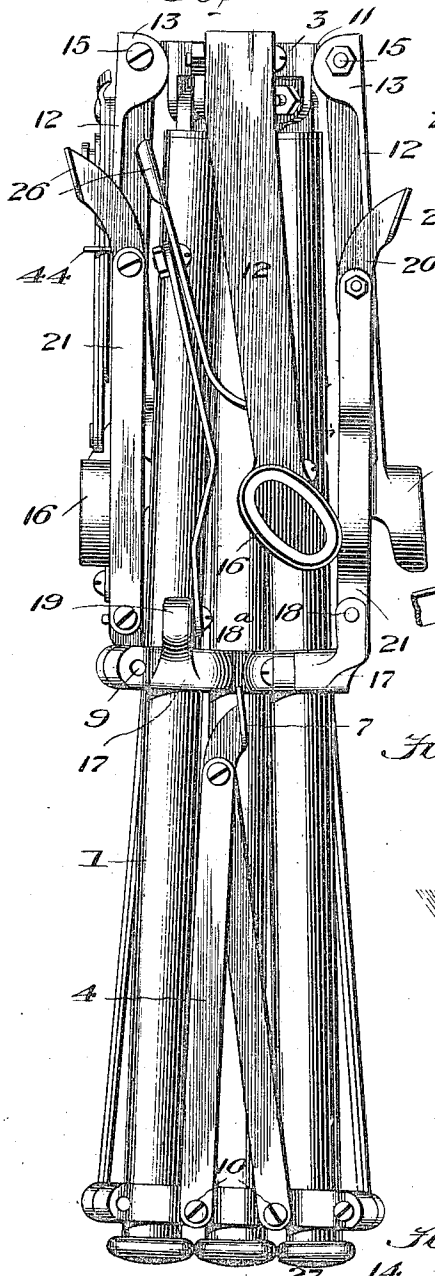


Fig. 4.

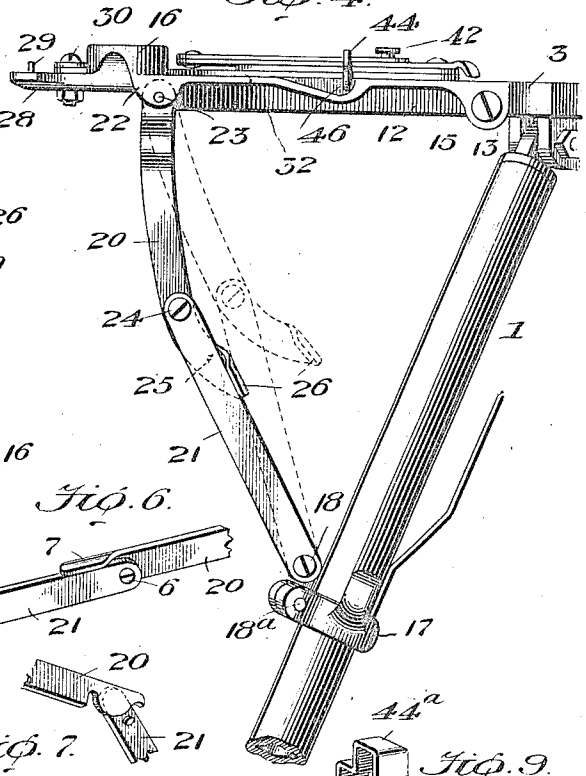


Fig. 6.

Fig. 7.

Fig. 9.

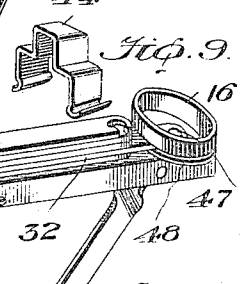


Fig. 8.

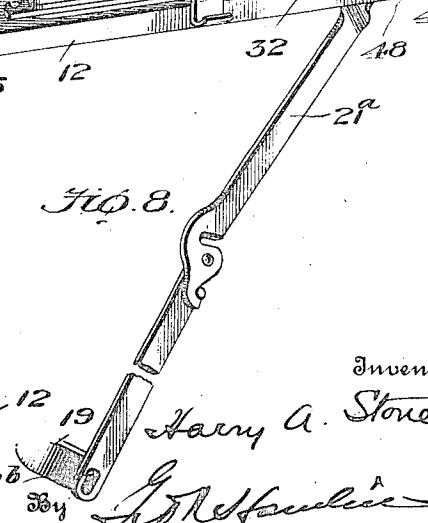
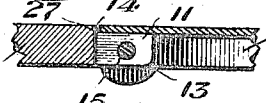


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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FOLDING TABLE.

1,239,136. Specification of Letters Patent. Patented Sept. 4, 1917.

Application filed October 20, 1913, Serial No. 796,288. Renewed January 20, 1917. Serial No. 143,506.

To all whom it may concern:

Be it known that I, HARRY A. STONE, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Folding Tables, of which the following is a specification.

This invention relates to folding tables.

The present invention is an improvement on the folding table of my Patent No. 1,065,476, dated June 24, 1913; and my applications Serial Nos. 753,374, filed March 10, 1913, and 754,322, filed March 14, 1913.

The present invention has for its object the provision, in a portable table or stand, particularly adapted to support a typewriter, and of the general type set forth in my aforesaid patent and applications; first, improved braces and joints for sustaining the foldable arms from the legs, whereby accidental collapsing of said parts is prevented and greater strength and durability, at less expense of construction, is obtained; second, improved joints for the braces which connect the foldable legs together, whereby the said braces are strengthened at their joints and their construction is cheapened and simplified; third, an improved foldable extension leaf whose articulated parts are combined together in an improved manner and, further, which has improved means for holding sheets of paper; fourth, an extension leaf combined with the arms of the foldable top in an improved manner, whereby the folding and extension movements of the leaf are limited by stop devices, and, still further, to provide, in combination with the foldable extension leaf and the foldable arms of the table top, securing or retaining means by which the folded leaf is retained so that it cannot accidentally become detached when the entire table is folded or collapsed and, further, enabling the leaf to be retained in folded condition when its use is not necessary or desired.

With the foregoing, and other not specifically mentioned, objects in view, the invention consists, first, in the improved arm-supporting braces and joints; second, the improved joints for the braces connecting the legs; third, in the construction of the foldable leaf and its paper clips or holders; fourth, in the manner in which the extension leaf is combined with the arms as regards the stop devices; fifth, in the combination of the retaining devices with the arms and with the extension leaf to hold the latter in collapsed condition against or in relation to said arms.

I have set forth fully hereinafter certain preferred embodiments of the different features of the invention, but such disclosure is to be considered as illustrative, rather than restrictive, of the scope of the invention, and I lay claim to all modifications falling within the spirit and scope of my invention.

In the accompanying drawings:

Figure 1 is a perspective of the complete table when in condition for use, the extension leaf being folded and retained on the arm;

Fig. 2, a plan view showing the table top and the extension leaf, the latter being in extended position, as when ready for use;

Fig. 3, a side elevation of the complete table when folded;

Fig. 4, a detail side elevation showing one of the foldable arms, the improved foldable supporting brace therefor in full lines in supporting position and in dotted lines when starting to fold; also showing one of the legs and a part of the extension leaf, the latter being in folded position;

Fig. 5, a detail view, partly in section, showing the joint between an arm and the center member;

Fig. 6, a detail showing the joint of one of the leg braces and also illustrating certain joints of the extension leaf;

Fig. 7, a detail of a modified joint for the arm and leg braces;

Fig. 8, a detail perspective of a modified stop and retainer means for the extension leaf and modified brace for the arm;

Fig. 9, a detail of the modified retainer of Fig. 8;

Fig. 10, a plan view of a modified connection for the extension leaf of Fig. 2; and

Fig. 11, a plan view of the extension leaf of Fig. 8, when extended.

The legs 1 may be of any usual or preferred construction, but are preferably made in telescopic sections, and in the nature of the usual tripod. They are jointed at 2 to a head or center member 3 and may be telescoped and folded together, as shown

in Fig. 3. To rigidly brace the legs, I preferably employ the jointed braces 4 which are adapted to collapse when the table is folded, as shown in Fig. 3.

The joints 5 of the braces 4 are preferably formed by pivots 6 (Fig. 6) and one of the brace members has an angled part or lip 7 adapted to overlap the other brace member. The length of this flange or lip 7 affords a long and firm engagement of the brace members and prevents weakening by notching or cutting the parts and lessens the expense of providing a pin and notch construction such as shown in Fig. 7 and which is used in the table of my pending application, Serial No. 754322, filed March 14, 1913, but the construction shown in Fig. 7 may be substituted for the above-described lip construction 7 without affecting the operation of the arm braces to be described presently, and I do not limit myself, except where so stated in the claims, to the lip 7 in combination with the arm braces and the extension leaf.

Preferably, the braces 4 are pivoted to clamp fittings or members 8 which surround the legs 1 and are frictionally clamped thereon by the tightening screw 9; the pivotal connections between the braces and the clamp members 8 are shown at 10.

The head or center 3 may be circular or polygonal and has formed integral therewith and projecting radially therefrom, a plurality of lugs 11 (Fig. 5), said lugs having flat sides and their upper faces being a little below the upper surface of the head 3.

The arms constituting the skeleton, foldable top, which are shown at 12, are angular in cross section for sake of lightness without sacrificing strength, but they may be of the channel form shown in my application Serial No. 754,322. The arms are provided with ears 13 which straddle the lugs 11 and lie against the sides thereof, the top of each arm being adapted to rest on the lug 11 and its inner end to bear against the shoulder 14 on the head, as shown in Fig. 5. Thus, as with the arms shown in my co-pending application, Serial No. 754,322, the arm is braced at its joint and the lateral and vertical strain removed from the pivot 15 which passes through the ears 13 and the lug 11.

Secured to or cast integral with the arms are the elongated cups 16 which are adapted to receive the legs or feet of the typewriter or other machine or object which is to be supported by the table.

The upper sections of the legs 1, in addition to carrying the clamp fittings or members 8, also carry clamp brackets 17 which are held frictionally by screws 18^a. One of these fittings or brackets 17 serves for the braces running to two of the arms 12, the remaining fittings 17 serving as pivotal connectors for the braces of the remaining two arms. All of the brackets 17 have lugs 19 and to these lugs are pivoted the improved braces composed of the parts 20 and 21 which are more clearly shown in Fig. 4. The upper sections 20 of the braces lie between and are pivoted to lugs 22 on pivots 23, said lugs being formed on the outer ends of the arms 12. The sections 20, 21, are pivoted together at 24 and one of the sections 20, 21, is provided with an extension 25 which has a flange or lip 26 adapted to overlap the edge of the other section to form a lock joint. The general construction of the lock joint is that shown in Fig. 6, which is employed on the braces 4, but, differing from the construction of Fig. 6, the extension 25 is arranged in offset or angular relation to the section 20 and in consequence, when the lip 26 lies against the section 21, as shown in Figs. 1 and 4, the sections 20 and 21 are disposed angularly to each other, that is, bowed outwardly, away from a line connecting the pivotal points 18 and 22. The same result may be accomplished in other ways and I do not limit myself to the precise construction shown for accomplishing this purpose except where stated in the claims. The purpose of this construction is to prevent accidental "breaking" of the joint between the parts 20 and 21 due to any pressure of the object supported by the arms 12 or to any vibration resulting from the use of a typewriter or other similar machine or device which the table may be used to support. When the brace 20, 21 is moved from the full line to the dotted line position shown in Fig. 4, the arm 12 is slightly raised and to compensate therefor a slight space 27 (Fig. 5) may be provided between the end of the arm 12 and the shoulder 14 on head 3. To all intents and purposes, however, there is a substantial engagement of the shoulder 14 and the inner end of the arm to assist in relieving the pivot 15 from strain. When the joint is broken, as shown by dotted lines in Fig. 4, the arm 12 can be folded downwardly and, the joints of the braces 4 having been broken upwardly, the entire table can be collapsed to assume the form shown in Fig. 3, the lower telescopic sections of the leg 1 having been pushed into the upper sections thereof.

Referring more particularly to Figs. 1 and 2, the cups 16 of two of the arms 12 are situated inwardly from the extensions 28 which are provided on said arms, the said extensions each having a stop pin 29. The extension leaf which is shown in extended position in Fig. 2, is pivoted to the extensions 28 at 30 and is provided with spring paper holding fingers or clips 31 at its pivoted ends. The outer ends of these clips are slightly turned up to facilitate the paper being slipped thereunder. The clips bind the paper to the extension leaf. The extension leaf is composed of inner sections 32 which

are curved at 33 so that they will fit around the cups 16 when they are folded, as shown in Figs. 1 and 4 and to these sections 32 are pivoted at 34 other jointed sections composed of the parts 35 and 36. The pivots 34 also pivotally carry the freely projecting members 37. The sections 35 are provided with lips or flanges 38 which are adapted to overlap and engage the sections 32 substantially in the manner shown in Fig. 6 when the leaf is extended, but which do not interfere with the folding of the leaf. The sections 35 and 36 are pivoted together at 39. The sections 36 may have additional joints 40 and lips 41 and one of these sections is provided with a button 42 whose shank is adapted to be straddled by the bifurcated end 43 of the other section 36, thus providing a detachable connection between the two parts which constitute the leaf. By referring to Fig. 1, it will be seen that the leaf folds upon two of the arms 12, such folding being accomplished by folding the parts 36, 35 and 37 upon the section 32 in each instance and then folding the complete half of the leaf around on top of the arm 12, as shown in Figs. 1 and 4. To retain the leaf when folded, I provide on each arm 12 a retainer 44 which may be permanently carried by the arm as shown in Fig. 2, or may be a separate spring clip 44ª, Figs. 8 and 9, adapted to be snapped down over the folded leaf and to engage the sides of the arm. When carried by the arm, as shown in Fig. 2, this retainer 44 consists of a U-shaped member whose cross piece extends through a reduced part 45 of the arm and whose free parts are adapted to either lie in recesses or channels 46 on opposite sides of the reduced part 45, or, be turned upwardly (Figs. 1 and 4) to straddle the folded leaf. When folding the leaf, the retainer 44 will be in its lowered position and it will then be raised and engage the sides of the folded leaf frictionally, whereby the folded leaf is retained on top of the arm 12 when it is not wanted or preparatory to collapsing the entire table.

When the leaf is extended, the stops 29 maintain it in proper position and when it is folded, the cups 16, combined with the retainers 44, hold it there. In Fig. 8 I have shown the leaf as having its inner end pivoted at 47 within the bottom of the cup 16 and the part 32 extending through a slot 48 in the side of the cup, the ends of this slot constituting stops to limit the play of the leaf when extended or folded. In this particular construction, I have shown the leaf 32ª and the arm brace 21ª as provided with the joint appearing in Fig. 7. This type of arm brace 21ª may have a slot and pin connection 21ᵇ to permit play when folding.

Fig. 10 represents a foldable leaf similar to that shown in Fig. 2 except that in place of the detachable connection 42, 43, the arms 36 are permanently pivoted together at 49 and there is but one permanent pivotal connection 30, the other 30ª being merely a pin to receive the eye 50 on the member 32. Instead of the leaf being foldable onto two arms 12, the entire leaf is adapted to fold onto but one arm 12ª.

In Fig. 11, I have shown the leaf, of which one part appears in Fig. 8, in extended position. Here the leaf is provided with a detachable connection 42ª, 43ª, similar to the connection 42, 43, in Fig. 2. As with the construction shown in Fig. 2, one-half of the leaf folds onto one of the arms 12 and the other half onto the adjoining arm 12.

When the stand or table is in the condition shown in Fig. 1, any weight, such as that of a typewriter, applied on the arms 12 tends to tighten the joint 24, 25, 26 (Fig. 4) and to keep it closed and it is impossible for the braces 20, 21 to accidentally break at the joint, but such breaking action may be obtained by pushing in the joint to the position shown in dotted lines, Fig. 4, whereupon the arms may be folded and the legs brought together into the position shown in Fig. 3. If the leaf is extended, its parts will be folded onto the arms before the latter are lowered.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a folding table, the combination with a head or center member, of foldable supporting legs pivotally connected thereto, a table top composed of foldable arms jointed to the head and adapted to fold alongside the legs and independent foldable braces for each arm composed of sections pivoted to the respective arms and legs and connected by a joint which is adapted to hold the sections in angular relation to each other when extended, said braces being arranged to fold along an outer side of the respective arms to permit the arms to fold close to the legs.

2. In a folding table, the combination with foldable supporting legs arranged as a tripod, of foldable arms constituting a foldable table top, and independent braces interposed between the respective legs and arms, composed of jointed members or parts, one of which has a stop overlapping and engaging the other part of the brace, said braces being arranged to fold along an outer side of the respective arms to permit the arms to fold close to the legs.

3. In a folding table, the combination with an arm forming part of the table top thereof, of an extension leaf composed of articulated sections adapted to fold upon said arm, and a movable retainer carried by said arm which is adapted to be engaged

with the extension leaf to hold it upon the arm when the sections of said leaf are folded.

4. In a folding table, the combination with an arm forming part of the table top thereof, of a U-shaped retainer carried by the arm and adapted to swing in relation thereto, and an extension leaf adapted to fold upon said arm and to be held by said U-shaped retainer when folded.

5. In a folding table, the combination with the top thereof comprising foldable arms, of a two-part extension leaf whose parts are pivoted to two of said arms, said parts being adapted to fold on said arms, and stops on the arms adapted to coöperate with the parts of said extension leaf to limit its position when extended.

6. In a folding table, the combination with the top thereof comprising foldable arms, of an extension leaf which is pivoted to said arms and is adapted to fold on them, and independent stops on the table top which are adapted to limit the play of the extension leaf when either extended or folded in relation to said top.

7. In a folding table, the combination with a table top having foldable arms, of an extension leaf bridging and connected to said foldable arms and constituting a connection between them, said leaf being composed of articulated sections and having a detachable joint permitting folding of said sections.

8. In a folding table, the combination with the top thereof, of an extension leaf comprising two groups of relatively foldable jointed sections, the respective groups being, as a unit, jointed to and independently foldable on different parts of the table top or adapted to be extended so that the sections of the respective groups collectively constitute an extension leaf for the table top, and connecting means for fastening the two groups together when extended.

9. In a folding table, the combination with a table top having foldable arms, of an extension leaf comprising two groups of relatively foldable jointed sections, the respective groups being, as a unit, bodily jointed to and carried by said arms and having a detachable joint connecting them together, whereby said groups may be independently folded on the respective arms of the top, or, extended and fastened together to constitute an extension leaf which extends from one arm to the other.

In testimony whereof, I hereunto affix my signature in presence of two witnesses.

HARRY A. STONE.

Witnesses:
EDWARD RAHMING,
ISRAEL M. MARKS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."