

June 19, 1945.

R. H. JAMES

2,378,852

ADJUSTABLE TABLE AND LIKE FURNITURE

Filed May 27, 1943

2 Sheets-Sheet 1

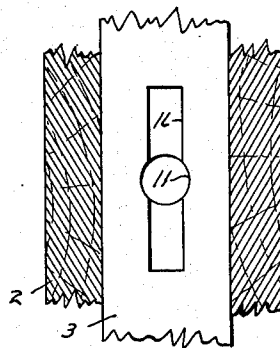
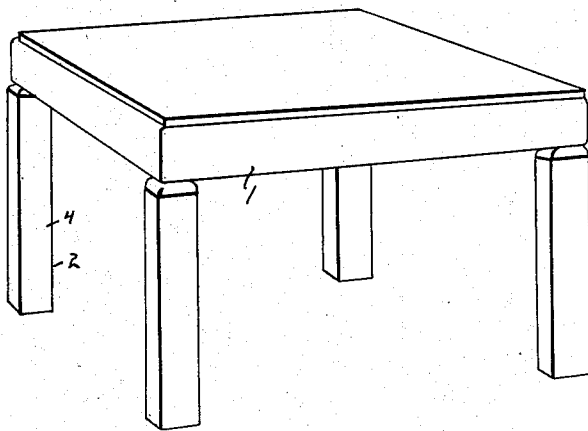
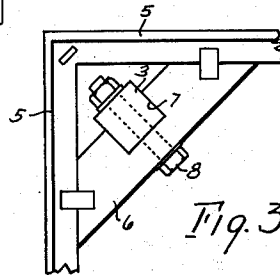
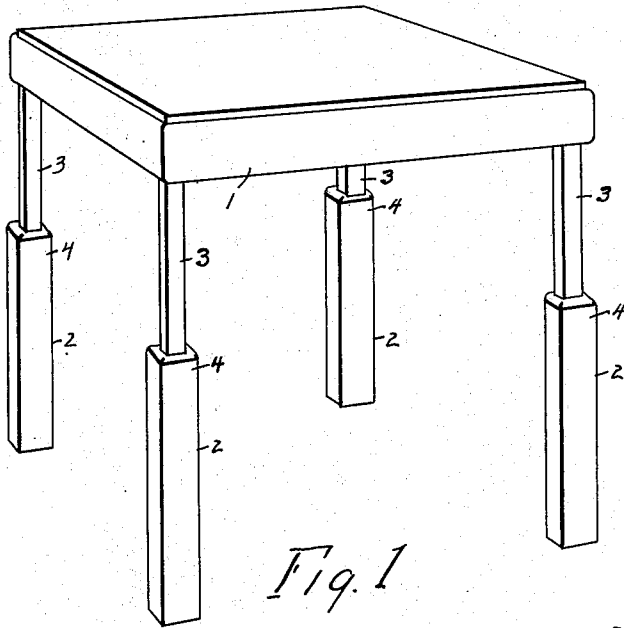


Fig. 2

Fig. 11

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2 Sheets-Sheet 2

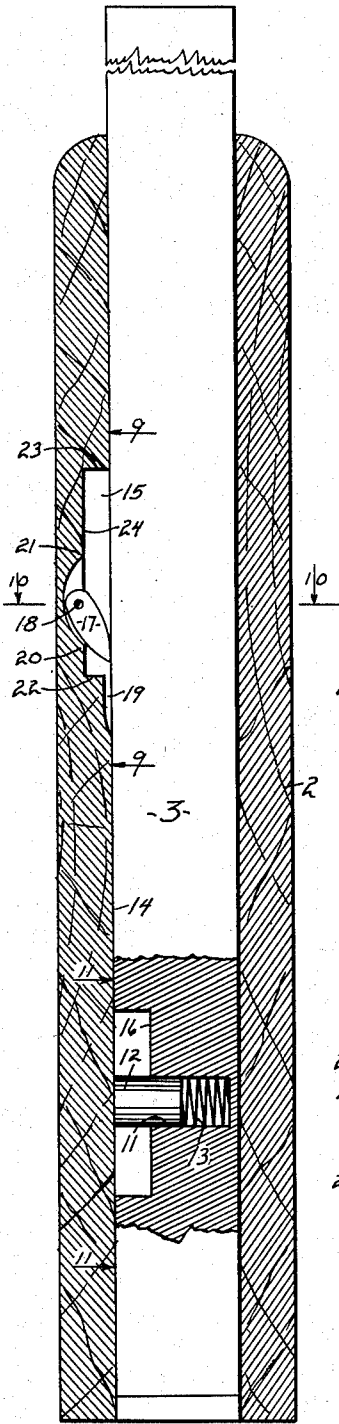


Fig. 4

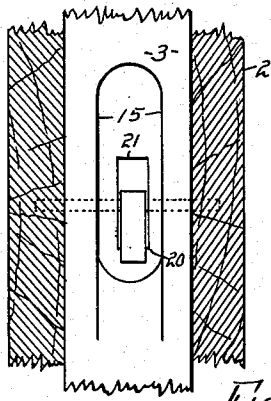


Fig. 9

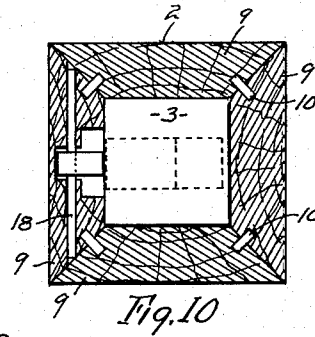


Fig. 10

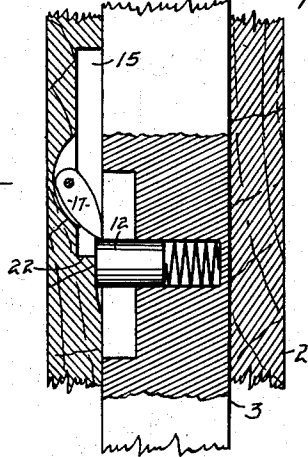


Fig. 5

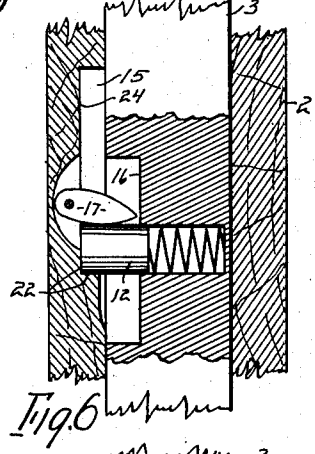


Fig. 6

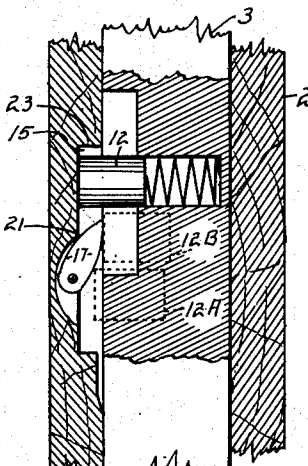


Fig. 7

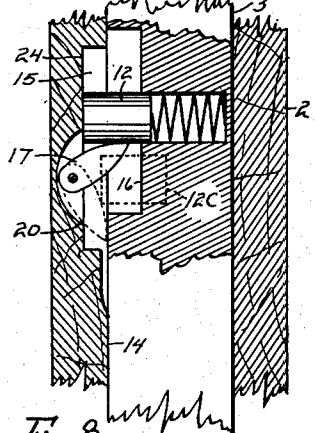


Fig. 8

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# UNITED STATES PATENT OFFICE

2,378,852

## ADJUSTABLE TABLE AND LIKE FURNITURE

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5 Claims. (Cl. 311-39)

This invention relates to furniture of the table class and particularly to tables the tops of which can be raised and lowered to different heights.

The invention has particular application to ornamental tables suitable for use in the home and which by the practice of the invention may be changed from a height suitable for use as a card table or the like to a height suitable for use as a cocktail table, coffee table, etc.

The invention comprises an improved construction of telescoping leg, having an improved mode of operation by which the length thereof may be changed for the purposes mentioned.

The primary object of the invention is to provide a table having a telescoping leg construction which may be operated to change its table top supporting length, by mechanism wholly concealed within the structure.

Another object is to provide a table or like leg of the telescoping type having improved means for changing its length.

Another object is to provide a leg, for tables or the like, comprising telescoping parts, and a mechanism to change the working length of the leg operable by telescoping movements of the two parts.

Other objects will be apparent to those skilled in the art to which the invention appertains. The invention is fully disclosed in the following description considered in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of a table embodying my invention and with the legs elongated;

Fig. 2 is a view of the table of Fig. 1 with the legs shortened;

Fig. 3 is a fragmentary view of the upper end of a leg of the table of Fig. 1, showing the preferred arrangement for detachably securing the leg to the table top;

Fig. 4 is a longitudinal sectional view of a leg of the table in the shortened condition of Fig. 2, illustrating a mechanism within the leg structure;

Figs. 5, 6, 7, and 8 are views similar to Fig. 4 illustrating the mode of operation of the leg mechanism.

Fig. 9 is a longitudinal sectional view taken from the plane 9-9 of Fig. 4;

Fig. 10 is a cross sectional view taken from the plane 10-10 of Fig. 4;

Fig. 11 is a longitudinal sectional view taken from the plane 11-11 of Fig. 4;

Referring to the drawings, Figs. 1 and 2, I have shown a table embodying my invention, compris-

ing a top shown generally at 1, and legs 4-4; the legs comprising each a stem portion 3, and a sleeve portion 2 telescopable over the stem portion. In Fig. 1 the legs are shown extended and supporting the top 1 of the table at a suitable height for playing games thereon or for like usage; and in Fig. 2, the legs are shown telescoped to a shortened length and supporting the table top 1 at a lower height suitable to serve as a coffee table, cocktail table or the like.

In cross sectional shape, the legs may be rectangular or oval or of streamlined contour for appearance's sake, but for simplicity of illustration and description herein, they are of square section.

It is desirable to have the legs detachable from the top so that they can be packed compactly for shipping and one means for doing this is shown in Fig. 3, in which the top panel proper is removed. The sides 5-5 of the table top 1 are tied together by a diagonal element 6 having a recess 7 therein which fits the leg stem 3; and the leg stem is bolted thereto by a bolt 8 rigidly seating the leg in the recess 7 but allowing it to be detached and removed upon removing the bolt 8.

The other figures of the drawings show a mechanism concealed within the leg structure by which the legs may be extended to support the table top as in Fig. 1 or shortened to support it as in Fig. 2 and this will now be described.

The stem portion 3 of the leg substantially fits within the lower or sleeve portion 2 with enough clearance to allow it to slide freely therein.

The sleeve portion may conveniently be made of four pieces as shown in Fig. 10 at 9-9, joined by tongues 10-10.

In the lower portion of the stem 3 is a transverse bore 11 in which reciprocates a pin 12, the pin being spring pressed outwardly by a spring 13 so that the outer end of the pin engages and slides along and upon the inner wall 14 of the sleeve when the stem 3 is reciprocated in the sleeve.

In the upper portion of the sleeve is a recess 15 open toward the stem and of substantial vertical extent for a purpose to be described.

Communicating with the bore 11 mentioned above is an elongated recess 16 extending above and below the bore for a purpose to be described, and opening toward the wall 14 of the sleeve.

Associated with recess 15 is a tumbler 17 pivoted on a shaft 18 and this shaft as shown in Fig. 10 may conveniently be lodged in a bore extending all the way through one of the sleeve pieces 9, and

the opposite ends of the bore being covered by the adjacent pieces 9 of the sleeve to conceal the same.

At the lower side of the recess 15 is a shallow recess 19 communicating with the recess 15.

The tumbler 17 is free to move pivotally, upwardly and downwardly as viewed in the drawings and its downward movement is stopped by a shoulder 20, and its upward movement is stopped by a shoulder 21.

Fig. 4 shows the stem and the sleeve in the telescoping shortened condition of Fig. 2, the lower end of the stem resting upon a bottom or closure of the sleeve 2.

The operation of the mechanism to extend the legs to the condition of Fig. 1, and to again telescope them to the condition of Fig. 2 when desired, will now be described.

In general, the legs may be extended by grasping the table top and raising it to raise the leg stem and allow the sleeves to move downwardly by gravity; or, alternatively, the table may be rocked over sidewise on two of the legs and the sleeves of those legs grasped and pulled downwardly, and then the other two legs similarly lengthened by pulling down their sleeves. In either mode of operation, the stem 3 has upward movement relative to the sleeve 2 and will be so described. The stem carries the pin 12 therewith, sliding it along the inner wall 14 of the sleeve 2.

As the pin 12 slides upwardly it is projected by the spring 13 outwardly into the shallow recess 19 as shown in Fig. 5. The shoulder 20 which stops downward rotation of the tumbler 17, disposes the free end thereof in engagement with or adjacent to the stem 3 as shown in Figs. 4 and 5, so that when the pin 12 moves into the shallow recess 19 the end of the pin is under the end of the tumbler, as shown in Fig. 5.

As the stem and pin continue to move upwardly, the pin raises the tumbler and is spring pressed into the recess 15 and snaps thereinto and will emit a slight clicking sound as indicating that it has reached this position, and the movement of the stem 3 may then be stopped; and the stem 3 will now be prevented from moving downwardly by engagement of the pin 12 with the shoulder 22 constituting the lower end of the recess 15 and the stem will therefore support the table top at this elevation of the stem.

It will be noted in Fig. 6 that the tumbler 17 has now been rocked by the pin around its pivot 18 and rests from the upper side of the pin.

If now it be desired to again telescopingly collapse the legs to shorten them into the length of Fig. 2, the following operation is performed. The stem 3 is moved upwardly still farther, that is to say, beyond the position of Fig. 6 to which it was moved for the high table, and this causes the pin 12 in traveling upwardly with the stem to rock the tumbler 17 upwardly, the pin taking up successive positions indicated in dotted line at 12A and 12B in Fig. 7, and finally arriving at the solid line position of Fig. 7, and as it moves it rocks the tumbler 17 to the position of Fig. 7.

It will be noted that in thus rocking the tumbler, the tumbler projects inwardly toward the stem 3 and its free end is given clearance by the recess 16 into which it projects. In its fully rocked position, the tumbler engages the shoulder 21 which limits its rocking movement.

It is immaterial whether the tumbler stays in this position or whether due to looseness at its

pivot it drops by gravity toward its original position.

Upward further movement of the stem is finally stopped by the pin 12 engaging the shoulder 23 at the upper end of the recess 15.

Having thus moved the leg stem 3 upwardly beyond its extended high table position described, and thereby bringing the pin 12 above the tumbler, the stem 3 is now lowered again carrying the pin 12 downwardly with it. The pin 12 then engages the tumbler 17 and rocks it around toward its original position as shown in Fig. 8. The pin as indicated in dotted line in Fig. 8 at 12C rocks the tumbler to the dotted line position of that figure which will be seen to be its original position where it is again stopped by the shoulder 20, and further downward movement of the stem 3 causes the pin to be pushed back into its recess by riding over the tumbler, whereby upon continued downward movement of the stem 3, the end of the pin will again slide upon the wall 14 of the sleeve and return to its original position of Fig. 4.

It will be observed that the outer end of the pin when opposite the recess 15 rides along upon the bottom 24 of the recess except when it is moved back into its recess by sliding on the tumbler 17.

The above described movement to shorten the leg may be effected by grasping the table top and raising all four legs off of the floor and giving a quick jerking movement to the table top which will have the effect of causing the sleeve portions 2 to drop by gravity from the position of Fig. 6 to the position of Fig. 7; and then the sleeve portions may be set again upon the floor and the stems 3 pushed downwardly therein to cause the parts to go from the position of Fig. 7 to that of Fig. 8 and back to the position of Fig. 4; or alternatively the table may be rocked over on two of the legs at a time, raising two of the sleeves at a time off of the floor and the raised sleeves may be grasped and first moved downwardly to move the parts from the position of Fig. 6 to that of Fig. 7, and then pushed upwardly to cause the parts to go to the position of Fig. 8 and then to the position of Fig. 4.

It will be observed that all of the parts of the mechanism are entirely concealed within the leg structure; and that the operation of lengthening the legs to their long working positions consists merely of telescoping them outwardly to a predetermined extent; and that to shorten the legs the operation consists merely of first telescoping them outwardly beyond the said predetermined length and then telescoping them inwardly.

In the specific disclosure, illustrated and above described, the pin 12 is on the stem, and the recess 15, tumbler 17 etc. are on the inner wall of the sleeve. It will be obvious, however, that this relation may be reversed, and that the pin 12 may be on the sleeve, and the recess 15 and tumbler 17 may be on the stem. In this respect as well as in other respects, therefore, my invention is not limited to the exact details of construction illustrated and described. Changes and modifications may be made within the spirit of my invention without sacrificing its advantages; and my invention comprehends all such changes and modifications which come within the scope of the appended claims.

I claim:

1. In a table construction, a table top; a table leg comprising a tubular portion, and a stem por-

tion telescopingly movable therein, to change the length of the leg; one of said portions being secured at an end thereof to the table top, and the leg having a telescopingly shortened length at which it supports the table top at a predetermined low height; a shoulder associated with the inner wall of the tubular portion; a movable abutment carried by the stem portion and spring-pressed to move to overlap and engage the shoulder upon telescopingly lengthening the leg to a predetermined extent, to prevent shortening of the leg and to cause the leg to support the table top at a predetermined greater height; a device movably mounted on the tubular portion over which the abutment rides upon telescopingly lengthening the leg to a still greater extent and which device is movable by the abutment to a position in which it overlaps the shoulder and prevents engagement of the abutment with the shoulder upon thereafter telescopingly shortening the leg; whereby the leg may again be telescopingly shortened to support the table top at the said low height.

2. A supporting leg for supporting tables or the like at two different heights, comprising a sleeve portion and a stem portion telescopingly movable therein, to change the length of the leg; a pin carried by one portion and spring pressed into sliding engagement with the other portion; a shouldered recess associated with the other portion into which recess the pin is spring-projected when the leg is lengthened to a predetermined extent; a rockable tumbler carried by the said other portion and disposed in the path of the pin, and formed to cause the pin to yieldingly retract and pass thereover upon further lengthening the leg; and the tumbler being rockable by the pin into a position to cause the pin to retract and ride thereover, and over and beyond the recess, upon thereafter shortening the leg.

3. A leg for supporting a table top or the like at two different heights, comprising an outer sleeve part and an inner stem part telescopable with each other to change the length of the leg; mechanism associated with the two parts and entirely concealed within the outer sleeve part and operable by telescoping movements of the

two parts; the mechanism comprising a spring pressed abutment means on one part engageable with a recess shoulder on the other part, upon telescopingly lengthening the leg to a predetermined extent, to prevent telescopingly shortening the leg; and comprising an element on the said other part over which the abutment rides upon further telescopingly lengthening the leg; the said element being movable by the abutment, upon thereafter telescopingly shortening the leg, to a position in which it overlies the shoulder and prevents the abutment from engaging the shoulder, to permit the leg to be telescopingly shortened.

4. A leg for supporting a table top or the like at two different heights, comprising two parts telescopable with each other to change the length of the leg; mechanism actuated by telescoping movements of the leg parts, comprising shoulder and abutment means on the two parts respectively, mutually engageable by telescopingly lengthening the leg to a predetermined long length to prevent the parts from telescopically shortening; and comprising movable means supported by one part, and movable, by lengthening the leg to a still greater extent and then telescopingly shortening it, to bridge the shoulder and prevent engagement of the shoulder and abutment means, to permit the leg to be shortened to a predetermined short length.

5. A leg for supporting a table top or the like at two different heights, comprising two parts telescopable with each other to change the length of the leg; mechanism actuated by telescoping movements of the leg parts, and comprising shoulder and abutment means on the two parts respectively, rendered mutually engageable by telescopingly lengthening the leg to a predetermined long length to prevent shortening of the leg; and comprising an element movable to prevent said engagement by first lengthening the leg beyond said predetermined long length and then shortening the leg; to thereby permit the leg to be shortened to a predetermined short length.

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