United States Patent

Hendrickson et al.

[15] **3,704,850**

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[54] TELESCOPICALLY COLLAPSIBLE TABLE LEG

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[52] **U.S. Cl.** .....**248/188.5,** 287/58 R

[51] **Int. Cl.** **F16m 11/24**

[58] **Field of Search**...248/188.5, 243, 244, 407, 408, 248/409; 287/58 CT; 285/81, 82

[56] **References Cited**

UNITED STATES PATENTS

1,303,416	5/1919	Tidyman	248/188.5 X
1,726,372	8/1929	Stoll	248/408 X
2,875,007	2/1959	Fox	248/188.5
2,310,346	2/1943	Bell	248/408
2,741,299	4/1956	Bargen	248/407
1,542,335	6/1925	Cardarelli	285/81

FOREIGN PATENTS OR APPLICATIONS

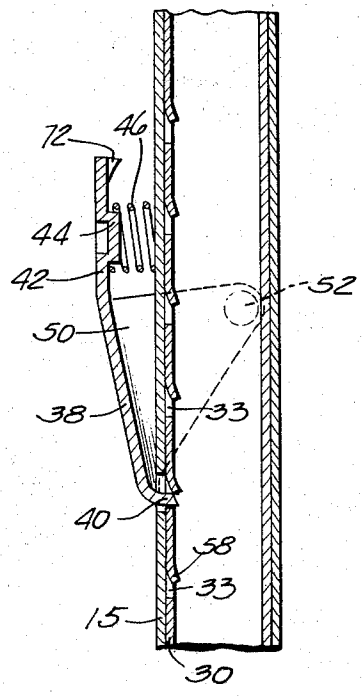
24,792	11/1896	Great Britain	248/407

Primary Examiner—William H. Schultz
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[57] **ABSTRACT**

An adjustable table leg structure includes an upper leg connected to the table top and a leg extension or lower leg portion which is telescopically reciprocable within the upper leg to afford height adjustment. The extension leg is held in the adjusted position by a spring biased pawl which is pivoted on the exterior of the upper leg and has a terminal tooth which projects through a slot in the upper leg for engagement with any one of a plurality of vertically spaced locking apertures in the leg extension. The tooth is released from engagement by manual pressure on an arm pivoted to the pawl. The tooth is locked in engagement by pivoting the arm to locate a blocking tab on the arm between the pawl and the upper leg to prevent movement of the pawl and thus provide secure support.

3 Claims, 4 Drawing Figures



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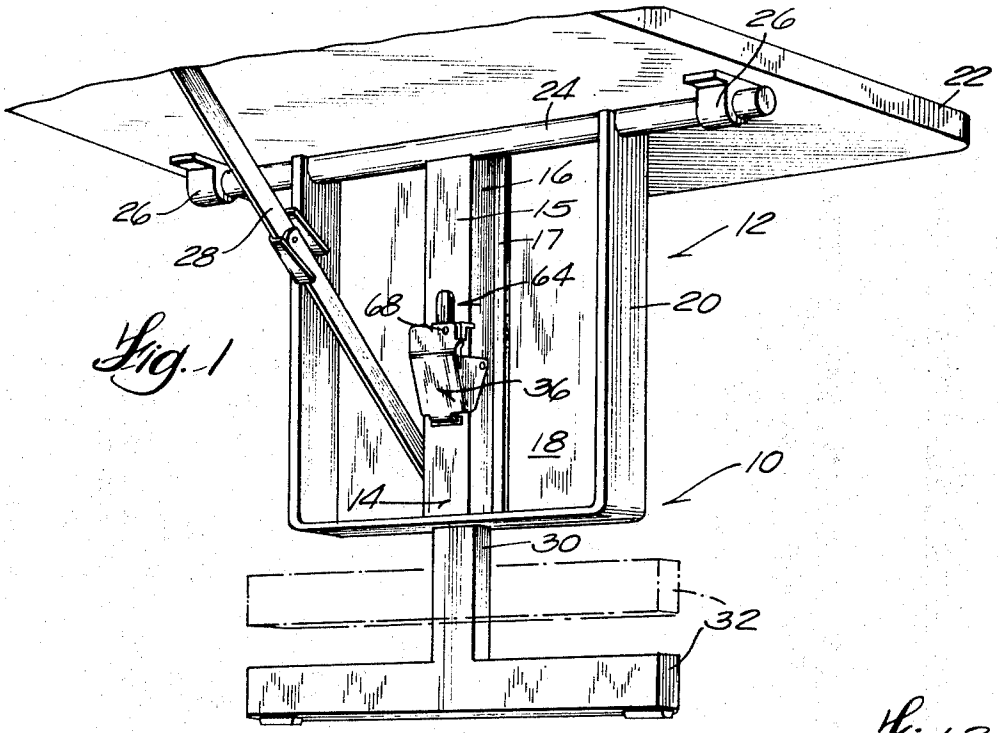


Fig. 1

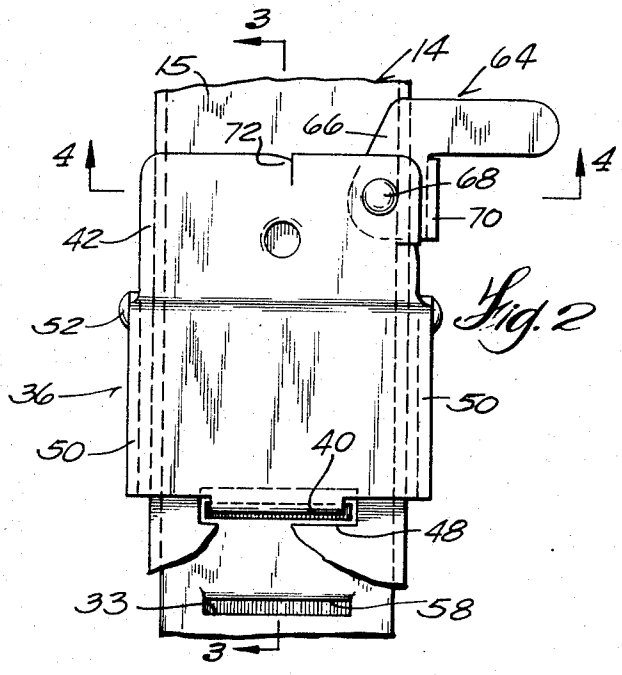


Fig. 2

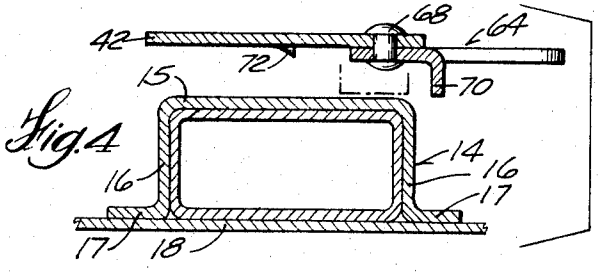
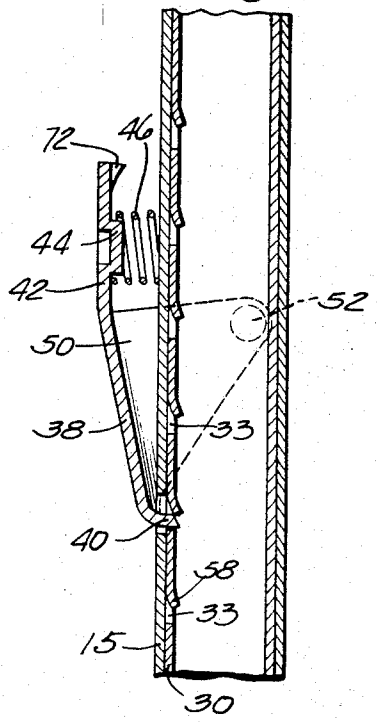


Fig. 4

Fig. 3



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TELESCOPICALLY COLLAPSIBLE TABLE LEG

BACKGROUND OF THE INVENTION

The invention relates to an adjustable table leg structure which is adapted for use with a table which is supported by two spaced legs, each having a base as shown in the Blink et al U.S. Pat. No. 3,309,059 and more particularly to a height adjustment and locking device for the leg.

SUMMARY OF INVENTION

In an adjustable table leg structure which employs two parts, a locking device is stamped from sheet material and easily assembled on the outside of an upper leg portion at a substantial cost saving over prior art table leg structures.

The device includes a pawl having a handle portion and an inclined portion with a terminal tooth. Spaced ears on the inclined portion are pivoted to the outside of the upper leg to provide a fulcrum for the pawl. A spring located above the fulcrum biases the tooth through a slot in the upper leg to engage any one of a plurality of locking apertures or slots in an inner leg extension. Camming flanges bordering the locking apertures cam the pawl from engagement so that the leg structure is easily extended by upward tension to obtain the desired table height and will remain at that adjustment until the pawl is released. The pawl is released from its engagement with the locking apertures by manual pressure on the handle portion of the pawl. The handle portion is pivoted for lateral swinging movement with respect to the pawl and has a blocking tab which extends toward the outer surface of the upper leg. When the handle is in a position for pawl operation, pressure on the handle compresses the spring and releases the pawl from engagement. In this position the blocking tab is free of the leg to afford pivotal movement of the pawl. To prevent disengagement of the tooth and thus provide secure support for the table at the selected height, the handle is oscillated to locate the tab in a blocking position between the pawl and the leg.

Further objects and advantages of the present invention will become apparent from the following disclosure.

DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective view of an adjustable table leg structure in accordance with the invention, the pawl handle in a position to lock the pawl against release.

FIG. 2 is an enlarged fragmentary view of the pawl shown in FIG. 1 with the pawl handle in position for releasing the pawl.

FIG. 3 is a sectional view along line 3—3 of FIG. 2.

FIG. 4 is a sectional view along line 4—4 of FIG. 2 showing the blocking tab in full lines in the pawl release position and in broken lines in the blocking position.

DESCRIPTION OF PREFERRED EMBODIMENT

The adjustable table leg structure **10** includes an upper leg portion **12**. The leg **12** has a central post or guide channel **14** formed from a stamped channel member with a wall **15** and side walls **16** with outturned flanges **17**. The guide channel **14** is enclosed by a panel **18** which is welded to the side wall **16** and rigidified by a U-shaped rim **20**. To fasten the leg **12** to a table top **22**, the upper end of the panel **18**, the post **14** and the rim **20** are welded to a transverse pipe **24** which is rotatably supported in brackets **26** which are attached to the table top **22**. The leg **10** is thereby pivotally movable between an erect position of use and a storage position in which it is folded against the under side of the table top **22**. A brace **28** can be provided to hold the leg erect.

The table leg structure **10** also includes a leg extension **30** which is telescopically reciprocable in the guide channel **14** of the upper leg portion **12** of leg structure **10**. The extension **30** is provided with a base or foot **32** and a plurality of vertically spaced locking apertures or slots **33**.

Although the disclosed construction for the table leg structure employs a post **14** and an extension **30** both having a rectangular cross section, legs with other cross sections can be employed. The invention particularly resides in the mechanism for securing the extension **30** at the selected height and includes a pawl **36** which is preferably stamped from sheet metal and which includes an inclined portion **38** with an inturned terminal tooth **40**. The pawl **36** also includes a generally vertical portion **42** with a spring-locating boss **44** (FIG. 3) which receives the end of a spring **46** which biases the pawl to urge its tooth **40** inwardly through a slot or aperture **48** in the leg post **14** to engage in any registering locking aperture **33** in the leg extension **30**.

Means are provided for pivotally supporting the pawl on the side walls **16** of the post **14**. As disclosed, this means includes two spaced ears **50**, which extend from the inclined pawl portion **38** and pins **52** which extend from and are anchored in the side walls of the leg. The tooth **40** is engageable with any one of the locking apertures **33** on the leg extension **30**. The apertures **33** are defined in part by downwardly and inwardly inclined margins **58** of the extension leg. These form cam surfaces which cam the pawl tooth **40** from engagement in any given aperture in a direction of relative movement of the leg **16** upwardly with respect to the leg extension to adjust the table upwardly. Provided the pawl is not locked as hereinafter described, this adjustment is readily performed by placing a foot on the base **32** and pulling the table top **22** upwardly to obtain the desired height of the table top.

Means are provided for manually releasing the tooth **40** from an advanced locking position of engagement with one of the apertures **33** in the leg extension **30**. As disclosed, the means includes a handle arm **64**. This handle may also be used to lock the pawl in its engaged position. For this purpose the handle arm has portion **66** pivoted to the vertical pawl portion **42** by a pin **68**. Formed integrally with the arm is a transversely projecting blocking tab **70** which extends from the arm portion **66** toward the wall **15** of post **14**. In FIG. 2 the blocking tab **70** is in a clearance position adjacent and parallel to a side wall **16**. The arm **64** projects in a convenient access position for manual operation. Manual pressure on the arm when in the FIG. 2 position or the full line position shown in FIG. 4 retracts the tooth from engagement to permit adjustment of the leg extension **30**. When the arm **64** is swung in a vertical plane about its pivot **68** to position the blocking tab in the position shown in broken lines in FIG. 4, against a

stop 72 and between the pawl 36 and side wall 15, disengagement of the tooth with one of the locking apertures 33 is prevented, thus providing secure support of the table top 22.

We claim:

1. An adjustable table leg structure comprising an upper leg portion with a guide channel and an opening into the channel, a leg extension telescopically reciprocable within the guide channel, said extension having a a plurality of spaced locking apertures selectively registerable with the said aperture of the upper leg portion, a pawl having a tooth, means for pivotally supporting said pawl externally on said upper leg portion for movement of said tooth through said first-mentioned opening to and from engagement in one of said locking apertures registering therewith and including means for securing said tooth in the engaged position, said means for securing said tooth in the engaged position comprises an arm including a transverse blocking tab and means for pivotally connecting said arm to said pawl for movement of said tab into a blocking position between said pawl and said upper leg portion and a clearance position with said tab spaced from said upper leg portion.

2. A table leg structure in accordance with claim 1 wherein said arm is pivoted to said pawl between said pawl and said upper leg portion, and a stop on said pawl to engage said arm and limit movement of said arm in the blocking position.

3. An adjustable table leg structure comprising an upper leg portion having an exposed wall and spaced side walls, a slot in said exposed wall, a pawl having a terminal tooth, spaced ears on said pawl pivotally connected to said side walls, a spring between said pawl and said leg portion to bias said tooth inwardly through said slot, an extension leg telescopically reciprocable in said upper leg portion and having a plurality of spaced locking apertures registerable with said slot and engageable by said tooth, and means on said pawl for compressing said spring to disengage said pawl tooth, and means for securing said tooth in an engaged position and wherein said means on said pawl for compressing said spring and for securing said tooth in an engaged position comprises an arm pivotally connected to said pawl, said arm including a blocking tab projecting from said arm toward said leg portion and movable with said arm to a position between said pawl and said leg portion to prevent movement of said pawl about said pivotal connection to said leg portion.

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