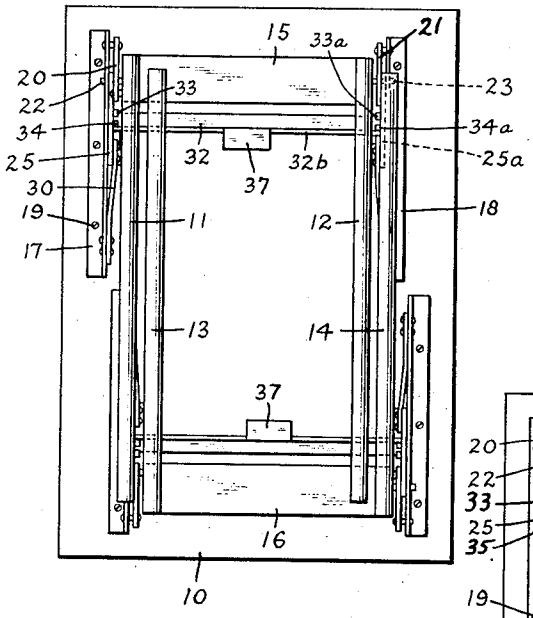
Nov. 18, 1958 W. P. DE SAUSSURE 2,860,940

LOCKING AND RELEASING MECHANISM FOR FOLDABLE TABLE LEGS

Filed Feb. 19, 1957

FIG.1.



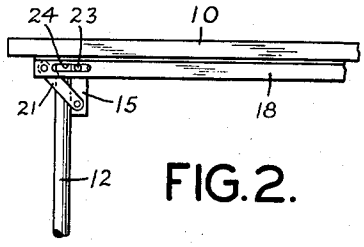


FIG.2.

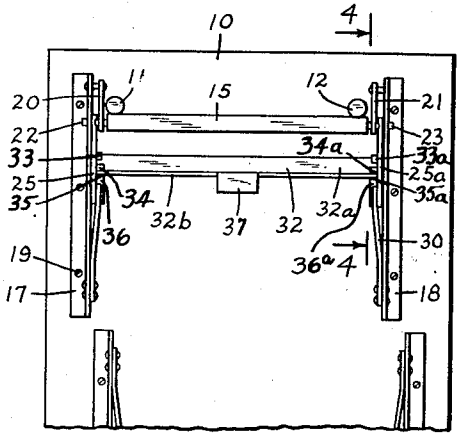
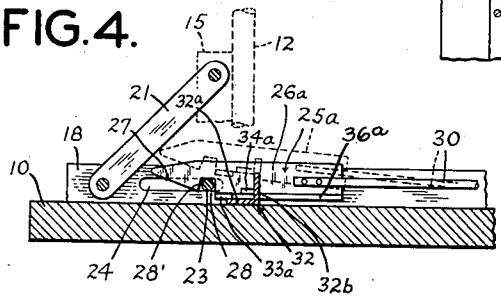


FIG.3.

FIG.4.



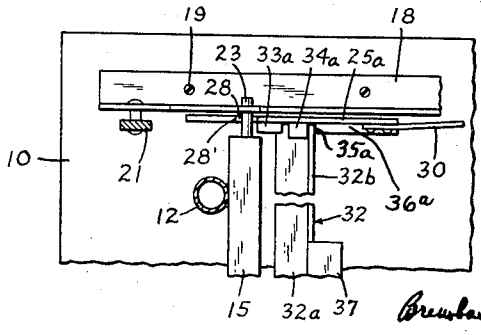


FIG.5.

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LOCKING AND RELEASING MECHANISM FOR FOLDABLE TABLE LEGS

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4 Claims. (Cl. 311—88)

This invention relates to improvements in tables having folding legs such as card tables, picnic tables, banquet tables and the like, and it relates more particularly to an improved form of mechanism for locking the legs of the table when they are unfolded or erected.

In accordance with the present invention, I have provided a table which has pairs of legs at its opposite ends mounted for pivoting movement between a folded and an erected position, the legs being supported by means of pivoted links and by pin and slot connections with supporting members on the underside of the table so that they can be swung from a folded position against the underside of the top to an erected position substantially perpendicular to the top. Cooperating with the pin and slot connection are spring biased latches which engage the pins in the erected or unfolded position of the legs to lock them firmly in position.

A feature of the present invention is a release mechanism by means of which the spring biased latches can be released to enable the legs of the table to be folded for storage. Generally the release mechanism includes an angle member extending transversely of the table adjacent to each pair of legs and having one flange thereof adjacent to the table and engaging beneath lugs or flanges on the latches for the corresponding pair of legs. Upon rocking movement of the release member about the junction of its flanges, the latches are displaced to disengage them from the pins on the table legs thereby releasing the legs for folding. The angle members for releasing the latches are held against the underside of the table by the latches and for that reason are not readily susceptible to damage by improper operation of the release members. Although the release members are intended to be actuated by pressing on an extension thereon to rock them relative to the table, they are not harmed when, if by mistake, the release members are pulled inasmuch as the pulling force is transmitted directly to the latches which move resiliently to cushion the forces acting on the release members. If sufficient force is applied, the latches will be released and the table legs then can be folded.

For a better understanding of the present invention, reference may be had to the accompanying drawing in which:

Figure 1 is a bottom plan view of a folding table embodying the present invention with the legs thereof shown in folded position;

Figure 2 is a view in side elevation of a portion of the table with the legs in erected position;

Figure 3 is a bottom plan view of a portion of the table showing one pair of legs thereof in erected position;

Figure 4 is a view in section taken on line 4—4 of Figure 3; and

Figure 5 is an enlarged view in elevation of a portion of the table and the lock and pivot means for a leg of the table illustrating details of construction.

The table shown in the drawings, by way of illustration of the invention, may include a top **10** of any desired size formed of plywood or other suitable material having an

appropriate surface covering or finish. Mounted for folding and unfolding movement on the undersurface of the table are pairs of legs **11** and **12** and **13** and **14**. The legs **11** and **12** are joined by means of a transverse stiffening member **15** such as a sheet metal bar of box-girder form, welded or otherwise secured to the legs to form an essentially rigid assembly. A similar cross member **16** is connected to the legs **13, 14**.

Each pair of legs **11, 12** and **13, 14** is mounted in a similar fashion on the undersurface of the table and for that reason the connections, latches and release mechanism for only one pair of legs will be described herein.

As shown in Figures 1 and 3, the leg assembly **11, 12** and **15** is mounted for pivoting movement between a pair of supporting members **17** and **18** formed of angle iron or the like and secured to the underside of the table by means of screws **19**, bolts or the like. Each supporting member **17** and **18** carries a pivotally mounted link **20** or **21** adjacent its outer end, the links having their lower ends pivotally connected to the opposite ends of the box girder **15** or a portion of the leg adjacent thereto. Also, at opposite ends of the cross bar **15** and above the lower ends of the links **20** and **21** are outwardly extending pins **22** and **23** which engage in the slots **24** extending lengthwise of the supporting members **17** and **18** thereby forming a sliding pivot connection which enables the legs to be moved between the folded positions shown in Figure 1 and erected position shown in Figures 2 and 3.

In order to lock the legs **11** and **12** in their erected position, each of the supporting members **17** and **18** carries a latch **25** or **25***a* including a latch member **26** or **26***a* formed of sheet metal or the like and having an inclined upper edge and a notch **28** in its upper edge adapted to receive one of the pins **22** or **23** and thereby lock the legs in the erected position. The inclined edge **27** on the latch enables pin **22** or **23** to deflect the corresponding latch as the leg moves to erected position. As shown in Figure 4, the forward edge **28'** of the notch **28** is slightly inclined to make certain that the latches **25, 25***a* will engage and retain the pins **22** and **23** even if the pins are slightly out of alignment.

Each latch **25, 25***a* includes a spring or other resilient element for biasing the latch member **26** toward the table top, for example, a spring bar or rod **30** anchored at one end to the corresponding angle member **17** or **18** by means of welding or the like and having its other end fixed to the latch member **26**.

A feature of the present invention is an improved mechanism for releasing the latches **25, 25***a* to enable the legs of the table to be folded. As best seen in Figures 3, 4 and 5, the release member may include a bar **32** formed of angle iron or sheet metal bent to angle iron shape having a base flange **32***a* normally resting against the undersurface of the table top **10** and a flange **32***b* extending substantially normal to the flange **32***a*. Opposite ends of the base flange **32***a* are positioned between the table top and inwardly extending narrow tabs or flanges **33** and **33***a* and the inwardly bent tongues **34** and **34***a* on the latches **25** and **25***a*, respectively.

Opposite ends of the flange **32***b* of the release member fit loosely in slits **35** and **35***a* in the latch members **26, 26***a* between edges of the tongues **34, 34***a* and the flanges **36** and **36***a* at the lower edges of the latch members **26, 26***a*. Opposite ends of the release member **32** engage latch members **26, 26***a* and the release member thereby is restrained against substantial endwise movement. Downward and lateral displacement of the release member **32** is restricted by means of the overlying flanges **33, 33***a* and by engagement of the flange **32***b* in the slits **35, 35***a* in the latch members.

An actuating member or push plate **37** is secured to

the flange 32*b* at about the mid-portion of the release member 32.

Operation of the release member 32 is accomplished by pushing the member 37 toward the top of the table. In so doing, the release member 32 is rocked around the edge at the junction of the flanges 32*a* and 32*b* so that the flange 32*a* moves in a clockwise direction as viewed in Figure 4 and being in engagement with flanges 33, 33*a* pushes the latch members 26, 26*a* far enough away from the table top to release the pins 22, 23 in the table legs from the notches 28 in the latches. The legs can then be moved to folded position.

The release member 32 is highly effective and essentially foolproof in operation due to the manner in which it is associated with the table top and the latches 25, 25*a*. All the pressure exerted against the actuating extension 37 is transmitted to the table top and is distributed throughout the entire length of the angle member so that there is no possibility of bending or otherwise damaging the release member by any reasonable application of force. Even if, through inadvertence, the extension 37 is pulled instead of pushed, the release member will not be damaged because it is supported by the spring biased latches and is cushioned thereby. Exertion of substantial pulling will force the release of the latches without damaging either the release member or the latches.

No pivotal connections other than the tongues and flanges on the latches are required for positioning the release member on the table top thereby greatly facilitating manufacture of the table.

It will be understood, of course, that legs, latches and release members of the type described above can be made for use with tables of different sizes and that elements of the mechanism can be modified depending upon space requirements, strength and the like. Accordingly, the form of the invention described herein should be considered as illustrative and not as limiting the scope of the following claims.

I claim:

1. A folding table comprising a top, pairs of legs at opposite ends of said table, the legs of each pair being fixed to each other in spaced relation, supporting members fixed to said top on opposite sides of each pair

of legs, links pivotally connected to said top and to said legs, each supporting member having a slot therein substantially parallel with said top and adjacent and corresponding to one of said legs, a pin fixed to each leg and extending into a corresponding slot for sliding movement therealong to enable said legs to be erected and folded against said top selectively, spring biased latches mounted on said table top and having notches in their upper edges engageable with said pins when said legs are erected, a latch release member adjacent to each pair of legs and spanning said top between said supporting members, each release member having angularly related flanges thereon, one of said flanges engaging between said top and a latch at each end thereof and being rockable relative to said latches and top to displace the latches away from said top and release said pins from said notches.

2. The folding table set forth in claim 1 comprising a flange on the upper edge of each latch overlying and engageable with said one flange on said release member, and means forming a slot in each latch member for rockably receiving the other flange on said release member to retain it against lateral displacement.

3. The folding table set forth in claim 1 comprising an inwardly extending flange on the upper edges of each latch, said one flange of said release member being interposed between said top and said flanges on the latches at each end thereof, an inclined tab on each of said latches forming a slot therein for receiving the other flange of said release member rockably and retaining the latter against lateral displacement.

4. The folding table set forth in claim 3 in which said latches are adjacent to the ends of and restrict endwise movement of said release member.

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