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[54] **SLIDE ASSEMBLY FOR EXTENSION TABLE**

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[52] **U.S. Cl.** **308/3.6;** 108/83; 312/348

[51] **Int. Cl.** **F16c 17/00**

[58] **Field of Search** 308/3.6, 3.8; 312/333, 312/346, 347, 348, 349, 350; 108/83

[56] **References Cited**

UNITED STATES PATENTS

2,860,939	11/1958	Cooper	308/3.6
3,419,317	12/1968	Mutchnik	308/3.6
3,519,315	7/1970	Campbell	308/3.6
3,637,268	1/1972	Walter	308/3.6

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[57] **ABSTRACT**

A slide assembly for extension tables includes a pair of inter-fitted slide members, a U-shaped strap fixed to an end of one of the slide members for maintaining the slide members associated in sliding relationship, a pair of stops carried adjacent the ends of the other slide member for engaging with opposite ends of the strap to define open and closed positions of the slide members and a pair of detents punched from the other slide member intermediate the stops for frictionally engaging the strap, whereby to releasably retain the slide members in either position thereof, while permitting free sliding movements of the slide members between such positions.

4 Claims, 5 Drawing Figures

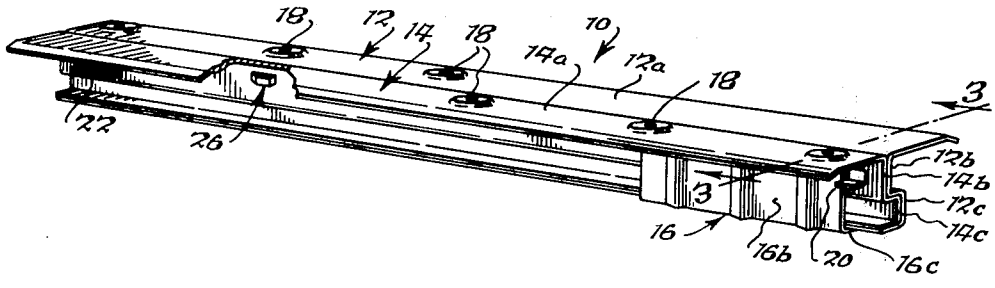


Fig. 1.

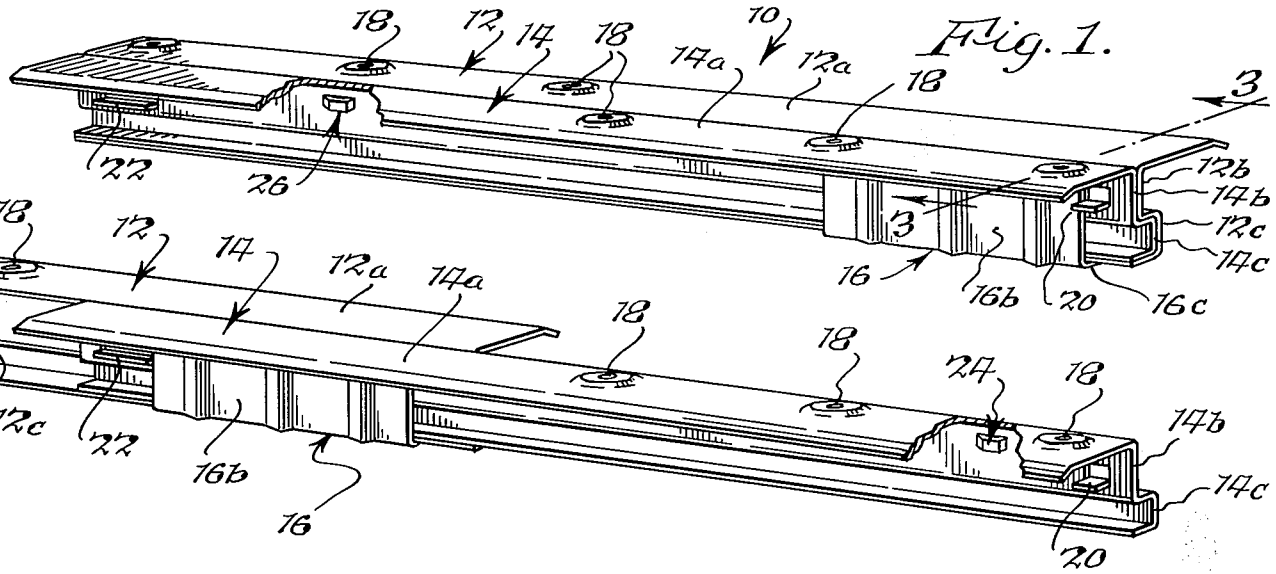


Fig. 2.

Fig. 3.

Fig. 5.

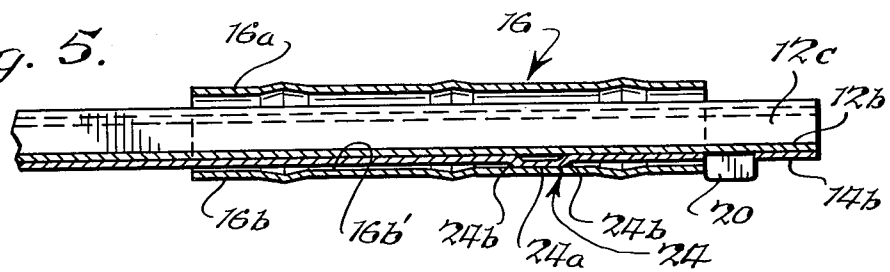
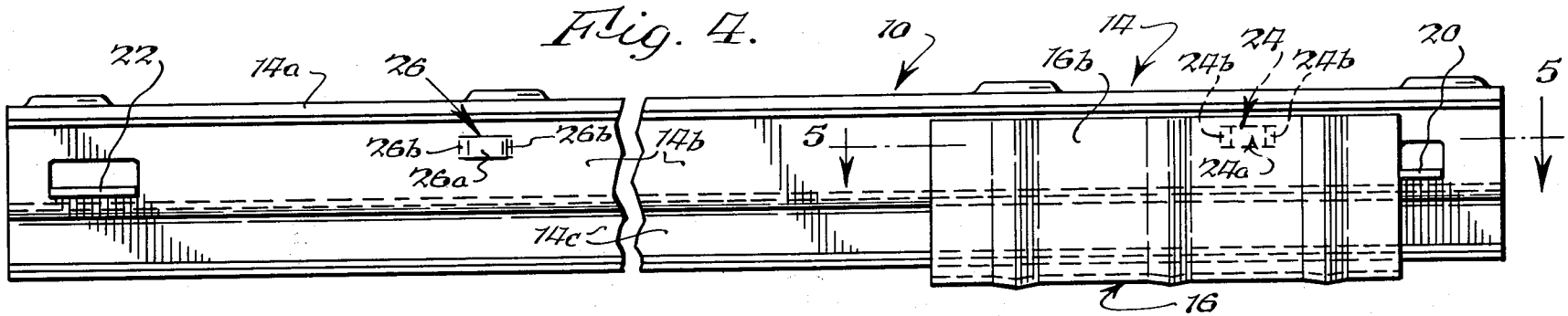


Fig. 4.



SLIDE ASSEMBLY FOR EXTENSION TABLE

BACKGROUND OF THE INVENTION

In U.S. Pat. No. 2,860,939 there is disclosed a slide assembly for extension tables, which comprises a pair of slide members maintained in a slide fitting relationship by an essentially U-shaped strap fixed to one of the members. The other member is punched to define a pair of stops arranged adjacent its opposite ends for engagement with opposite ends of the strap in order to define open and closed positions of the members.

While slide assemblies of the type described in U.S. Pat. No. 2,860,939 have enjoyed wide commercial use, they have however always been subject to one problem, which until the present invention has never been satisfactorily resolved. In this connection, it is desirable to provide the slide members with a relatively loose fit in order to permit free sliding movements thereof between their extreme or opened and closed positions. On the other hand, it would be desirable to provide the slide members with a relatively tight fit in order to resist vibration induced movement of the slide members from adjacent either of their extreme positions, which would otherwise result in a noticeable "crack" or separation occurring between the table leaves. As a practical matter, these objects are contradictory, and therefore in installations wherein the presence of a "crack" between leaves is unacceptable, separate manually operable latching devices have been employed in combination with this prior form of slide assembly.

SUMMARY OF THE INVENTION

The present invention is primarily directed towards an improvement in the slide assembly disclosed in U.S. Pat. No. 2,860,939, which permits the slide members to resist movements from adjacent their extreme positions, while permitting free sliding movements thereof between such positions.

More particularly, the preferred form of the present invention features a pair of detents arranged to frictionally or deformably engage the strap only when the latter engages or is in proximity to the stops determining the extreme positions of the slide members. Specifically, one detent is disposed immediately adjacent the stop defining the closed position of the slide members such that it frictionally interferes with relatively sliding movement of the members essentially only when the members are in closed position. The other detent is spaced from its associated stop through a greater distance in order to permit it to be effective for frictionally interfering with relative sliding movements of the slide members over a substantially greater range of such movements. By this means, the latter detent is effective even when different size leaves are inserted in the table.

DRAWINGS

The nature and mode of operation of the present invention is more clearly described in the following detailed description taken with the accompanying drawings wherein:

FIG. **1** is a perspective view of the slide assembly of the present invention with the slide members in a closed or unextended position;

FIG. **2** is a view similar to FIG. **1**, but showing the slide members in open or extended position;

FIG. **3** is a sectional view taken generally along the line **3—3** in FIG. **1**;

FIG. **4** is a side elevational view of the assembly shown in FIG. **2**; and

FIG. **5** is a sectional view taken generally along the line **5—5** in FIG. **4.**

DETAILED DESCRIPTION

The slide assembly of the present invention, which is generally designated as **10** in FIGS. **1, 2** and **4,** is similar in overall construction to that described in U.S. Pat. No. 2,860,939. As by way of further reference, it will be understood that slide assemblies of this type are conventionally employed in pairs for the purpose of slidably interconnecting a pair of permanent table leaves, whereby to permit the permanent table leaves to be brought together in edge to edge contact when the assembly is moved towards its closed or unextended position illustrated in FIG. **1,** or to be moved apart sufficiently to receive an additional table leaf therebetween when the assembly is moved towards its open or extended position illustrated in FIG. **2.** Also, slide assemblies of this type are available in various sizes or "lengths" as required to accommodate a desired number of additional table leaves. For any given installation, the slide assemblies employed would permit the permanent leaves to be moved apart through a distance in excess of the width of the maximum size additional table leaf to be employed in order to facilitate insertion of such leaf.

Assembly **10** generally includes first and second slide members **12** and **14,** which are inter-fitted for mutual sliding action; and an essentially U-shaped strap **16,** which is fixedly mounted adjacent one end of slide member **12** for the purpose of maintaining the slide members assembled in a sliding relationship. Preferably, slide members **12** and **14** and strap **16** are formed from sheet metal and the several parts are assembled such as to permit a relatively loose, free sliding fit between the slide members. More specifically, strap **16** may be characterized as having a pair of essentially parallel leg flanges **16***a* and **16***b*, which are joined by a connecting flange **16***c;* leg flange **16***a* having an extension or mounting flange **16***d*.

Slide members **12** and **14** are best shown in FIG. **3** as being of similar cross-sectional configuration in that they are formed with horizontal mounting flanges **12***a* and **14***a;* vertical sections **12***b* and **14***b;* and depending U-shaped sections **12***c* and **14***c*, respectively. As in the case of the construction illustrated in U.S. Pat. No. 2,860,939, mounting flanges **12***a* and **14***a* are formed with apertures **18** through which fastener devices, not shown, may be passed for the purpose of securing the slide members one to each of a pair of permanent leaves of a table, not shown; and strap **16** is secured to the lower surface of mounting flange **12***a*, as by welding mounting flange **16***d* thereto. Strap flange **16***b* is arranged to end abut alternately with stops **20** and **22** punched from adjacent opposite ends of vertical section **14***b* in order to define the closed or unextended and open or extended positions, respectively, of slide members **12** and **14.**

In accordance with the present invention, slide member **14** is additionally provided with detents **24** and **26,** which are formed by punch deforming vertical section **14***b* intermediate stops **20** and **22.** Deforming operation results in the detents being formed with generally rectangular, relatively flat central portions **24***a* and **26***a*,

which are bounded by inclined surface portions **24***b* and **26***b*, respectively.

The height of detent central portions **24***a* and **26***a* relative to the planar surface of vertical section **14***b* is at least sufficient to provide for slide assembly movement restraining frictional engagement between the detent central portions and the inner surface **16***b'* of strap leg **16***b*, when slide members **12** and **14** are in their closed and opened positions, respectively. Preferably, the height of detent central portions **24***a* and **26***a* is such as to effect resilient deformation of strap **16** to an extent sufficient to positively force or bias the vertical and U-shaped sections of slide member **14** into frictional surface engagement with like sections of slide member **12**, as best shown in FIGS. **3** and **5**. In either construction, the facing detent inclined surface portions **24***b* and **26***b* serve as guiding or camming surfaces engageable by the opposite ends or vertically upstanding marginal edges of strap leg **16***b* in order to facilitate positioning of strap inner surface **16***b'* in engagement with detent surfaces **24***a* and **26***a*.

By referring primarily to FIGS. **1**, **2** and **4**, it will be noted that detent **24** is disposed essentially immediately adjacent stop **20** such that it causes frictional interference with the relative movement of slide members **12** and **14** essentially only when the slide members are in their closed position. By comparison, detent **26** is preferably spaced through a greater distance from its associated stop **22** in order to permit it to cause frictional interference with the relative movement of the slide members over a substantially greater range of such movements adjacent the slide member open position. By this arrangement, the slide members are loosely fitted for free sliding movement during a substantial portion of the range of opening and closing movements, but are frictionally "locked" to prevent forming of a "crack" between the permanently attached leaves when the slide members are in their closed position and the forming of a "crack" between the permanent table leaves and an additional table leaf when the slide members are adjacent their open position. By positioning detent **26** in the manner described, the additional leaf intended to be inserted in the table may have a range of sizes or widths.

It will be appreciated that as a practical matter, the closed position of the slide members may vary slightly from that illustrated in FIG. **1** after the assembly is installed in a table, since marginal edge engagement of the permanent table leaves will normally prevent full closing movement of the slide members. Thus, stop **20** is normally employed only to prevent disassembly of the slide members during handling and/or shipment to a point at which they are physically affixed to the permanent table leaves.

What is claimed is:

1. In a slide assembly for an extension table having a pair of slide members adapted to be individually fixed to permanent leaves of said table and a strap fixed to an end of one of the slide members to retain the slide members in a relatively loose fitting, free sliding relationship for movement between spaced positions wherein said leaves are alternately disposed adjacent to and remote from one another, said strap having a surface thereof arranged in a facing relationship to the other of said slide members, the improvement comprising:

detent means arranged adjacent opposite ends of said other slide member for frictional engagement with said surface of said strap to force said slide members into a tight fitting relationship substantially only when said slide members are in either of said positions thereof, whereby to frictionally interfere with relative sliding movement of said slide members adjacent said positions while permitting free sliding movements of said slide members intermediate said positions.

2. In a slide assembly for an extension table having a pair of slide members adapted to be individually fixed to permanent leaves of said table; a U-shaped strap fixed to one of said slide members adjacent one end thereof to retain said slide members in a relatively loose fitting, free sliding relationship for movement between spaced retracted and extended positions for alternately positioning said leaves adjacent to and remote from one another; and a pair of stops formed adjacent opposite ends of the other of said slide members for alternately engaging opposite ends of said strap whereby to determine said spaced positions of said slide members, the improvement comprising:

detent means formed on said other slide member intermediate said stops for frictional surface engagement with said strap substantially only when said slide members are in either of said positions thereof, whereby to frictionally interfere with relative sliding movement of said slide members adjacent said positions while permitting free sliding movements of said slide members intermediate said positions.

3. The improvement according to claim **2**, wherein one of said detent means is disposed in relative close proximity to one of said stops defining said retracted position and an other of said detent means is spaced through a relatively greater distance from the other of said stops defining said extended position in a direction lengthwise of said other slide member, whereby said other detent means is effective over a greater range of sliding movements of said slide members than said one detent means.

4. The improvement according to claim **3**, wherein said detent means are punched from said other slide member, and each of said detent means includes a generally planer surface position arranged for frictional engagement with said strap and bounding surface portions, and facing ones of said bounding surface portions defining camming surfaces engageable by opposite ends of said strap in order to facilitate positioning of said strap in frictional engagement with planer surface portions.

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