April 2, 1935. M. FOX 1,996,542

METAL SLIDE FOR EXTENSION TABLES

Filed Feb. 12, 1934 3 Sheets-Sheet 1

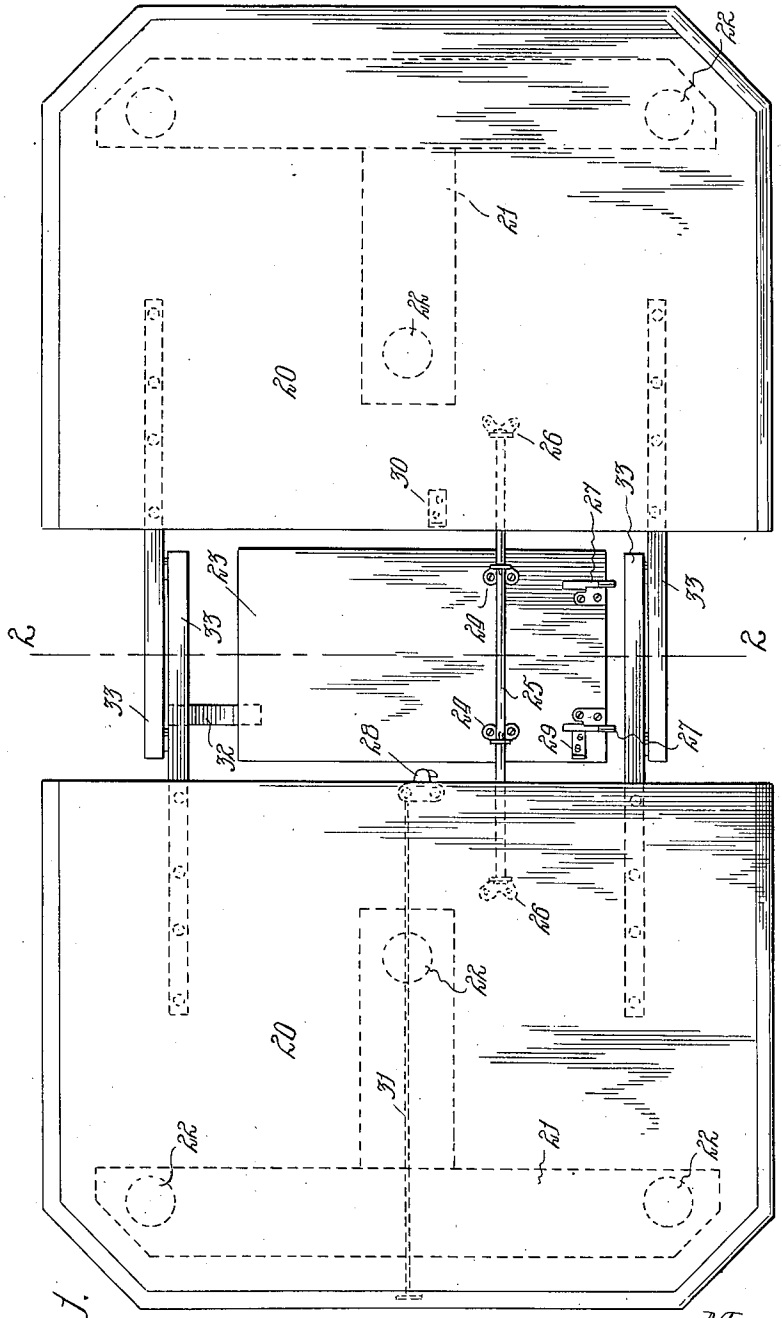

Fig. 1.

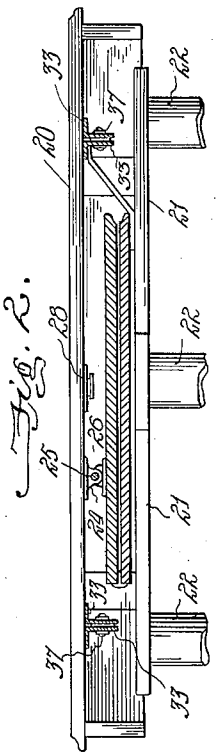

Fig. 2.

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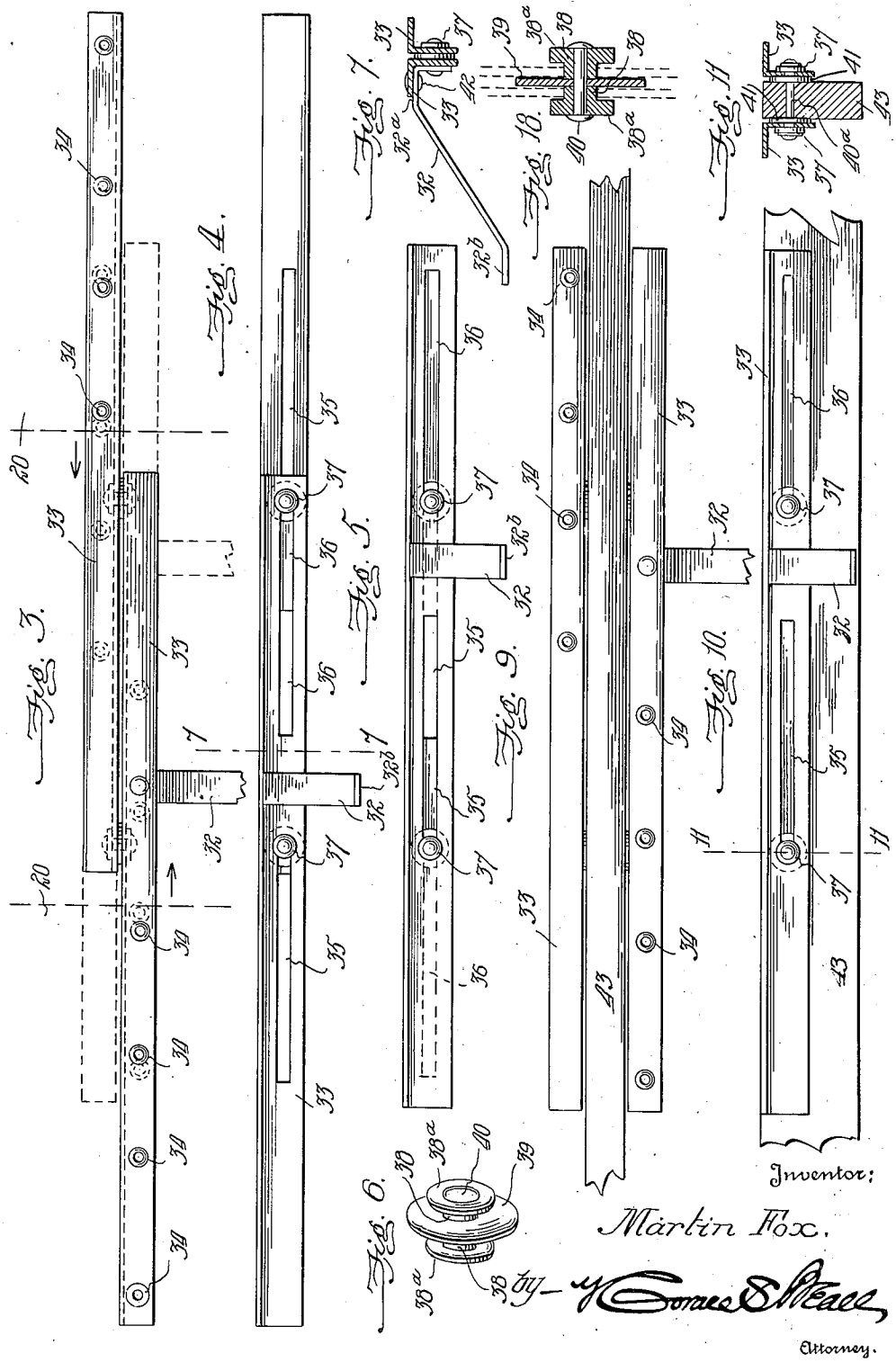

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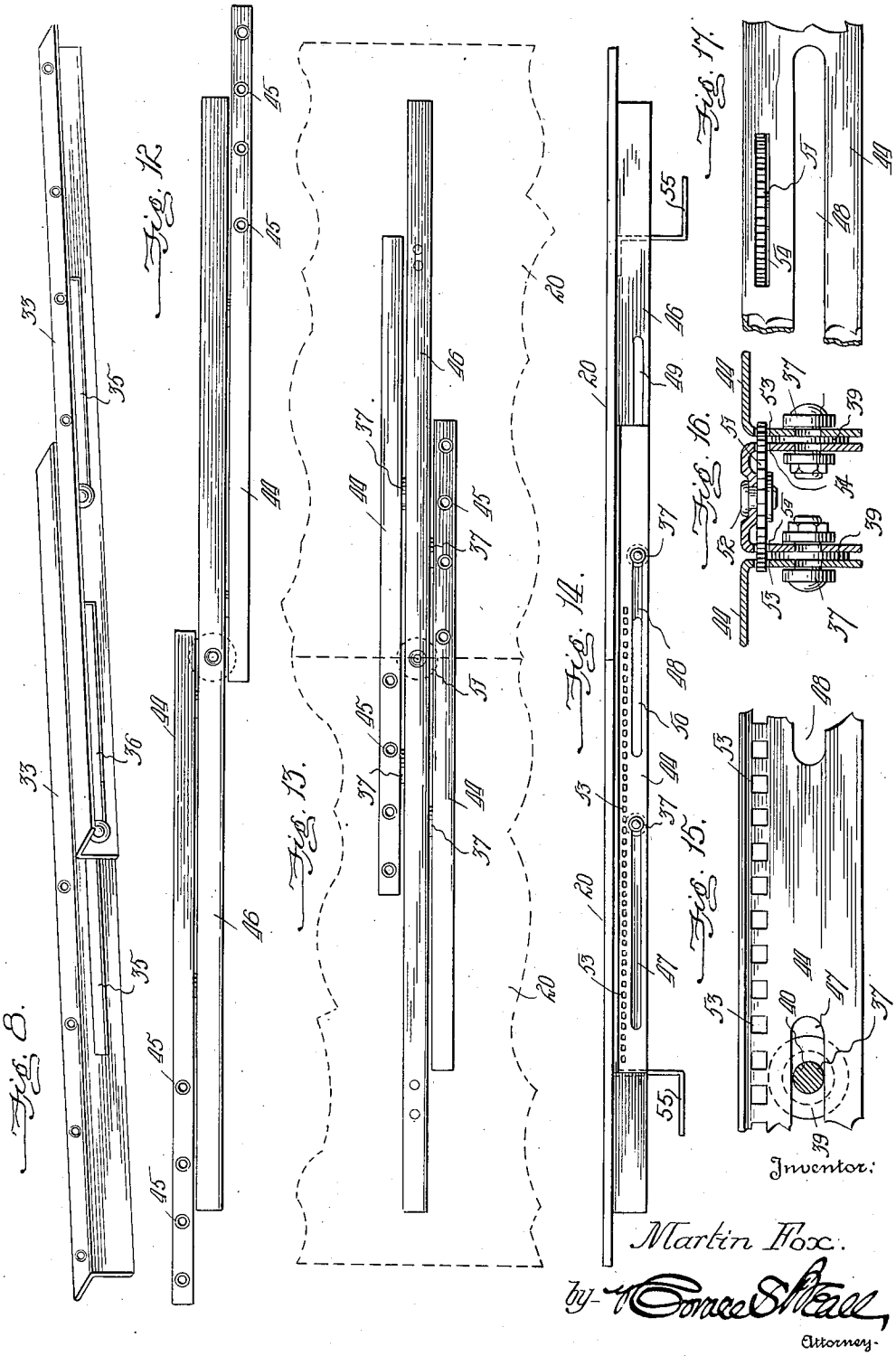
METAL SLIDE FOR EXTENSION TABLES

Filed Feb. 12, 1934 3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

1,996,542

METAL SLIDE FOR EXTENSION TABLES

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Application February 12, 1934, Serial No. 710,952

10 Claims. (Cl. 311—71)

My invention is an improvement in extension tables and has particular reference to the longitudinally movable rails or slides which carry the sections of the top so that the latter may be separated for the reception of the extra leaves or fillers which rest on the slide rails in the extended position of the table.

In the construction of extension tables of this general type the sections of the top are in some instances attached to independently movable table frames connected by cooperating table top slides which permit separation of the two parts of the table for the purpose of receiving the extra leaves or fillers, while in other instances the sections of the top are slidable on a table frame common to both top sections with the table top slides cooperating with an interposed rail fixed to and forming a part of the supporting frame. These slides are usually arranged in pairs near the opposite sides of the table and the companion slides of each pair are attached respectively to the opposite table top sections from which they project for slidable engagement with each other or with an interposed fixed rail.

The main purpose of my invention is to provide table top slides of economic construction and possessing the advantageous features of stability in use and smoothness of operation, and wherein the peculiar construction of the slides and cooperating elements or free moving rollers are adaptable in various combinations, as simple slides or in connection with equalizing mechanism.

My invention therefore contemplates the production of table top slides in the form of a pair of rails or angle bars disposed with the horizontal members uppermost for attachment to the table top sections and the depending members provided with spaced apart longitudinal slots, in cooperation with free moving or loose rollers connecting the slides together or to an interposed rail, in the latter instance with or without equalizing mechanism for the movement of both sections on the operation of either one.

In the drawings:—

Figure 1 is a plan view of a conventional type of extension table showing the general application of my improved table top slides.

Fig. 2 is a vertical transverse section taken on the line 2—2 of Fig. 1.

Fig. 3 is a detail plan view of the slides in extended position in full lines and closed position in dotted lines.

Fig. 4 is a side elevation showing the slides in extended position.

Fig. 5 is a similar view showing the slides contracted.

Fig. 6 is a detail perspective view of the loose roller for connecting the pair of slides.

Fig. 7 is a sectional view on the line 7—7 of Fig. 4.

Fig. 8 is a perspective view of a pair of the slides with the connecting loose rollers, the said slides being in extended position.

Fig. 9 is a plan view illustrating a modification in which the metal slides are connected to an inner supporting rail.

Fig. 10 is a side view thereof.

Fig. 11 is a sectional view on the line 11—11 of Fig. 10.

Fig. 12 is a plan view of a further modification to include equalizing mechanism for operating the slides in unison, the slides being in extended position.

Fig. 13 is a similar view with the slides contracted and the sections of the table top indicated by dotted lines.

Fig. 14 is a side elevation of Fig. 13.

Fig. 15 is an enlarged detail side elevation of a fragment of one of the metal slides.

Fig. 16 is a sectional view through the center of the slides and supporting rail, showing the equalizing device.

Fig. 17 is a side view of the central portion of the center rail, and

Fig. 18 is an enlarged detail sectional view showing a modified form of roller for connecting the slide rails.

In the construction of divided top extension tables it is customary to have the slides which are attached to the sections of the top arranged in pairs near opposite sides of the table, and in that type of extension table shown in Fig. 1 the top sections 20, 20—connected by my improved slides hereinafter particularly described—are suitably supported on independent frames 21, 21 having the usual supporting legs 22, so that the two parts of the table may be separated to receive the extra leaf which rests on the slides in between the top sections and coplanar therewith. In this example of extension table there is also shown a foldable filler or table leaf 23 swiveled by brackets 24 to a crossbar 25 extending under the top sections and slidably connected thereto by metal brackets 26, 26, the two sections of the foldable filler being hinged together by hinges 27, 27, and as this is one of the conventional forms of extension tables it will be understood that when the folded filler is swung to a position below the plane of the top sections and the latter brought together said folded filler will be housed below the closed top of the table. Conversely when the parts of the table are separated for the positioning of the filler between the top sections said folded filler is first swung bodily upon the swivel connection to rest on one of the pairs of slides and then unfolded to extend the full length of the space between the top sections, after which the two parts of the table are moved towards each other for clamping the filler between said top sections. In this extended position of the filler it rests upon

the opposite slides with an intermediate bearing on the crossbar, and for the purpose of locking the several parts of the table together there is a catch **28** at the inner edge of one of the top sections which engages a lip of an angle plate **29** at the under side of the filler, said catch also serving to lock the table in closed position by engaging a similar angle plate **30** on the under side of the other top section. The catch is released in the usual manner by a pull wire **31** extending from the catch to the outer edge of that top section to which said catch is attached. In respect to this application of my improved slides, fully described further on in this specification, I employ a combined supporting and guiding plate **32** for the foldable filler, said plate depending from the pair of slides furthest from the crossbar so that the free end of the folded filler may rest thereon in housed position, it being noted that when the parts of the table are brought together the outer end of the supporting plate will slide beneath the outer edge of the folded filler with the movement of its table top slide, as indicated by Fig. 3 of the drawings. This supporting plate forms a part of my invention in connection with the special construction of table top slides, or one pair of slides, and serves not only to support the foldable filler but acts also to guide the free end thereof in swinging the same to and from housed position.

The metal table top slides in accordance with my invention are in respect to each pair made up of two L-rails or angle bars **33, 33** of like construction, that is to say the upper horizontal member of each slide is provided in the end portion thereof at one side of the center with a series of screw holes **34** for attachment to the table top section, and the vertical member or leg provided with longitudinal slots **35, 36** by which the pair of slides or rails are connected for slidable movement one upon the other, each slide being preferably provided with two slots spaced apart, as shown. In assembling these rails or slides they are disposed side by side with the horizontal members uppermost and projecting outwardly, and they are connected for slidable movement in association with each other by a particular form of roller, referred to generally by the numeral **37**, and consisting of opposite roller sections **38, 38** with an interposed disk **39**, the parts of the roller being connected together by a pin or rivet **40**, said roller sections each having a flange **38***a* at its outer end bearing against the face of the adjacent metal slide while the disk is interposed between the two slides, as clearly shown in Fig. 18 of the drawings. When the parts of the roller are fastened together by the pin they loosely connect the slides to not only permit sliding movement thereof but also allow the rollers to have free movement or run loosely in the slots during the movement of the slides upon each other, for which purpose that portion of the roller section which extends through the slot is slightly wider than the thickness of the slide or rail. It will be understood, however, that the construction of these rollers may be modified, as for instance in Fig. 11, wherein washers **41** are used at the outer ends of the pin against the roller sections **38**, it being important that the rollers fit loosely for a floating engagement with the companion slots in the slides or rails.

In connection with one set of the metal fixtures or metal slides the foldable filler supporting plate **32**, hereinbefore referred to, is attached to one of the slides or L-rails at the under side of the outwardly projecting upper member, said plate presenting a downwardly inclined body portion with an angular projection **32***a* at its upper end for attachment of the plate to the slide by rivet **42** and a forward projection **32***b* at its lower end upon which the outer or free end of the filler rests in the housed position thereof.

The slides are attached to the two divided sections of the top as illustrated in Fig. 1 of the drawings, two pairs of slides being preferably used for the extra leaf or leaves to rest thereon, and as these slides are for the purpose of having the table top sections move in unison to and from each other as well as support the extra leaves they may be applied to any form of extension table in addition to that type shown in Fig. 1, the operation of the slides being the same in every instance. The particular construction of my improved metal fixtures or slides, including the employment of the rollers floating in the companion slots **35** and **36** of the pair of slides, provide that as the sections of the top are moved to either extended or closed positions said rollers will run freely in the slots to support said sections in these operations and the extended position of the top sections will be limited by said rollers engaging the ends of said slots which latter then extend in opposite directions from the respective rollers. The slots are of such length that when the table top sections are in closed position as shown in Fig. 5 the free running rollers are in engagement with the other end of the companion slots **35, 36**, and similarly extend in opposite directions from said rollers. In other words, the rollers are free to run in the slots in any intermediate position as the slides are moved in the opposite directions for extending and closing the divided top of the table, and the provision of two slots for each roller, or spaced apart floating rollers, will permit of greater extension than would be possible if the rollers were fixed.

As shown in Figs. 9 and 10 the metal fixtures or slides may be used in connection with any type of extension table having the supporting frame common to both slidable top sections, and having a fixed rail **43**. In this instance the slides **33, 33**, instead of being connected together side by side, are at opposite sides of the fixed rail, and the pin **40***a* of the roller extends through said fixed rail.

I also propose to use the special form of table top slides, and means of connection, with that type of table employing an equalizer shown in Figs. 14 to **17** of the drawings, wherein slides **44, 44**, and **46** are provided with companion slots **47, 50** and **48, 49**, and in which the free running rollers **37** are in floating engagement with said slots so as to operate in the movement of the slides in the same manner as above described. For this type of table the slides or L-rails **44, 44** are slightly modified by having holes **53** punched through the same at the upper edge of the vertical member or leg of each slide so that the pinion **51** will mesh therewith. In this instance I prefer to have the stationary or fixed rail **46** in the form of a channel bar with the connecting portion uppermost and the angle rails or slides **44, 44** connected to the opposite depending members or legs of the channel bar by means of the rollers **37**, and in order that the pinion **51** located at the center of said rail may engage the rack feature of the slides said pinion extends through slots **54** in the opposite sides of the channel bar. The pinion is therefore located within the channel bar immediately below the connecting portion thereof, and so that the head of the pin **52** which connects the pinion to said

connecting portion will not project above the surface of the channel bar or fixed rail a depression is formed in the latter as shown in Fig. 16. For supporting this structure in the frame of the table brackets **55**, **55** are riveted within the channel bar or rail, and for attaching the slides to the table top sections they are provided with screw holes **45**. It will be obvious that this construction of metal fixture for that type of extension table having an equalizer retains the advantageous features of my improved form of slides, and although I prefer to have the rack with which the pinion engages formed as an integral part of the slides it is very obvious that said rack may be a separate part attached to the slide and that the intermeshing pinion may be located at any other point within the channel bar. It is also obvious that when a wooden center rail is employed (shown in Figs. 9, 10, and 11) the intermeshing pinion of the equalizer device could be mounted in a recess therefor at the center of the wooden rail to engage the racks formed in the opposite metal slides (**44**, **44**, Fig. 16). This change in construction is so apparent that illustration thereof is considered unnecessary.

Although I have illustrated the preferred embodiment of my invention relating to improved slides or metal fixtures for extension tables to include certain modifications, it will be apparent that other modifications or changes may be resorted to within the spirit and scope of the appended claims.

The slides and slots by which they are slidably connected through the intervention of the loose rollers may be of different lengths in accordance with the size of extension table and number of leaves or fillers to be brought between the divided top sections, as for instance in Fig. 1 provision is made for a single filler while in Figs. 14 to 17 a greater extension of the top sections is provided for.

I claim:—

1. Slides for divided top sections of extension tables comprising rails, and means for connecting the rails together for sliding movement including a horizontal slot extending entirely through the body of each rail, said slots registering with each other, and a loose fitting roller in floating engagement with the companion slots in the rails to provide for a greater extension of said rails.

2. Metal slides for divided top sections of extension tables comprising angle rails, and means for connecting the rails together for sliding movement including horizontal slots in the vertical portion of said rails adapted to register with each other, and a loose fitting roller in floating engagement with the companion slots to provide for a greater extension of the rails.

3. Slides for divided top sections of extension tables comprising slides or rails, means for connecting the slides or rails for sliding movement including spaced apart horizontal slots extending through each slide and adapted to register with corresponding slots in the companion slide, and a loose fitting roller engaging each companion pair of slots to provide for a greater extension of the slides.

4. Slides for divided top sections of extension tables comprising rails, and means for connecting the rails together for sliding movement including a horizontal slot extending entirely through the body of each rail, said slots registering with each other, spaced apart rollers in floating engagement with the companion slots, a disk interposed between the rollers and rails, and a pin extending axially through the rollers and disk for connecting the parts together.

5. Slides for divided top sections of extension tables comprising rails, and means for connecting the rails together for sliding movement including a horizontal slot extending through the body of each rail, said slots registering with each other, spaced apart flanged rollers in floating engagement with the companion slots and outer sides of the rails, a disk interposed between the rollers and the rails, and a pin extending axially through the rollers and disk for connecting the parts together.

6. Metal slides for divided top sections of extension tables comprising angle rails, the vertical leg of each rail having spaced apart slots therein, the slots in one rail registering with corresponding slots in the other rail; together with rollers for connecting the rails for sliding movement, said rollers being in floating engagement with, and extending loosely through, companion slots in the slides.

7. Metal fixtures for extension tables comprising a rail in the form of a channel bar, each vertical leg of said channel bar having a horizontal slot therein, slides movable at one side of each leg of the channel bar, each slide having a horizontal slot registering with the corresponding slot in the leg of the channel bar, and a loose fitting roller in floating engagement with each pair of registering slots for connecting said slides to the channel bar.

8. Metal fixtures for extension tables comprising a rail in the form of a channel bar, said channel bar having horizontal slots therein, slides movable on the channel bar, each slide having a horizontal slot registering with a corresponding slot in the channel bar, and a loose fitting roller in floating engagement with each pair of registering slots; together with an equalizer device comprising cooperating racks and pinion on the channel bar and slides.

9. Metal fixtures for extension tables comprising a rail in the form of a channel bar, each vertical leg of said channel bar having two spaced apart horizontal slots therein, slides movable at opposite sides of the channel bar and each having two spaced apart horizontal slots registering with the corresponding slots in the legs of the channel bar, and a loose fitting roller in floating engagement with each pair of registering slots for connecting said slides to the channel bar.

10. Metal fixtures for extension tables comprising a rail in the form of a channel bar, each vertical leg of said channel bar having two spaced apart horizontal slots therein, slides movable at opposite sides of the channel bar and each having two spaced apart horizontal slots registering with the corresponding slots in the legs of the channel bar, and a loose fitting roller in floating engagement with each pair of registering slots for connecting said slides to the channel bar; together with an equalizer device comprising cooperating racks and pinion on the channel bar and slides.

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