

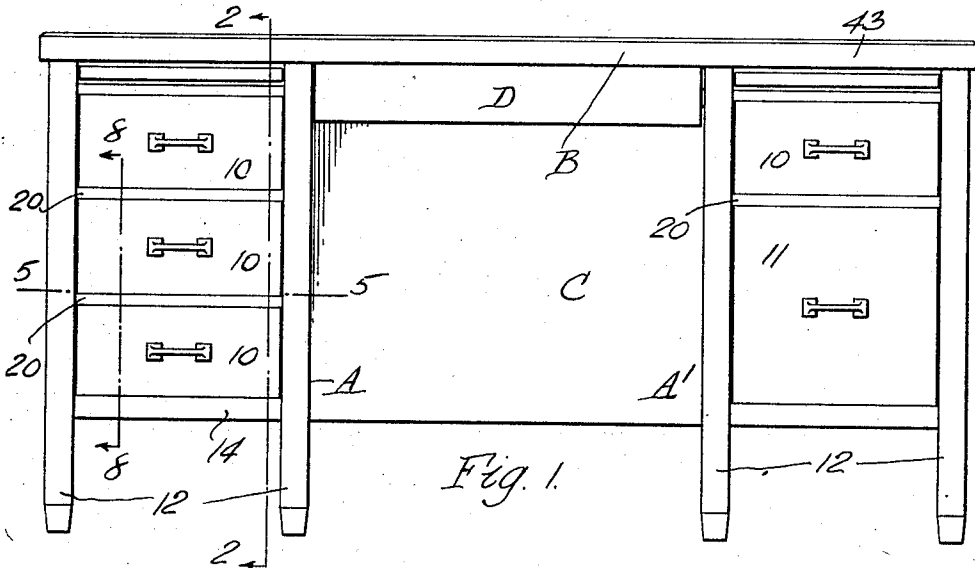
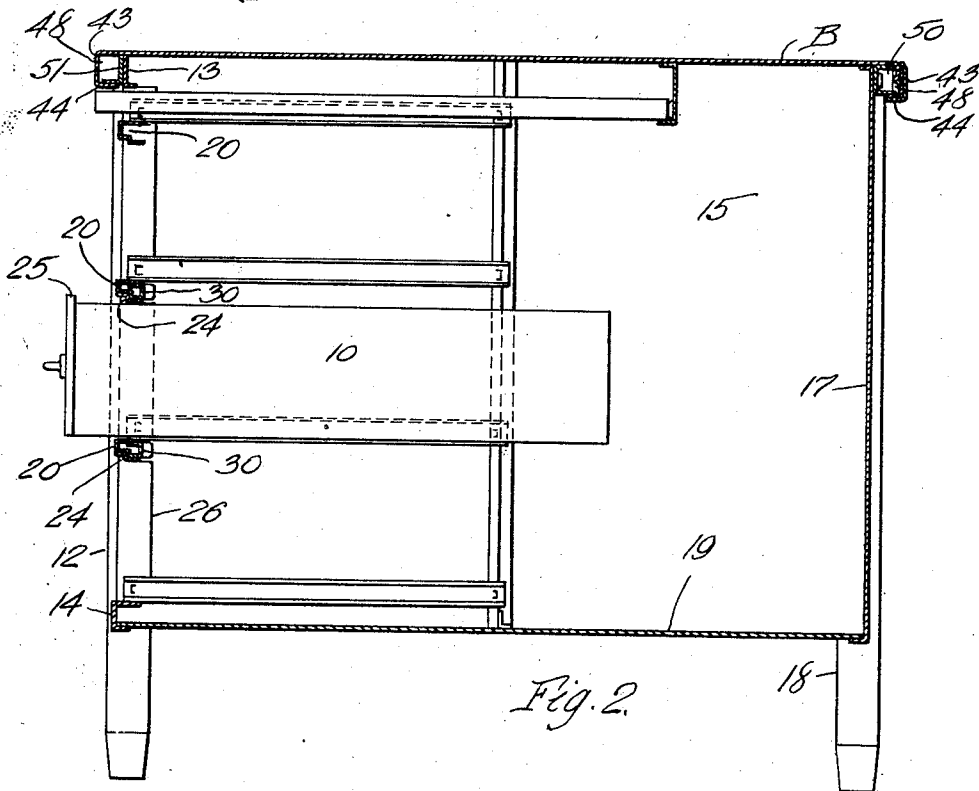
Sept. 23, 1930.

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METAL FURNITURE.

1,776,359

Filed Feb. 23, 1929

4 Sheets-Sheet 1



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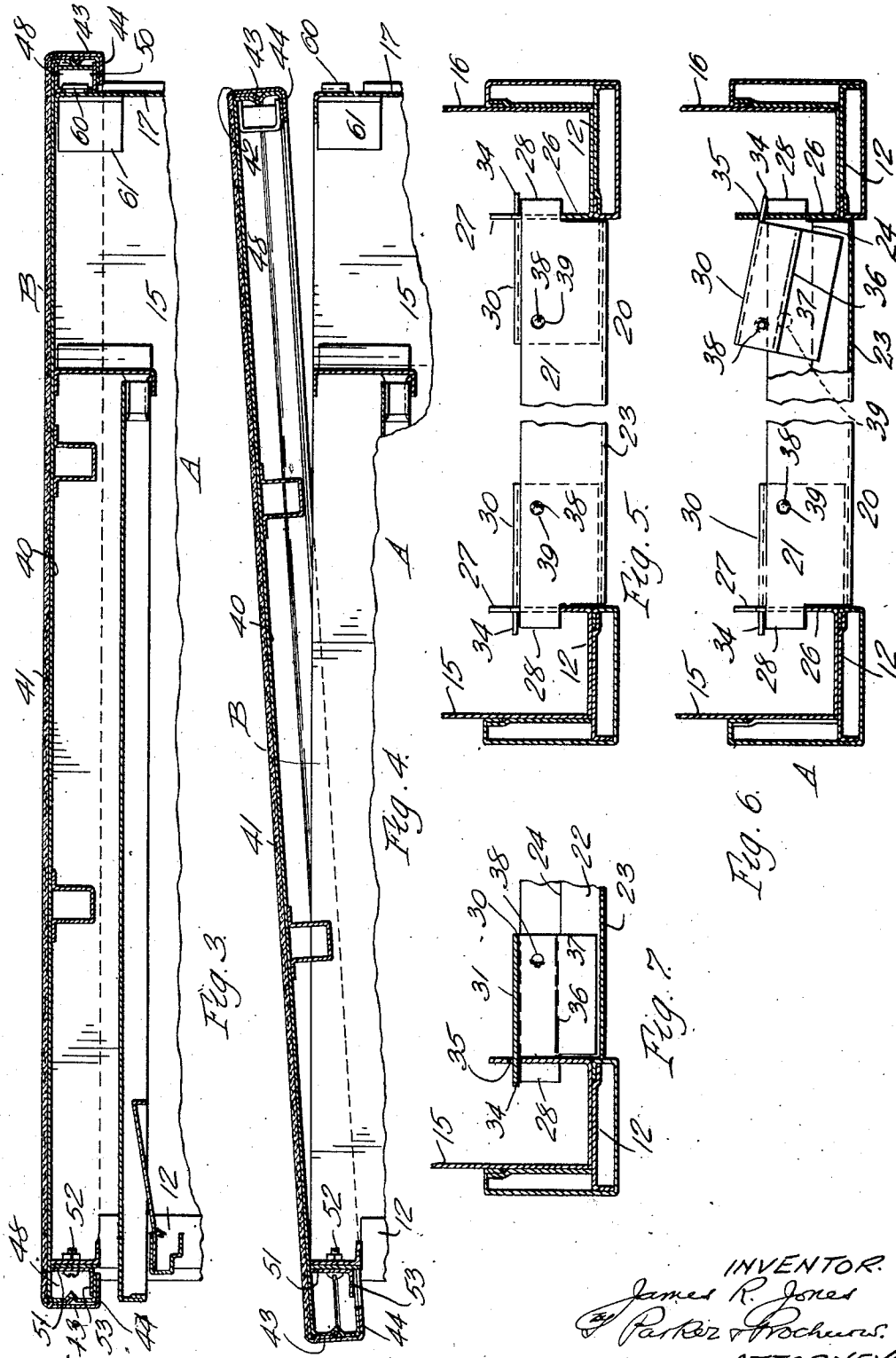
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Filed Feb. 23, 1929

4 Sheets-Sheet 2



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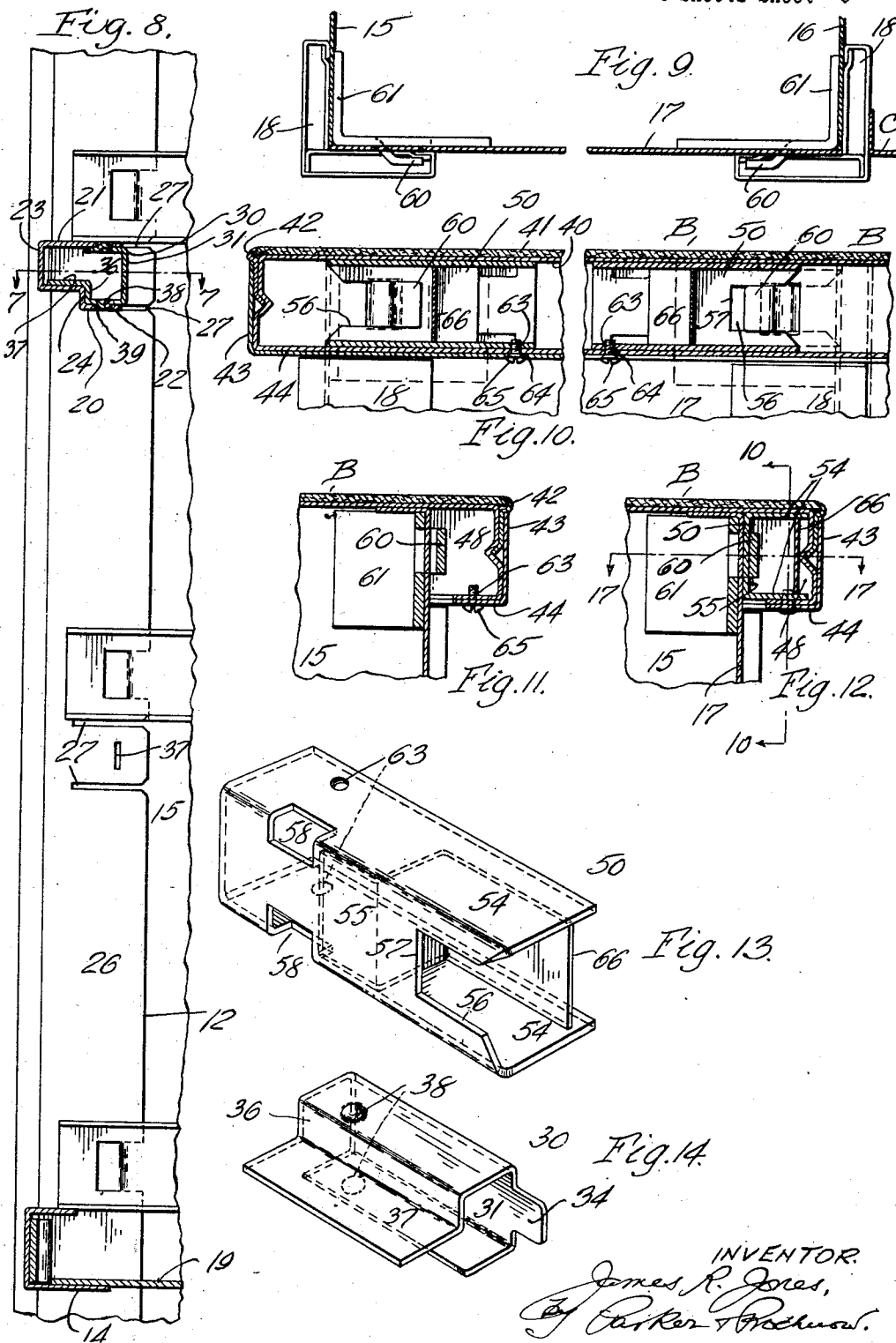
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Filed Feb. 23, 1929

4 Sheets-Sheet 3



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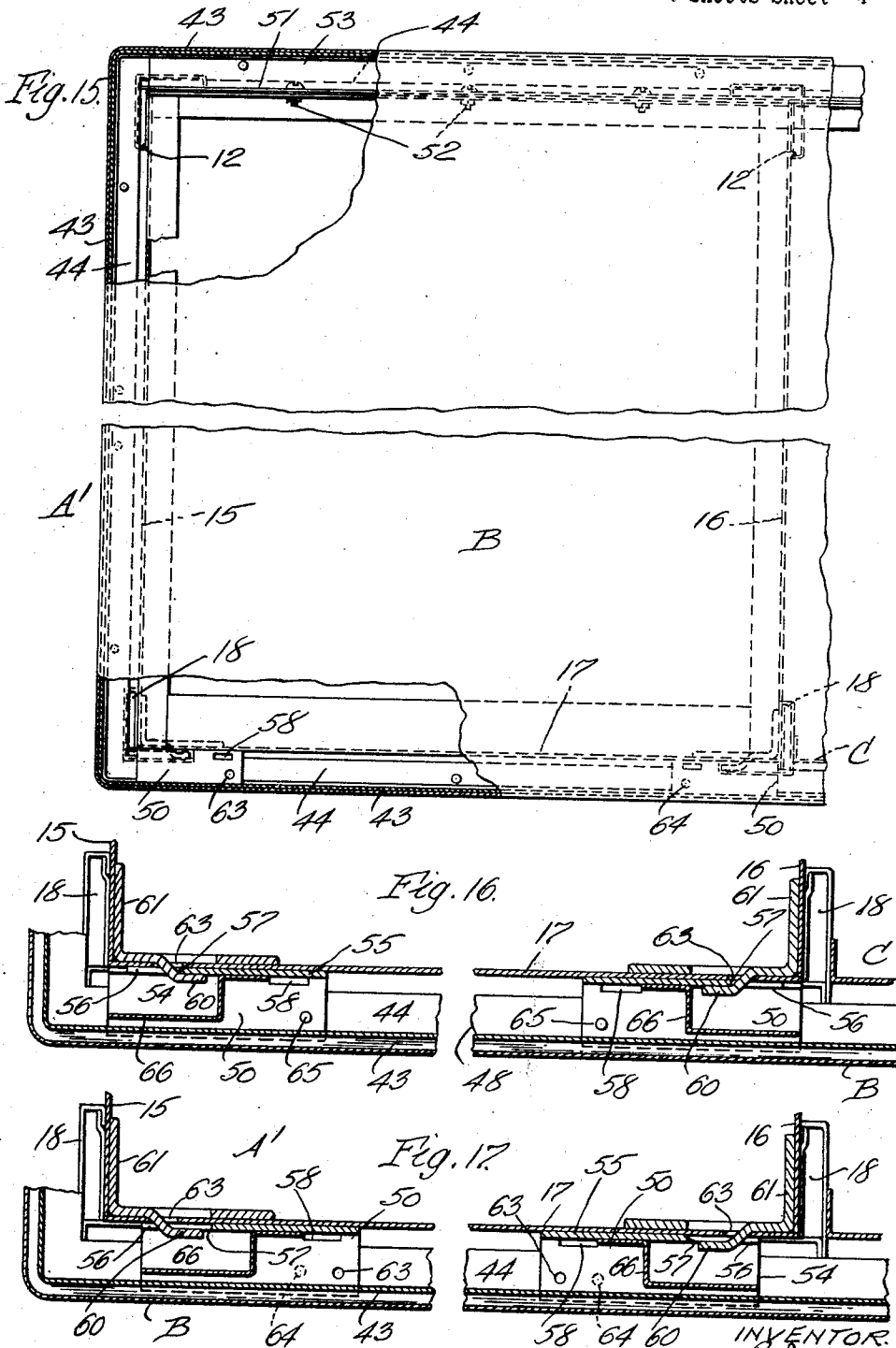
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Filed Feb. 23, 1929

4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

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METAL FURNITURE

Application filed February 23, 1929. Serial No. 342,256.

This invention relates to improvements in metal furniture, and particularly to pedestal desks, which are composed of separate sections which may be readily assembled or taken apart so as to effect a substantial saving in storage and in shipping space.

Desks of this type commonly comprise a pair of pedestals or sections arranged in spaced relation and connected by a desk top or member removably secured thereto, each pedestal containing a plurality of superimposed drawers or sliding members having their front walls separated by strike bars. For example, three shallow drawers may be arranged one above the other in one pedestal, while the other pedestal is provided with one shallow drawer and a deep storage drawer. It has been customary to provide other arrangements of the drawers in the pedestals to suit different individual requirements, which necessitates the production of a number of different styles of desks by the manufacturer, thus increasing the cost of production and requiring great space for the storage of the desks.

One of the objects of this invention is to provide an improved metal desk of the character set forth, wherein the pedestals are so constructed that the arrangement of the drawers may be changed at any time to suit individual requirements, without the necessity of sending the desk to the factory, and whereby such change may be made quickly and easily by an unskilled person; also to provide the desk pedestals or sections with removable strike bars which can be changed from one position to another in the same pedestal or from one pedestal to the other so that the large storage drawer can be located in any desired position in the pedestal at either side of the desk; and also to provide quickly detachable locking means or devices for securely holding the strike bars in place in the pedestals.

In order to permit the pedestals or body, and the tops of desks and analogous furniture to be shipped or transported in knock-down condition, and to be assembled where the furniture is to be used, it is desirable that readily operable means for rigidly and se-

curely fastening the top on the pedestals or body be provided. A further object of the invention, therefore, is to provide simple, practical and strong securing or fastening devices or means adapted to be readily used by unskilled persons for locking the top to or releasing it from the pedestals or body at any time; also to provide the top and the pedestals or body with interfitting or interlocking parts which, when placed in operative relation, act to guide the top into operative position on the pedestals or body; also to construct the aforesaid securing means or devices whereby they can be so arranged in a portion of the top that when the latter is placed into operative position on the pedestals, said securing devices can be readily moved into locking position for securely holding the desk top in place;

Other objects and advantages of the invention will be apparent from the following description and accompanying drawings of an embodiment of the invention, the novel features of which will be set forth in the appended claims.

In the drawings:

Fig. 1 is a front elevation of a desk embodying the invention.

Fig. 2 is a transverse, vertical section thereof, on an enlarged scale, on line 2—2, Fig. 1, with the top and bottom drawers removed.

Fig. 3 is a transverse, vertical section through the desk top and the adjacent portion of one of the desk pedestals or sections.

Fig. 4 is a similar view showing the desk top partly disconnected from said pedestal.

Fig. 5 is a fragmentary, horizontal section on an enlarged scale, approximately on line 5—5, Fig. 1, showing the connection between one of the strike bars and the legs of a pedestal.

Fig. 6 is a similar view with one of the releasable key members for holding the strike bars in operative position, partly removed.

Fig. 7 is a fragmentary, horizontal section, on an enlarged scale, of a portion of the desk pedestal on line 7—7, Fig. 8.

Fig. 8 is a fragmentary, vertical section on an enlarged scale, of one of the desk pedestals,

on line 8—8, Fig. 1, with the drawers removed.

Fig. 9 is a fragmentary, horizontal section of the two rear corners of the desk, with the desk top removed.

Fig. 10 is a fragmentary, vertical section on line 10—10, Fig. 12, showing the desk top secured to the pedestals, one of the securing devices being shown in partly released position.

Fig. 11 is a fragmentary, transverse, vertical section of the desk top and adjacent portion of the pedestal showing the interlocking tongue or portion on said pedestal with which a securing device engages.

Fig. 12 is a similar view with the securing device in operative relation to said tongue.

Fig. 13 is a perspective view of one of the securing or locking devices for securing the desk top to the desk pedestals.

Fig. 14 is a perspective view of one of the key members or detachable parts used for securing the strike bars in operative position on the pedestal.

Fig. 15 is a fragmentary plan view, partly in section, of the desk top and adjacent portion of one of the pedestals.

Fig. 16 is an enlarged, fragmentary plan view of the rear portion of the desk top and adjacent pedestal, with the securing devices in locked position.

Fig. 17 is a similar view with said securing devices in released position.

The desk shown in the drawings is of a standard type comprising a pair of spaced pedestals or sections A and A' formed of sheet metal and adapted to support and enclose a number of drawers 10 and 11. These pedestals are separated by the usual knee space and are connected by a detachable flat desk top B, also formed of sheet metal, and by a back wall or plate C. The desk may also be provided with a center drawer D arranged in the upper part of the knee space directly beneath the top B. The pedestals may be of any suitable construction. As shown in Figs. 1, 2, 15 and 16, each pedestal comprises a pair of spaced front legs or upright side members 12 rigidly connected by upper and lower bars or members 13 and 14, outer and inner side walls or panels 15 and 16 respectively, a back wall 17, rear corner legs or members 18 and also preferably a bottom wall 19. The pedestal is also provided with opposite side guides or members for guiding and supporting the drawers in the pedestals.

Each pedestal is provided between the top and bottom front cross members 13 and 14 with spaced, horizontal strike bars 20 against which the top edges of the drawer fronts strike or abut when the drawers are closed.

In the particular arrangement shown in Fig. 1, the left hand pedestal A is provided with three superimposed small or shallow drawers 10 of approximately the same size,

while the other or right hand pedestal A' is provided with one of the small drawers 10 beneath which is arranged a relatively large or deep drawer 11. The front of this drawer 11 is substantially equal in height to or occupies the same vertical space as two of the smaller drawers 10.

In accordance with the invention, the strike bars 20 are detachably secured in place at the fronts of the respective pedestals so that by removing one or the other of the strike bars 21 from the pedestals A, for example, two of the drawers 10, either the upper or lower two drawers, in this pedestal can be removed and replaced by the large drawer 11 from the other pedestal A'. These two drawers 10 removed from the left hand pedestal, can then replace the large drawer 11 in the pedestal A' by inserting the strike bar removed from the pedestal A into the pedestal A'. If desired, instead of placing the drawer 11 in the pedestal A, it can be moved to the upper part of the pedestal A' and the drawer 10 of this pedestal moved to the lower part thereof by merely changing the position of the strike bar 20 of said pedestal.

Each of the detachable strike bars 20, as shown in Figs. 5—8, is formed of sheet metal, of channel cross section, and comprises upper and lower horizontal flanges 21 and 22 connected by a vertical web 23 which forms the front of the strike bar. The lower flange 22 is provided between its edges with a shoulder 24 which forms a stop against which the upper edge portion of the drawer front 25 strikes when the drawer is fully closed.

Preferably, each strike bar extends between and is removably secured to the two front upright members 12 of the pedestal, by forming in the inner side wall 26 of each member a pair of rearwardly opening, horizontal slits 27 for each strike bar, in which laterally extending tongues or lugs 28 formed at the adjacent end of the strike bar are seated and secured, said lugs being preferably integral extensions of the upper and lower flanges 21 and 22 respectively of said strike bar. The slits 27 and lugs 28 are so proportioned that by passing the lugs 28 from the rear into the slits 27 until the front edges of the lugs 28 engage the ends of the slits, the strike bars will be correctly disposed relatively to the pedestal front.

The strike bar is detachably secured or locked in place in the slits 27 of the two members 12 by a pair of keys 30. These keys 30 are formed of sheet metal and each is of channel form and of such dimensions as to fit between the flanges 21 and 22 of the strike bar.

At one end of each key 30 the vertical wall 31 thereof is formed or provided with a reduced tongue or extension 34 which is

adapted to be inserted and fit into a vertical slot or aperture 35, one of which is formed in the side wall 26 between each pair of slits 27. An inwardly directed stop shoulder or offset 36 extending from the forward edge of one of the key flanges terminates in a forwardly projecting stiffening flange 37.

By inserting two of the keys into the channel of a strike bar with their vertical walls 31 at the rear and with the tongues 34 extending towards the respective uprights 12 of the pedestal, the offsets 36 will engage the stop or abutment 24 of the strike bar, and then by moving the respective key members towards the ends of the strike bar, the tongues 34 will pass into the corresponding aperture 35, thus detachably connecting the strike bar to the legs of the pedestal.

In order to releasably maintain the keys in their intended locking relation and prevent them from becoming accidentally dislodged in the use of the desk, while nevertheless enabling them to be readily removed when it is desired to disconnect the strike bars, releasably holding means for the keys are provided.

Preferably, the upper and lower flanges of each key are provided with small, outwardly extending, rounded projections or blisters 38, so disposed that when the key is pressed into its correct locking position, they will engage in seats or recesses 39, Fig. 8, in the upper and lower flanges 31 and 32 of the strike bars 20.

In order to seat the projections 38 in said seats 39, it is necessary to use force sufficient to cause the flanges of the strike bars or of the keys to yield or spring as these projections engage the strike bar flanges, and when said projections register with said seats, they will snap into place therein. In the construction illustrated in the drawings, a pair of keys 30 is provided for each strike bar. If desired, however, the slits 27 in one of the uprights 12 could be closed and the tongues 28 at one end of a strike bar inserted endwise therein, after which the other pair of tongues 28 could be passed into the open slits 27 in the other upright of the pedestal, and this end of the strike bar then releasably secured to the pedestal by a single key 30.

In order to avoid the necessity of two sets of dies for producing right and left hand keys, the keys are all made alike, one key of each pair being reversed, see Fig. 6, so that its flange having the shoulder 36 is at the top. However, if desired, right and left hand keys may be provided.

The keys can be readily removed when it is desired to detach a strike bar by prying them out by means of a screw driver or other appropriate tool adapted to be inserted between the flanges of the keys at their inner ends.

The desk top B shown is formed of sheet

metal and is of known construction, comprising a flat, horizontal metal plate 40 on which is secured a cover sheet of linoleum or other covering material 41, the edges of which are bound and protected by a suitable binding strip 42. The edges of the metal plate 40 are bent to form a depending, substantially vertical, marginal edge 43 terminating in an inwardly extending, horizontal flange 44.

When the desk top B is in operative position, the metal plate 40 thereof rests on the top edges of the vertical walls of the desk body or pedestals A and A' and the back wall C, with the depending edge 43 disposed outwardly beyond or in spaced relation to said walls and also to the fronts of the pedestals. Thus, the edge 43, the flange 44 and the adjacent portions of the top plate 40, together form an inwardly facing, marginal channel 48 extending all around the desk body.

Top securing devices or keys 50 are provided which are arranged in the channel 48 and are movable into and out of operative, interlocking engagement with fixed parts of the desk in a manner to detachably secure the top B in place on the body, as will now be explained.

Preferably, in order to reduce the number of manipulations required to secure the top to the body, and also to reduce the number of loose parts, these securing devices are arranged in the channel 48 at one side only of the desk top, namely the rear side in the desk shown, and a suitable fixed member is provided at the opposite or front side of the desk which is adapted to enter the channel 48 at that side and engage with a part of the top so as to cooperate with the movable securing devices to firmly and rigidly secure the top in place.

The fixed member shown for this purpose, see Figs. 2, 4 and 15, comprises an angle bar or cleat 51, one flange of which extends vertically upwards beside and is secured to the upper, fixed front cross members 13 of the pedestals A, A', by bolts or other fastening devices 52. The bar 51 preferably extends entirely across the front of the desk, bridging the space between the pedestals and bracing the desk front when the top is disconnected. The other flange 53 of the bar 51 extends forwardly and is so positioned that when the top B is in place, the adjacent flange 44 thereof extends inwardly beneath and bears firmly up against said flange 53.

The securing devices or keys 50 are preferably made of sheet metal and of the form shown in Fig. 13. Each key is of channel cross section, having spaced horizontal flanges 54 connected by a vertical web 55. The web 55 is provided at one end with a notch 56 having a vertical edge or part 57, and at a distance therefrom, holes 58 are provided in the corners or angles of the key.

As shown in Figs. 12, 15, and 17, each key 50 is adapted to fit in the channel 48 of the desk top B, with its flanges 54 engaging the corresponding horizontal walls of said channel, and with its vertical web 55 facing inwardly or towards the desk. Preferably, also an edge of one of said flanges 54 engages the inner face of the vertical edge 43 of the top, the parts being so proportioned, that as a result, the web 55 bears against the adjacent rear walls of the body when the desk top is in position for use.

In this position of the securing devices 50, the holes 58 therein will be disposed above or register with the space between the edge of the flange 44 of the top and the back of the body.

When the desk is to be assembled, a number of securing devices 50 are arranged in the channel 48 at the rear edge of the desk top B in the relation just described, and then the top is placed over the desk and inclined as shown in Fig. 4. By now moving the top rearwardly while so inclined, the front, horizontal flange 44 thereof can be hooked or engaged beneath the horizontal flange of the fixed cleat 51. The top is then lowered into its horizontal position, see Fig. 3, and by inserting a suitable tool upwardly into one of the holes 58 of each securing device, said device can be moved or slid endwise in the channel 48 into locking engagement with the cooperating fixed part provided on the desk.

In the construction shown, these fixed parts, see Figs. 9 and 12, 16 and 17, comprise fixed lugs or tongues 60 having rearwardly, offset free ends or portions which are spaced slightly from the rear or adjacent wall of the desk so that the edge portions 57 of the keys 50 will engage and fit snugly between said lugs and said wall when said keys are moved endwise towards the lugs. Preferably the tongues 60 are struck out from sheet metal angle pieces 61 which are welded or otherwise rigidly secured in the corners formed by the side and back walls of each pedestal. Each tongue extends through a hole 63 in the rear wall 17 into the channel 48. Preferably, there are two lugs 60 adjacent or back of each pedestal, these being extended in opposite directions, and a corresponding number of securing devices 50 are arranged in the channel 48 of the top in such position on the desk that they can be easily moved into locking relation to the lugs 60. A reverse movement, will of course, serve to disconnect the keys 50 from the lugs 60. The lugs 60 and the slots 56 in the keys are of substantially the same vertical dimensions, so that when the top is connected as described, there will be no play or relative looseness between the top and body.

The flanges 54 of each key are provided with holes 63, one of which, when the key is in

locking position, registers with a threaded hole 64 extending through the flange 44 of the top, whereby a screw or the like 65 can be inserted so as to extend into the lower hole 63 of the key to prevent the disengagement of the latter.

These securing devices or keys are preferably each provided with a bent or offset metal reinforcing strip 66, one end of which is welded to the web of the key, as shown. The edges of the strip engage the opposed inner faces of the flanges of the key and act to brace and prevent deformation of said key should an implement be forced or hammered against the flanges in an attempt to release the key.

I claim as my invention:

1. In metal furniture, connecting means for securing together two furniture members, one of which is formed with a channeled part, said connecting means comprising a key slidably disposed in said channeled part of said member and having a part formed to interlock with a part on said other member when said key is moved endwise in said channel, whereby said members are secured together, and releasable means for holding said key in securing position.

2. In metal furniture, the combination of two members, interfitting parts on said members for guiding and positioning one of said members into operative connected relation to the other, a channeled part on one of said members, and connecting means for securing said members together, said connecting means comprising a key slidably disposed in said channeled part of said member and having a part formed to interlock with a part on said other member when moved endwise in said channel, whereby said members are secured together, and means for holding said key in locking position.

3. In metal furniture, connecting means for detachably securing together two furniture members, one of which is formed with a channeled part, said connecting means comprising a sheet metal key of channel form slidably disposed in said channeled part of said member and having a part arranged to interlock with a part on said other member when said key is moved endwise in said channel, whereby said members are secured together, stop means for arresting said key member when in its locking position, and releasable means for retaining said key in locking position.

4. In metal furniture, connecting means for detachably securing together two furniture members, one of which is formed with a channelled part, said connecting means comprising a key slidably disposed in and frictionally engaging the walls of said channelled part of said member, said key having a part formed to interlock with a part on said other member when moved endwise in said

channel, whereby said members are secured together, and releasable means for retaining said key member in its locking position.

5. In metal furniture, a pair of spaced side members, a plurality of drawers between said members, bars connecting said members between the fronts of adjacent drawers, and means for detachably securing each of said bars in place comprising interfitting parts on said bar and said members, and a key movably engaging an end portion of said bar and having a part to interlock with a part on the adjacent side member to releasably maintain said bar in interfitting relation with said side member.

6. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal strike bars connecting said members between the fronts of adjacent drawers, and means for detachably securing each of said strike bars in place, comprising interfitting parts on said bar and said side members, and a key movably engaging an end portion of said strike bar and having a part to interlock with a part on the adjacent side member to releasably maintain said bar in interfitting relation with said side member.

7. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal channeled strike bars connecting said side members between the fronts of adjacent drawers, and means for detachably securing each of said bars in place comprising interfitting parts on said bar and said side members, and a key disposed and releasably held within an end portion of said channeled bar and having a part to interlock with a part on the adjacent side member to detachably maintain said bar in interfitting relation with said side member.

8. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal channeled strike bars connecting said side members between the fronts of adjacent drawers, said side members having slits formed therein, lugs at the ends of each of said strike bars and which fit in said slits, and keys disposed within said channeled strike bar and each having a part to interlock with a part on one of said side members to detachably secure said strike bar lugs in the slits in said side members.

9. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal channeled strike bars connecting said side members between the fronts of adjacent drawers, said side members having open ended horizontal slits formed therein, lugs at the ends of each of said strike bars and which are adapted to be passed edgewise into and seat within said slits, said side members also having a

slot formed adjacent each of said strike bars, and keys movably mounted on the end portions of each of said strike bars and each having a tongue to enter said slot in the adjacent side member by the movement of said key relative to said strike bar to detachably secure said strike bar lugs in said slits in said side members.

10. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal metal strike bars connecting said members between the fronts of adjacent drawers, each of said bars being substantially of channel cross section and having upper and lower spaced flanges, lugs at the ends of said flanges adapted to fit in slits in said side members, and a key disposed in each end portion of said channeled bar, a tongue on said key adapted to enter a slot in the adjacent side member to releasably lock said strike bar thereto, and said key having a part adapted to frictionally engage a part on said strike bar for holding said key in its locking position.

11. In metal furniture, a pair of spaced side members, a plurality of superposed drawers between said members, horizontal metal strike bars connecting said members between the fronts of adjacent drawers, each of said bars being substantially of channel cross section and having upper and lower spaced flanges, lugs at the ends of said flanges adapted to fit in slits in said side members, and a key disposed in each end portion of said channeled bar, a tongue on said key adapted to enter a slot in the adjacent side member to releasably lock said strike bar thereto, and said key having projections adapted to snap into seats in said strike bar flanges when said key is moved into its locking position to releasably hold said key in such position.

12. In furniture, a pair of spaced side members, a plurality of drawers of different vertical dimensions disposed between said members, one or more horizontal strike bars extending between said members and separating the fronts of adjacent drawers, said strike bars being detachable and interchangeable to different positions to permit said drawers to be arranged in different desired order between said side members.

13. In furniture, a pair of spaced side members, a plurality of drawers of different vertical dimensions disposed between said members, one or more horizontal strike bars extending between said members and separating the fronts of adjacent drawers, said side members having parts adapted to detachably interlock with said strike bars in different positions of the strike bars, whereby said bars are detachably secured in place, and whereby they may be arranged in different positions to permit said drawers to be

disposed in different desired order between said side members.

14. An article of furniture having a plurality of drawer pedestals each comprising a pair of spaced side members, and one or more horizontal strike bars extending between the side members, a plurality of drawers of different vertical dimension disposed in said pedestals between the side members thereof with the fronts of the drawers separated by said strike bars, said strike bars being detachable and interchangeable to different positions between the side members to permit said drawers to be arranged in different desired order in the pedestal.

15. In metal furniture, a body, a top having a depending inwardly facing channeled portion extending about said body, and means for securing said top on said body comprising a plurality of fixed parts projecting from said body, and securing devices which are slidably arranged in said channeled portion of said top and are movable into interlocking relation with said fixed projecting parts.

16. In metal furniture, a body, a top having a depending inwardly facing channeled portion extending about said body, and means for securing said top on said body comprising a fixed offset lug projecting from said body, and a channel-shaped securing device which is slidably arranged within said channeled portion of said top and is provided with a portion adapted to interlock with said lug by an endwise movement of said device for rigidly locking said top to said pedestal, and means engageable with said securing device for releasably maintaining said device in locking position.

17. In metal furniture, a body, a top having a depending marginal edge terminating in an inwardly directed flange and forming an inwardly facing channel extending about said body, and means for securing said top on said body comprising an outwardly extending fixed part on said body at one side thereof and projecting into said channel of said top in engagement with said flange at that side of said body, a fixed part on said body at the opposite side thereof, and a securing device in said top channel at the latter side of the body and which is adapted to be moved into interlocking engagement with said fixed part.

18. In metal furniture, a body, a top having a depending marginal edge terminating in an inwardly directed flange and forming an inwardly facing channel extending about said body, and means for securing said top on said body comprising an outwardly extending fixed part on said body at one side thereof and projecting into said channel of said top in engagement with said flange at that side of said body, an offset lug projecting from the opposite side of said body with-

in said channel of said top, a securing device in said channel movable towards and from said offset lug, said securing device having a part adapted to interlock with said lug to cooperate with said fixed part at the opposite side of the body to hold said top rigidly on said body, and means for releasably maintaining said securing device in locking position.

19. In metal furniture, a body having upright side walls, a top having a depending edge terminating in an inwardly directed flange and forming an inwardly facing channel extending about said body walls, means for securing said top on said body comprising an outwardly extending fixed part on said body at one side thereof and projecting into said channel in engagement with a part thereof at that side of said body, a fixed part on said body at the opposite side thereof, a securing device in said top channel at the latter side of the body and which is adapted to be moved into interlocking engagement with said latter fixed part, and said securing device being formed to extend between and engage the inner face of said channel and the opposed side wall of said body to prevent said top from shifting transversely relatively to said body.

20. In metal furniture, a body having upright side walls, a top having a depending edge terminating in an inwardly directed flange and forming an inwardly facing channel extending about said body walls with said flange terminating short of the opposed side wall of said body to leave a space therebetween, means for securing said top on said body comprising fixed parts projecting into said channel at one or more sides of said body, and securing devices slidably arranged in said channels for movement into interlocking engagement with said fixed parts, said securing devices being formed to extend over the space between said flange and the opposed side walls of said body, and each device having a hole registering with said space into which a tool can be inserted through said space, whereby said devices can be shifted into and out of interlocking relation to said fixed body parts.

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