Nov. 10, 1931. P. M. WEGE 1,831,471

KNOCKDOWN METAL DESK

Filed Nov. 8, 1926 4 Sheets-Sheet 1

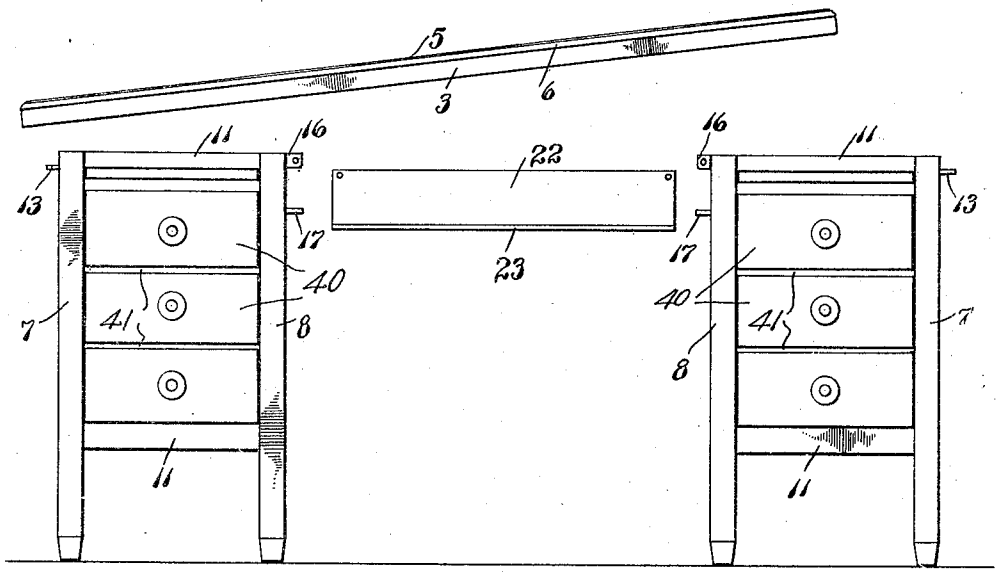


Fig. 1.

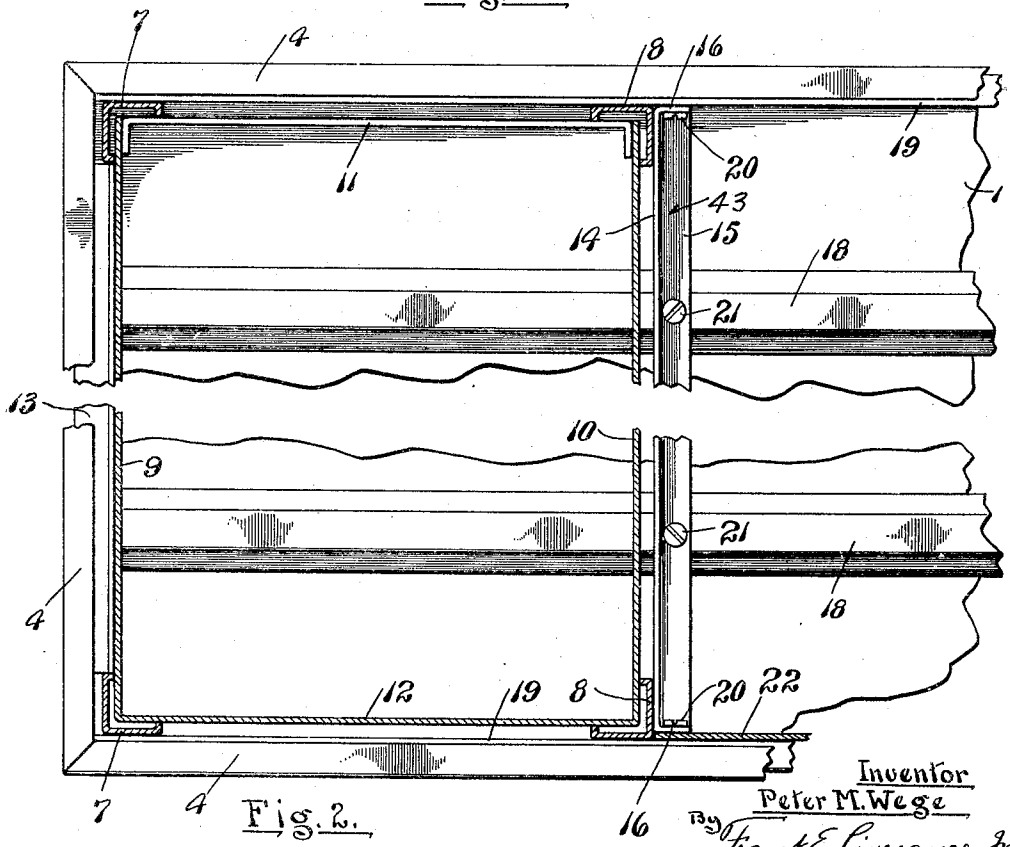


Fig. 2.

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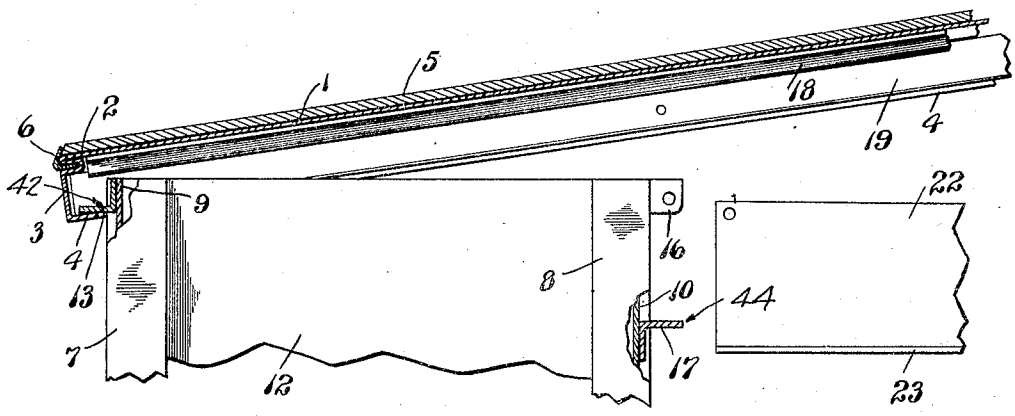


Fig. 3.

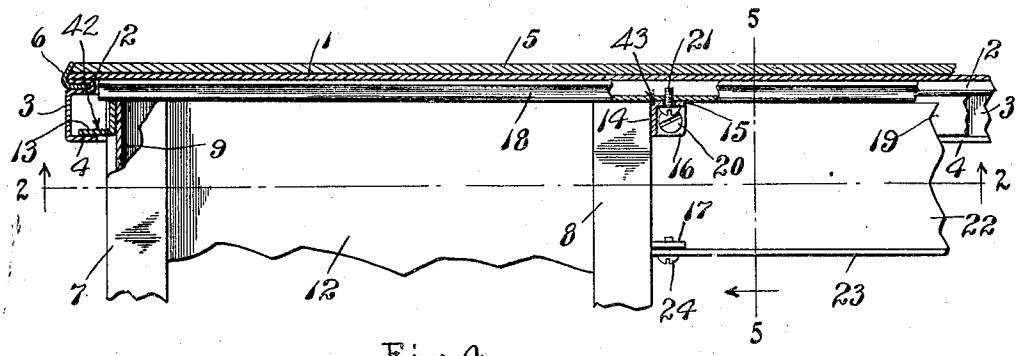


Fig. 4.

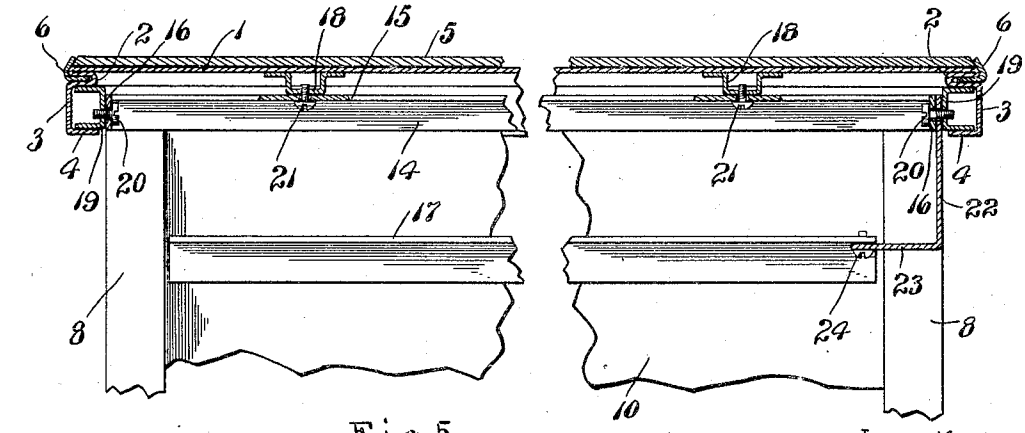


Fig. 5.

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KNOCKDOWN METAL DESK

Filed Nov. 8, 1926 4 Sheets-Sheet 3

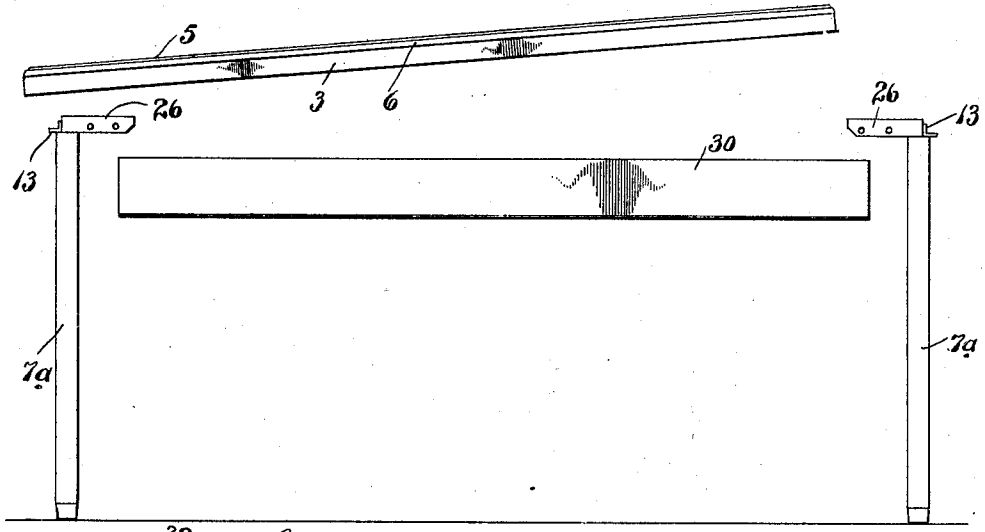


Fig. 6.

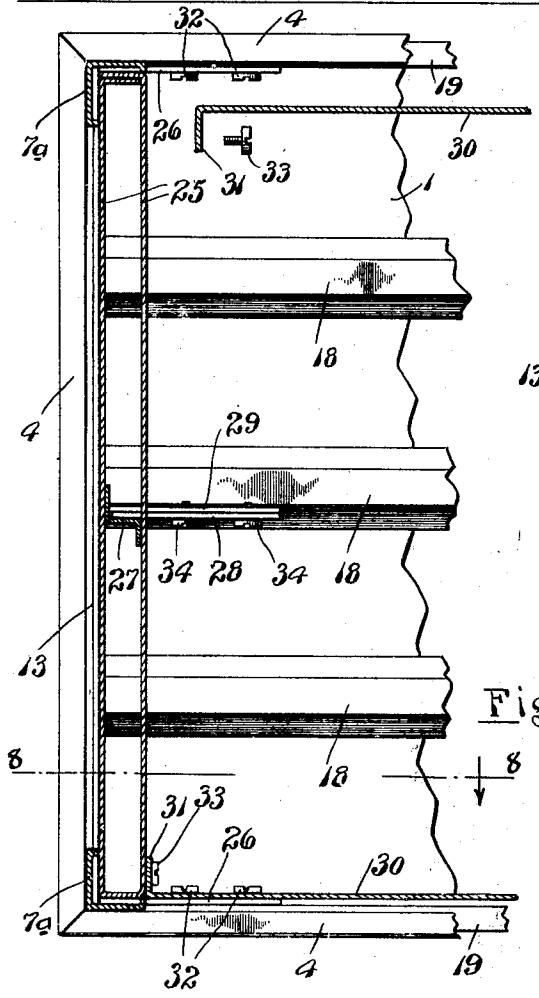


Fig. 7.

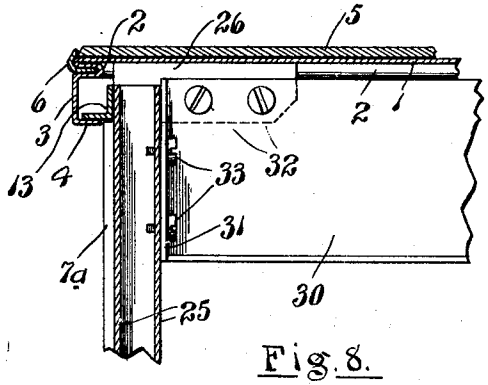


Fig. 8.

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KNOCKDOWN METAL DESK

Filed Nov. 8, 1926 4 Sheets-Sheet 4

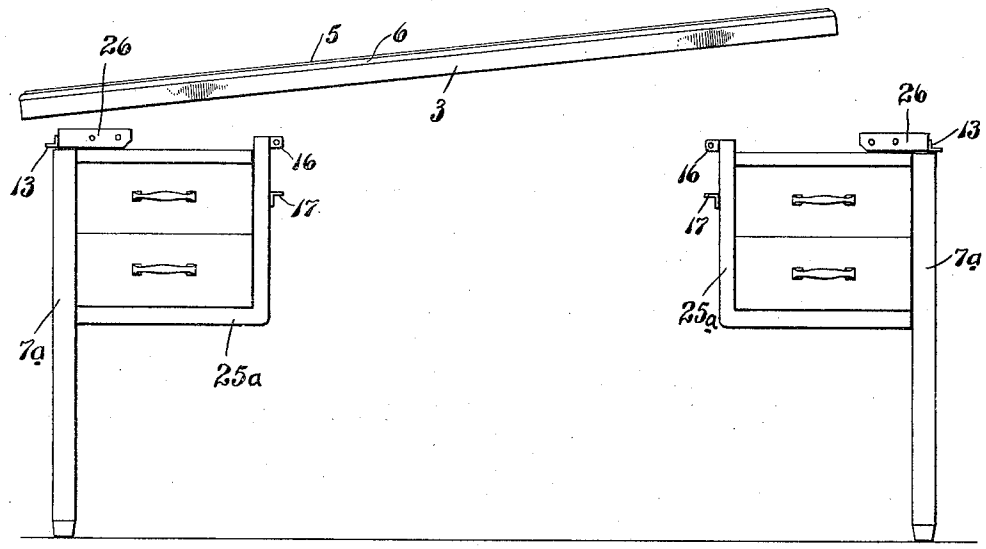


Fig. 9.

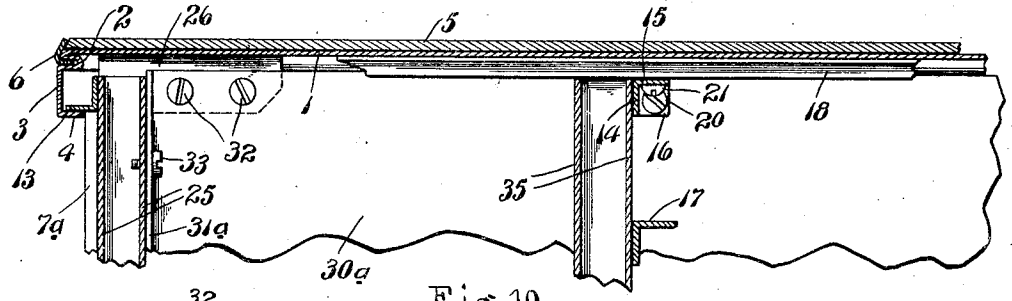


Fig. 10.

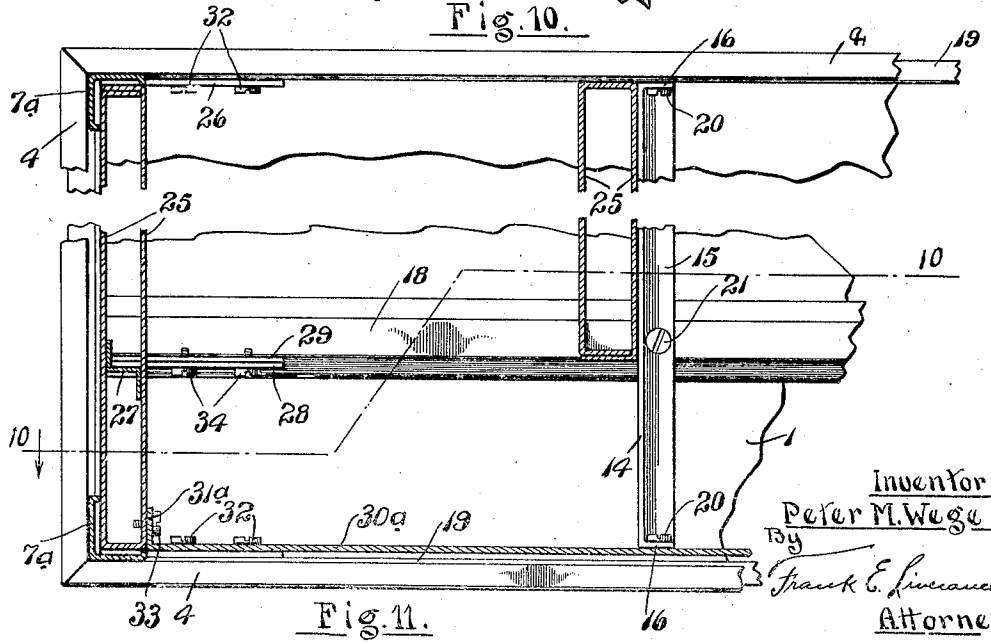


Fig. 11.

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UNITED STATES PATENT OFFICE

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KNOCKDOWN METAL DESK

Application filed November 8, 1926. Serial No. 146,942.

This invention relates to a knock down metal desk being particularly concerned with a very simple, practical and economical construction relating to desks or similar furniture, whereby the same may be shipped disassembled so as to occupy smaller space than when assembled and which, when it reaches its destination, may be very quickly and easily assembled without the use of tools other than a screw driver. This construction, by means of which a ready assembly or disassembly of the parts making up the desk is attained, is also very useful in case of moving the desk from one place to another where it is necessary to pass through door openings of a width such that the desk does not readily go through.

It is a primary object and purpose of the present invention to provide a knock down desk construction having many novel features of construction so that quick and easy assembly or disassembly may be had and which, when it is once assembled, is of a strong and rigid nature.

For an understanding of the invention whereby these ends, as well as many others are attained, reference may be had to the following description taken in connection with the accompanying drawings, in which:

Fig. 1 is a front elevation showing the various parts of the desk which are to be assembled together, the same being separated and disassembled.

Fig. 2 is a fragmentary enlarged horizontal section on the plane of line 2—2 of Fig. 4, looking upward against the under side of the desk top.

Fig. 3 is a partial rear elevation and horizontal section illustrating the manner in which the desk pedestal and top are applied to each other.

Fig. 4 is a view similar to Fig. 3 showing the parts illustrated in Fig. 3 in assembled relation, and

Fig. 5 is a vertical section taken substantially on the plane of line 5—5 of Fig. 4.

Fig. 6 is a view similar to Fig. 1 illustrating the invention when it is used in constructing a table.

Fig. 7 is a fragmentary enlarged horizontal section through one end of the table looking upward against the under side of the top.

Fig. 8 is a fragmentary vertical section substantially on the plane of line 8—8 of Fig. 7.

Fig. 9 is a view similar to Figs. 1 and 6, showing the invention applied to a table combining features of both a table and desk.

Fig. 10 is a fragmentary vertical section substantially on the plane of line 10—10 of Fig. 11, and

Fig. 11 is a fragmentary horizontal section through the desks shown in Figs. 9 and 10, the plane of the section being below the top and the view looking upward against the under side of the top.

Like reference characters refer to like parts in the different figures of the drawings.

I have heretofore made application for patent for a linoleum covered top for furniture now pending and having Ser. No. 121,769 which was filed July 12, 1926. That top structure lends itself readily to the invention disclosed herein. In such top structure a horizontal metal plate 1 having length and width as desired for a desk, at its sides and ends is turned underneath backwardly on itself, then formed into U-shaped loops 2, the metal being then extended downwardly as indicated at 3 for a short distance and then turned inwardly at right angles as at 4, whereby in effect, channels are made entirely around the desk top and at each side and end, the webs of said channels being provided by the vertical sections 3 and the flanges by the under legs of the loops 2 and the flanges 4, as shown. The linoleum covering 5 lies over the top plate 1 and is retained by means of suitable border strips 6 which are inserted in the U-shaped loops 2 as shown in Figs. 3, 4 and 5. This construction of desk top per se does not form any of the subject matter of the present invention, being fully shown described and claimed in my earlier application to which reference is made above.

The desk pedestals include in their construction front and rear outer posts 7 of sheet metal and front and rear inner posts 8 also of sheet metal and identical in construction with the posts 7. Panels 9 and 10 ex-

tend between the posts 7 and posts 8 respectively and a back panel 12 extends between the rear posts 7 and 8, the panels 9, 10 and 12 being preferably formed by bending a single piece of sheet metal into shape as best shown in Fig. 2. At the front, suitable cross bars 11 extend between the front edge portions of the side panels 9 and 10, shown in Fig. 2 so as to define the opening for the drawers 40 and for the usual slide 41 which is located near the upper end of a desk pedestal.

At the outer side and near the upper edge of the panel 9 of each of the pedestals used in a desk, an angle iron 42 is permanently secured by spot welding or equivalent means, the same being disposed horizontally and having an outwardly extending horizontal flange 13. This angle bar lies between the outer posts 7 of each desk pedestal.

At the inner side of each desk pedestal and at the upper end thereof an angle bar 43 is located having a vertical flange 14, a horizontal flange 15 and at each end of one of said flange, preferably the vertical flange 14, is turned at right angles making the vertical end portions 16. This angle bar is secured to the inner posts 8 of the desk pedestal and the end 16 at the front lies in the same plane with the front side of the post 8 while at the rear it lies slightly within the plane of the outer side of the post 8 for a purpose which will later appear. The attachment of the angle bar to the posts 8 is by spot welding or any equivalent means for permanently securing the same together. Below each of the angle members thus described at the inner side of each desk pedestal a second angle member 44 is secured, lying against the panel 10 to which it is spot welded and having a horizontally projecting leg 17, as shown in Figs. 3 and 4.

To the under side of the top plate 1 reinforcing channels 18 of sheet metal are permanently secured. These also serve to properly space the top plate 1 above the upper ends of the desk pedestals and are further of utility for attaching the top in place as will later appear.

In the assembly of the construction thus far described a desk pedestal and the top may be placed together, the flange 4 at one end of the top passing underneath the flange 13 as shown in Fig. 3. Before this is done a channel member or bar 19 is disposed in each side of the top above the flanges 4 and below the U-shaped loops 2, this being best shown in Fig. 5. When the top is applied to the pedestal, as indicated in Fig. 3, and then brought down to horizontal position, as shown in Fig. 4, the end 16 which lies flush with the front side of the post 8 comes against the web of the adjacent channel 19 and a screw 20 is passed through the said end 16 and threaded through the web of the channel. Likewise the horizontal flanges 15 of the angle bars 43 come directly underneath the webs of the reinforcing channels 18 and screws 21 are passed upwardly through said flanges 15 into screw threaded openings in the webs of the channels 18. Both pedestals may be applied to the top in this manner. While in Fig. 3 the top is shown as being applied to the upper end of a pedestal, in practice the top is laid on the floor with the linoleum covering 5 down and the pedestal turned so that its upper end is down and then applied to the top. And after the assembly is complete the desk is merely righted to position. This is for the reason that the application of the screws 20 and 21 is easier in this manner than it is to get down underneath the top and between the pedestals if the desk is assembled with the top upon the upper ends of the desk pedestals, as shown in Fig. 3.

The well between the two pedestals at the back is normally partially closed at its upper end at least, and some times for its entire height by a panel or plate; and in the present structure I have shown a plate of sheet metal 22 formed with a forwardly turned lower flange 23. The upper edge of the plate 22 is placed between the web of the adjacent channel 19 and the rear ends 16 made on the angle members having the legs 14 and 15 so that the screws 20 used at this place pass through said rear ends 16, the plate 22, and into the web of the channel 19. The lower flange 23 comes underneath the horizontal flanges 17 of the angle bars 44 and screws 24 pass upwardly through the flange 23 into the said flanges 17. The flanges 17 serve as drawer supports and guides while the plate 22 closes the back of the central drawer compartment in the desk, a central drawer between the two desk pedestals is almost universally used in desk constructions.

Merely removing screws 20, 21 and 24 permits a disassembly of the top from the desk pedestals and the plate 22 is also freed at the same time. The construction may be very quickly disassembled should it ever be necessary to do so and it is evident that by reason of this simple and practical method of desk assembly the parts of the desk may be shipped so as to occupy the least possible space. When the destination is reached they are very rapidly assembled all that is required being a screw driver to drive the screws 20, 21 and 24. The flanges 4 at the ends of the top passing the screws 20, and 21 bind the parts very rigidly and securely together so that the desk, when assembled, is as rigid as though welded at the points where the screws are used.

In Figs. 6, 7 and 8 I have shown the invention applied in connection with a table. The top is of exactly the same construction as previously described but in place of the desk pedestals, and supports are provided which consist of posts 7*a*, spaced apart, and located

one at each end of an end panel of sheet metal, which includes two spaced apart sides 25 with end portions which bear against the inner sides of the posts 7*a*. At each end of the panel and above the upper end of each post a bar 26 is secured by welding or in any other suitable permanent manner which extends inwardly under the top so as to lie against the webs of the channel members 19. Substantially midway between the edges of the panel a Z-bar 27 is located, secured to the web of which is a similar inwardly extending bar 28. On the adjacent channel reinforcing rib 18 a flat bar 29 is permanently secured so that the two bars 28 and 29 lie along side of each other when the ends are assembled with the top.

The table is completed by two side members 30 of sheet metal, each of which at each end is formed with an inturned flange 31 and it also may be provided with an inturned flange at its lower edge. In the assembly of the parts, the outwardly extending flanges 13 of the angle bars which are attached at the upper ends of the posts at each end of the table, lie over the lower flanges 4 of the channel like ends of the table top, the bars 28 at each end of the construction lie against the bars 29 on the channel reinforcing rib 18, and the bars 28 come against the webs of the channel members 19. The side members 30 are located between the ends of the construction and underneath the top, coming against the bars 26 while the flanges 31 lie against the inner sides 25 of the panels at the ends of said construction. Screws 32 are passed through the members 30 and bars 26 into the webs of the channel members 19. Screws 33 are passed through the flanges 31 into the inner sides of the panels and screws 34 through the bars 28 and bars 29. This makes a very rigid and secure connection but one which may be very readily made by anyone using only a screwdriver. The same simplicity of assembly and disassembly is present in this construction as in the desk construction first described. The parts used to make up the table may be equipped in diassembled form so as to occupy little space and when the designation is reached they can be very rapidly assembled; and with this construction, as with the desk construction previously described, disassembly is quickly accomplished should it ever be necessary.

In Figs. 9, 10, and 11 a still further form of construction is illustrated wherein the invention is utilized. In this case the top and the ends are identical in construction with that shown in Figs. 6, 7 and 8. However, each end is utilized to support drawers and this is done by attaching to the end panels 25 supporting members of right angle form indicated at 25*a* which extend inwardly from each of the panels 25 and are then turned upwardly, this making a space in which the drawers and usual slide above them may be mounted. The bars 26 and 28 are used the same as in the construction shown in Figs. 6, 7 and 8 while the angle bars having flanges 14 and 15 and the ends 16, which in the first described construction are secured at the inner side of the desk pedestals, are attached at the upper ends and inner sides of the supporting members 25*a*. The drawer guides 17 are also attached to this member. At the back in place of a depending narrow plate 30 a wider plate 30*a* is used having end flanges 31*a* which extends farther down but which is attached by means of screws 32 and 33 the same as the side 30 is attached in the construction shown in Figs. 6, 7 and 8. It is also further secured by the screws 20 passing through it and the rear ends 16 of the angle bars described and thence into the channels 19. This construction utilizes all of the features of ready detachability and easy assembly and disassembly that are present in the other constructions and embodies the same inventive ideas and constructions, and has all of the advantages thereof.

The economy in manufacture is a very marked and valuable feature of this invention. The assembly of a desk or a table takes but a few moments and is devoid of any troublesome employment of skilled workmen for assembly purposes. This permits shipment with an assurance that the desk can be readily assembled by anyone when it reaches its destination. All of these features combine to make the invention one of great practical value. The appended claims define said invention which is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. In a construction of the class described, a horizontal top formed at each side and end with a depending channel portion having inwardly extending flanges, desk pedestals located under the top, a horizontal bar attached to each pedestal at its upper end and outer side extending outwardly over the lower flange of the channel at each end of said top, a second horizontal bar secured at the upper end and inner side of each pedestal, longitudinal bars located in the channels at each side of the top, and means for detachably connecting said longitudinal bars and the ends of said second horizontal bars.

2. A desk construction comprising, spaced apart pedestals, an angle bar attached at the upper end and outer side of each pedestal having an outwardly extending horizontal flange, a second angle bar attached at the upper end and inner side of each pedestal having a horizontal flange, the upper side of which is in the same plane with the upper ends of the pedestals and having at each end a part located at right angles to said flange, a top located over and resting on said pedes-

tals, said top at each side and end having a depending channel form with inwardly extending flanges, the flanges of the angle bars at the outer sides of the pedestals passing over the lower flanges of the end channels of said top, bars located within the side channels of the top, and means passing through the said end parts of the second mentioned bars, said bars located within the channelled sides of the top to thereby securely hold the top and pedestals together.

3. A construction containing the elements in combination defined in claim 2, combined with screws passing through the horizontal flanges of said angle bars at the inner sides of the pedestals, and a reinforcing bar located lengthwise of and connected to the under side of said top said screws threadedly engaging the reinforcing bar.

4. A desk comprising, spaced apart desk pedestals, a horizontal bar attached at the upper end and outer side of each pedestal extending outwardly therefrom, an angle bar located horizontally and secured at the upper end and inner side of each pedestal having an upper horizontal flange lying in the same plane with the upper end of the pedestals and a vertical flange secured to each pedestal, and an end at each end of the bar located in a plane at right angles to said flanges, a second angle bar disposed at the inner side of each pedestal horizontally, below the first angle bar and having an inwardly extending horizontal flange, a top located over said pedestals provided at its sides and ends with depending channel formation, the flanges of which extend inwardly, the first mentioned bars at the outer sides of the pedestals passing over the lower flanges of the channels at the ends of said top, channel bars located within the channel-like sides of the top, screws passing through the ends of the first mentioned angle bars into the channel bar at the front of the desk, a vertical plate formed with a forwardly extending flange at its lower edge located between the rear ends of the first mentioned angle bars and the channel bar at the rear side of the desk, screws passing through the rear ends of said first mentioned angle bars, said plate and into the rear channel bar, screws detachably connecting the lower forwardly turned flange of said plate with the horizontal flanges of the second mentioned angle bars, reinforcing bars disposed horizontally beneath and connected to said top longitudinally thereof, and screws passing through the horizontal flanges of the first mentioned angle bars into said reinforcing bars, substantially as described.

5. In a construction of the class described, spaced apart vertical top supports, a top located thereover having depending channel-like sides and ends, means at the outer sides of the supports engaging over the lower flanges of the channel-like ends of the top, longitudinal members located lengthwise of and within the depending channel-like sides of the top, members extending inwardly from and connected to said supports at their upper ends, and screws passing through said members and threading into openings made in said longitudinal members.

6. In a construction of the class described, a horizontal top formed at each side and end with a depending channel portion having inwardly extending flanges, desk pedestals located under the top, a horizontal bar attached to each pedestal at its upper end and outer side extending outwardly over and engaging the lower flange of the channel at each end of said top, a second horizontal bar adjacent to the inner side of each pedestal, longitudinal bars located in the channels at each side of the top, and means for detachably connecting said longitudinal bars and the ends of said second horizontal bars.

7. A desk construction comprising, spaced apart pedestals, an angle bar attached at the upper end and outer side of each pedestal having an outwardly extending flange, a second angle bar attached at the upper end and inner side of each pedestal having a horizontal flange, the upper side of which is in the same plane with the upper ends of the pedestals, a top located over and resting on said pedestals, said top at each side and end having a depending channel form with inwardly extending flanges, the flanges of the angle bars at the outer sides of the pedestals passing over the lower flanges of the end channels of said top, bars located within the side channels of the top, and means adapted to fasten the bars located within the channelled sides of the top to the pedestals.

In testimony whereof I affix my signature.

PETER M. WEGE.