Sept. 25, 1934. N. H. JENKINS 1,975,004

STEEL DESK

Filed May 19, 1932 4 Sheets-Sheet 1

Fig 1

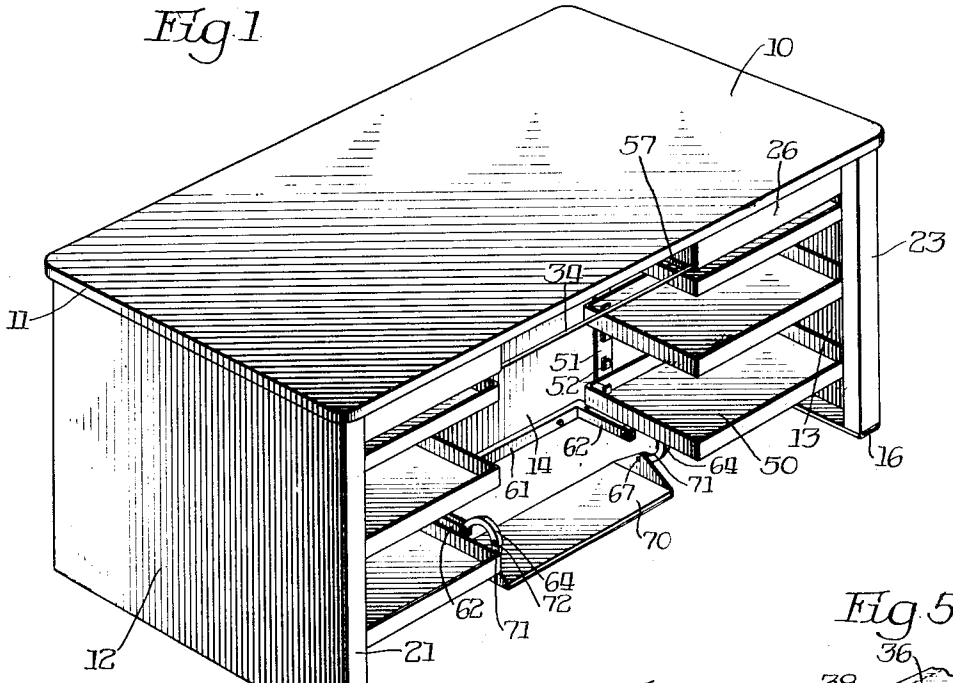


Fig 5.

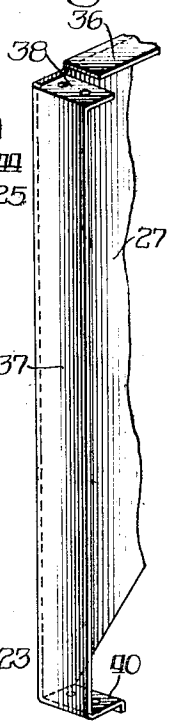
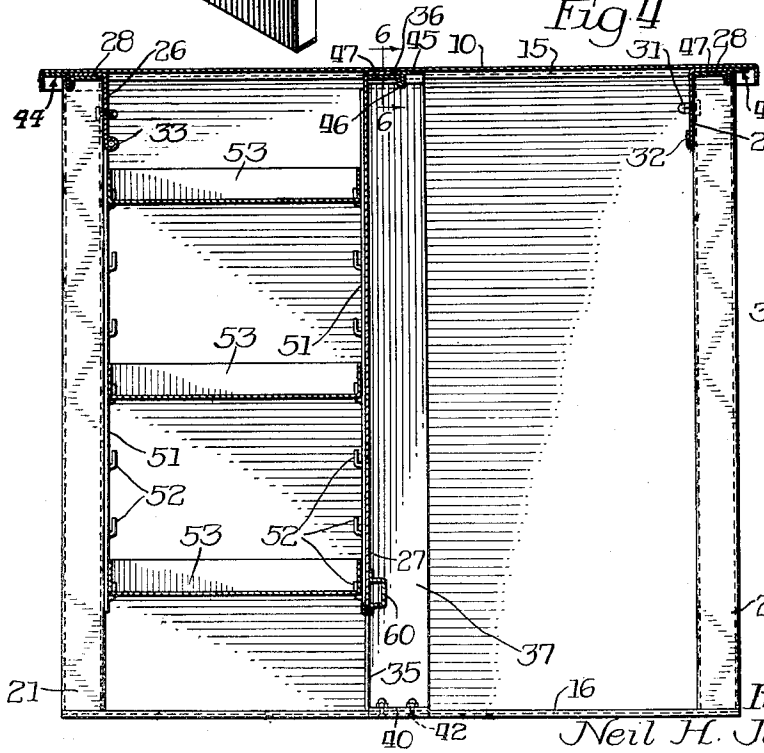


Fig 4



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STEEL DESK

Filed May 19, 1932 4 Sheets-Sheet 2

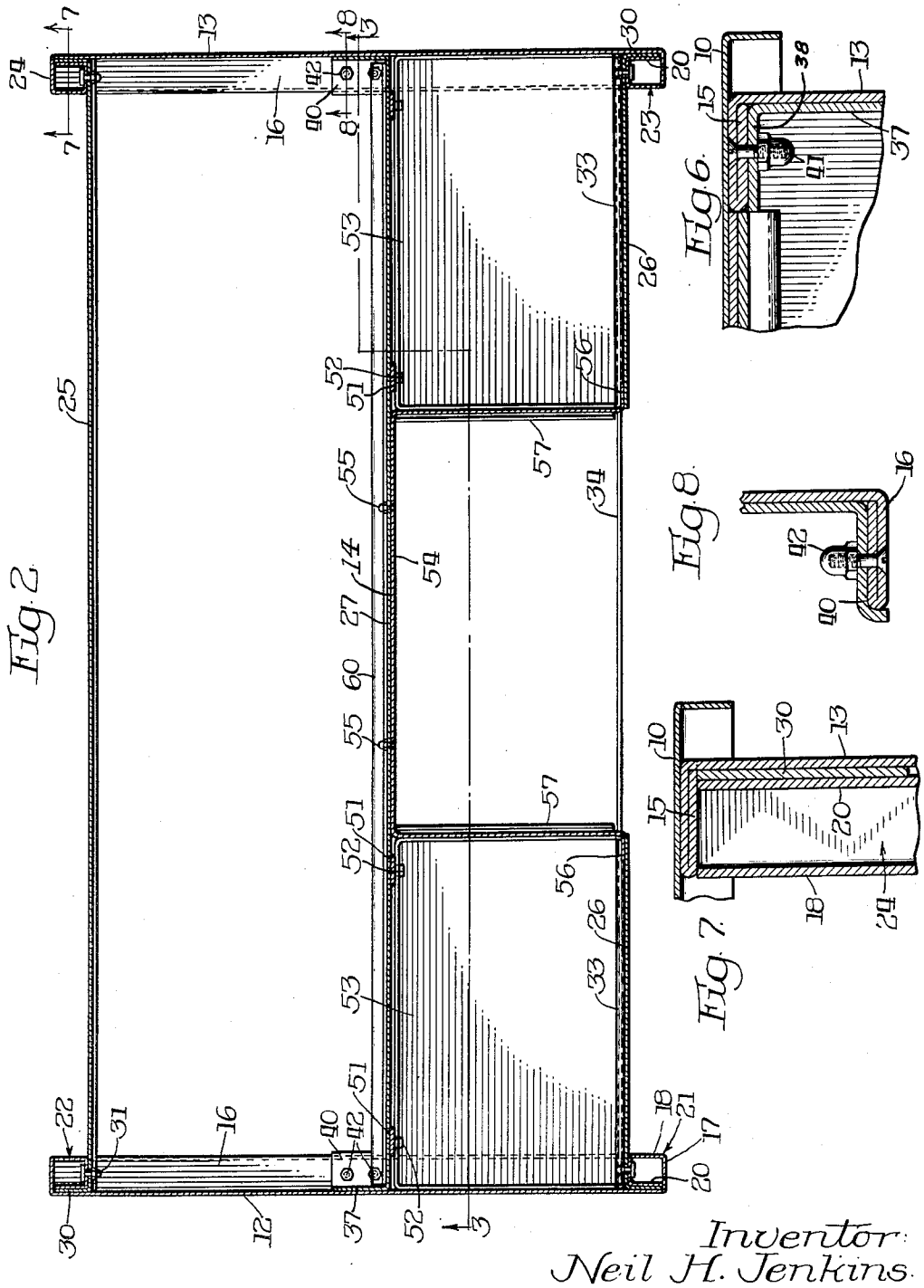

Fig. 2

Fig. 6

Fig. 8

Fig. 7

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STEEL DESK

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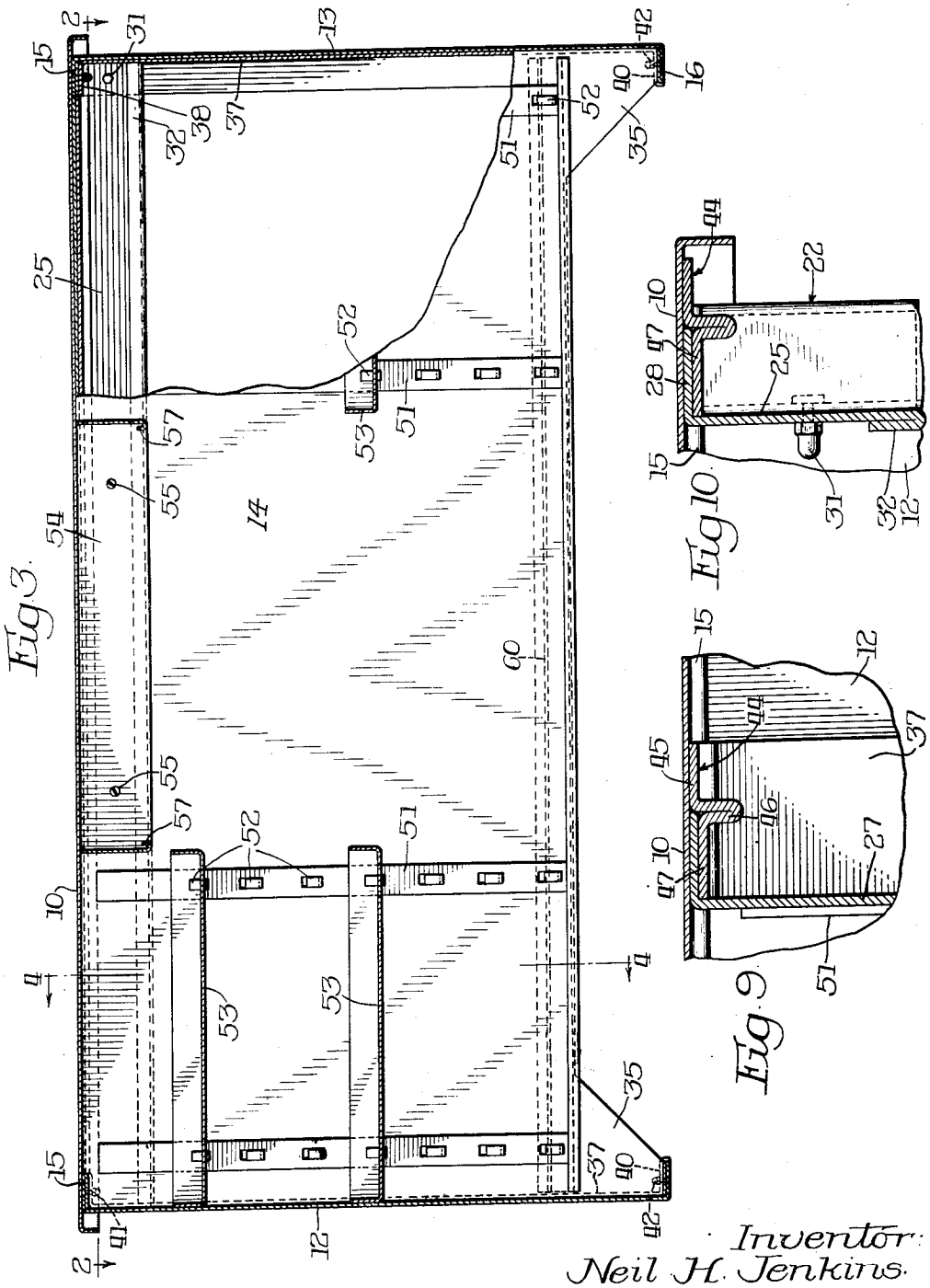

Fig 3.

Fig 10.

Fig 9.

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STEEL DESK

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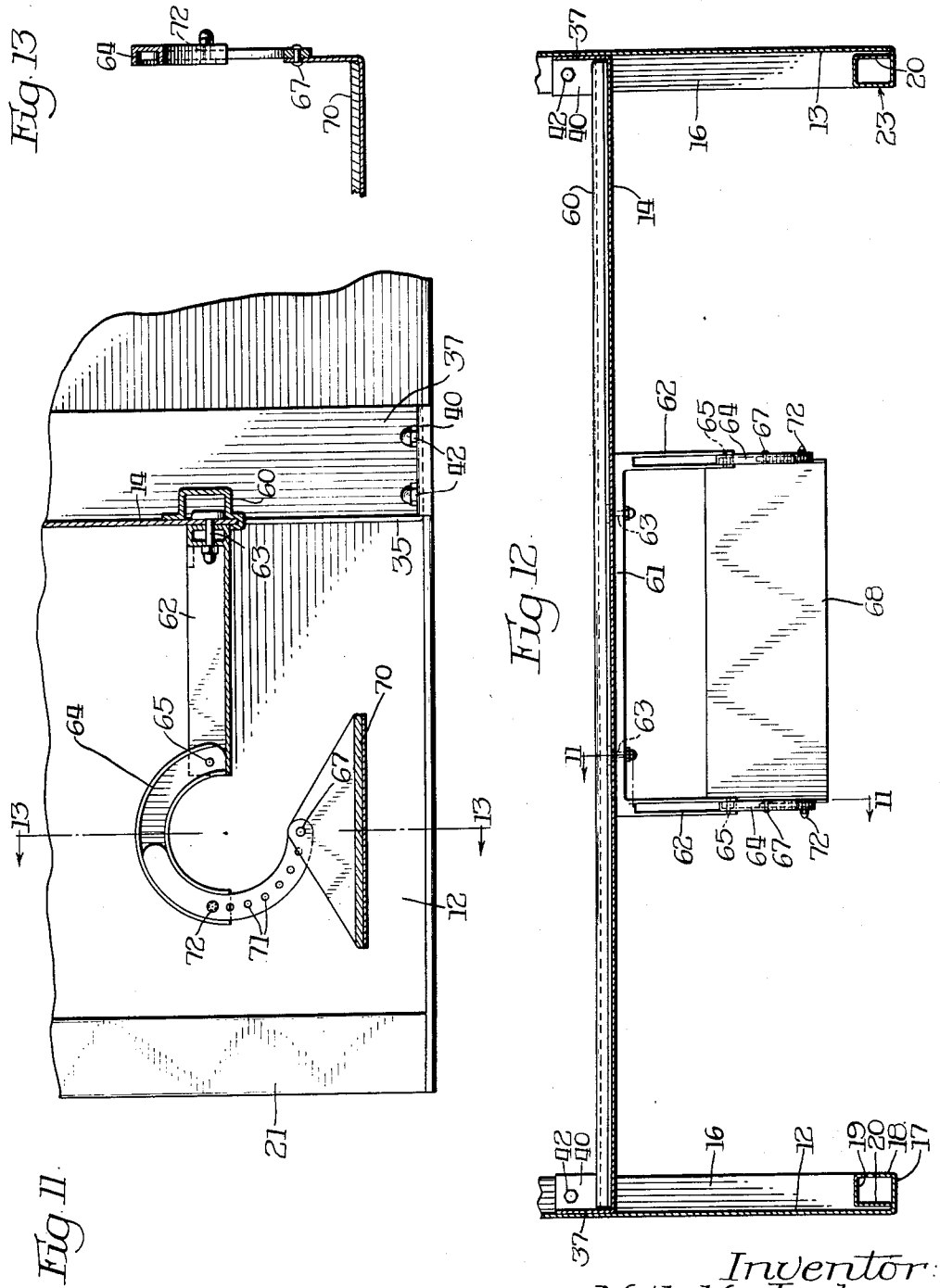

Fig. 13

Fig. 11

Fig. 12

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UNITED STATES PATENT OFFICE

1,975,004

STEEL DESK

Neil H. Jenkins, Chicago, Ill.

Application May 19, 1932, Serial No. 612,355

22 Claims. (Cl. 45—6)

The invention relates to improvements in desks and work tables for office use or for general utility with more particular reference to a desk fabricated of steel having a number of improved features and which can be adapted to a variety of individual needs.

The present form of desk discards precedent of design and style and adapts one most suitable for construction from steel sheets with the inherent result that the parts in knocked-down condition lie flat, permitting packing or crating in the most economical manner and shipment under the lowest freight classification.

An object of the invention is to provide a desk having a minimum number of parts co-operating with one another when properly assembled to result in a sturdy and rigid unit having visible space for the reception of trays that may be removed for permitting substitution of card or letter files, thus adding to the utility of the desk.

A further object within the purview of the present invention is to provide a desk construction having a top section, a center panel and two end panels or members, the latter being formed to provide pedestals and to interfit with the center panel for securement thereto, giving rigidity and solidity to the assembled unit which, however, can be shipped in knocked-down condition to be assembled at its destination.

A further object is the provision of a desk which will have a wide range of utility although characterized by the absence of drawers and compartments with visible trays being substituted therefor whereby papers and similar data are visible at all times.

The present form of desk embodies a central panel positioned substantially centrally of the top section and other longitudinal members positioned to assist in locating a chair close to the desk on either side without interference and as an additional feature embodies a novel form of foot rest which can be adjusted to suit the person, aiding in securing proper posture and which also conforms to the sanitary arrangement of the desk itself.

A still further object is the provision of a desk having a main connecting panel joining the end panels and which connects with the top section, forming a strengthening and bracing member for the desk and a support for the foot rest, and also providing sufficient leg room for a person on either side of the desk.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specification, drawings and claims appended hereto.

In the drawings which illustrate an embodiment of the device and wherein like reference characters are used to designate like parts—

Figure 1 is a perspective view of the desk constructed in accordance with the present invention and looking toward the rear of the same;

Figure 2 is a horizontal sectional view of the desk taken immediately below the top section and showing the association of the longitudinal panels with the end panels;

Figure 3 is a vertical sectional view taken substantially on the plane indicated by line 3—3 of Figure 2;

Figure 4 is a vertical transverse sectional view taken substantially on the plane indicated by line 4—4 of Figure 3;

Figure 5 is a perspective view showing the formation given the side portions of the center panel so as to have interfitting engagement with the end panels;

Figure 6 is a fragmentary sectional view taken longitudinally of the desk showing the association of the top section with the center and end panels;

Figure 7 is a detail sectional view taken substantially along the plane indicated by line 7—7 of Figure 2;

Figure 8 is a detail sectional view taken along line 8—8 of Figure 2;

Figure 9 is a fragmentary transverse sectional view showing the manner of connecting the top section with the center panel;

Figure 10 is a fragmentary transverse sectional view showing the manner of connecting the top section with the front plate;

Figure 11 is a fragmentary sectional view showing the construction of the foot rest and the support for the same;

Figure 12 is a plan view of the foot rest, also showing its location with respect to the center and end panels; and

Figure 13 is a vertical sectional view taken substantially on the plane indicated by line 13—13 of Figure 11.

As best shown in Figure 1 the present form of desk essentially comprises a top section 10 having depending skirt 11 around the periphery thereof, end members 12 and 13, respectively, and a center panel 14 connecting with the top section and joining the end members as will be more particularly described. The sections comprising the present desk are preferably from steel sheets and

to this end the design of the various sections has been selected to permit fabrication from sheets of metal with the minimum cost for dies and forming machinery.

Considering first the end members, it will be observed by references to Figures 3 and 6 that each panel is provided with a top horizontal portion 15 formed by bending the upper marginal edge of the panel at right angles to the same and then back upon itself forming a double fold. The lower marginal edge of the panel is also bent in like manner to provide a double fold forming a base 16. The side portions of each panel are bent forming four folds 17, 18, 19 and 20, respectively, each fold being at right angles to its adjacent fold, resulting in a hollow column providing a pedestal of substantially square cross sectional shape. It will be noted that fold 20, Figure 12, is spaced a slight distance from the body portion of its respective panel for purposes to be later explained. In the formation of the end panel as above described it is desirable that the side sections of the panel be first bent to provide the pedestals and then subsequent to this operation the top and bottom marginal portions may be bent back on themselves and then at right angles to the end panel or member so that the top portion 15 and base 16 enclose the pedestals designated 21 and 22 of member 12 and in a like manner the pedestals 23 and 24 of member 13.

Connecting the end members is a front plate 25, a rear plate 26 and a center panel 14 having a body portion designated by 27. Each of the front and rear plates is provided with a top flange 28 and side flanges 30, the latter fitting between the fold 20 of the various pedestals and the body portion of the respective end members as shown in Figure 7. By means of a toggle bolt 31 the front and rear plates are secured to the pedestals and thus to the end members. Front plate 25, as shown in Figure 4, has its lower marginal edge bent back upon the same forming a fold 32 which extends between the end members and serves to reinforce plate 25. Rear plate 26 has a portion cut away centrally of the same to provide for the reception of a center drawer as will be later explained and in order to provide for strengthening of this plate the lower marginal edges of the same are curled as at 33, Figure 4, for receiving a tie rod 34, Figure 1, forming part of the supporting means for the drawer mentioned.

The center panel 14 has a bottom portion cut away for sanitary reasons leaving end base sections 35 while the top of the panel is bent at right angles, providing a top flange 36, Figure 5. The sides of the panel are bent at right angles forming end flanges 37 for engagement with the end members 12 and 13, respectively, each side flange 37 being additionally bent forming a top securing section 38 and a base section 40. As will be clear from Figure 5 the securing section 38 is located in a different horizontal plane from the top flange 36. This spacing of the members and cutting away of the top flange from over the section 38 permits the center panel to properly interfit with the end members, the top portion 15, Figure 6, being located directly over section 38 and being secured thereto by fastening means 41 with the end flange 37 contacting the end member and section 40 engaging the base 16 of the respective end members and being secured thereto by bolt 42.

The above description has been particularly directed to the characteristics of the end members and the various panels and the manner in which the end members are joined thereby, it being recalled that the front and rear plates are provided with a top flange 28 and the center panel with a top flange 36. For connecting the top 10 with the various plates and the center panel the underside of the top has welded or otherwise suitably secured thereto a plurality of reinforcing strips 44 arranged longitudinally of the top section. Each strip has a section 45 permitting welding to the top and a depending double fold 46 serving to materially strengthen the strip against vertical bending strains, the fold terminating in a horizontal flange 47. A strip is suitably secured to the top for engagement with the front plate, center panel and rear plate, respectively, the top flanges provided on these members fitting between the top section 10 and the horizontal flange 47 of the reinforcing strip.

In assembling the parts it is desirable that the end members be first connected to the center panel and that the top section 10 be also connected to the center panel by connecting the top flange 36 with the center reinforcing strip, the horizontal flange of which is directed toward the rear of the desk as is also the case with the reinforcing strip for the front plate 25 which is next secured in place. The strip for connection with the rear plate 26 has its horizontal flange 47 directed inwardly and in opposite direction to that of the center or front reinforcing strip so that when the rear plate has been connected therewith and securely united to the pedestals on the end members it will be seen that the parts including the end members, the top section, plates and center panel are not only securely united, forming a sturdy and rigid unit, but that the top section is locked in position.

A feature of the present form of desk is the omission of the conventional side drawers or compartments and the substitution therefor of trays 50 located on the respective sides to the rear of the desk and being visible at all times. Supporting strips 51 suitably secured to the center panel 14 and to the inner fold 19 of the pedestals 21 and 23, respectively, see Figure 4, serve to detachably support the various trays in position, the strips having lugs 52 punched therefrom for fitting in openings in the base of the trays adjacent the marginal upstanding flange 53. This provides a three-point support for each tray and allows ready detachment of the tray in case it is desired to substitute card or letter files therefor. It is contemplated that the desk have a center drawer and for the purpose the member 54, Figures 2 and 3, is suitably secured by bolts 55 to the center panel 14 with outwardly extending flanges 56 being located to the rear and engaging the rear plate 26. The lower marginal edges of the side portions of member 54 are bent upwardly and spaced a slight distance from the portions, forming a groove and providing a supporting edge 57 which in conjunction with the tie rod 34 slidably supports the center drawer or compartment.

The present form of desk with the center panel being located substantially centrally thereof provides adequate leg room on either side of the desk with the front and rear plates so located behind the pedestals to permit chairs to be drawn close to aid in the proper posture of the person using the chair. An additional feature is the sanitary arrangement of the desk including spacing of the center panel from the floor so as to permit cleaning under the desk without difficulty.

Another feature is the provision of a foot rest which carries out the sanitary construction of the desk and also by reason of its adjustment adds to the comfort of the person using the desk while aiding in proper posture. To the bottom of the center panel 14 is suitably secured a reinforcing member 60 which is located principally to the front of the desk and finishes the panel. To the rear of the panel is located a bracket 61 having spaced members 62, the bracket being secured by toggle bolts 63, the heads of which are concealed from view by the reinforcing member 60. Pivotally secured to each member 62 is an arcuate support 64 in the form of a semi-circle, the formation of the end 65 preventing rotation beyond a horizontal plane as shown in Figure 11 but permitting clockwise rotation to raise the outer end of the support. Adjustably secured to each arcuate support is an arm 66 having in turn pivotally secured to its lower end, as at 67, the foot rest 68 having its upper surface covered with any suitable material designated 70. Arm 66 is provided with a number of spaced apertures 71 by which the arm is secured to support 64 through means of the pin 72 passing through aligned apertures in the parts. It will be seen that adjustment of the foot rest for height automatically locates the same at the maximum distance from the center panel 14 for the maximum height from the floor and nearest the center panel 14 for the lowest position of the foot rest with respect to the floor. Thus as the foot rest is located to suit a short person or a taller person adjustment is also secured for proper posture.

It will be understood that I do not wish to be limited by the exact embodiment of the device shown, which is merely by way of illustration and not limitation, as various and other forms of the device will of course be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. A metal desk construction including a top, end members and a center panel, said parts joining with each other to form a rigid unit, each end member being formed from a single sheet of metal and having top and bottom portions bent therefrom, said top and bottom portions having connection with the center panel, and pedestals provided on the sides of the members.

2. A metal desk construction including a top and end members, reinforcing strips secured to the under surface of the top, means connecting with the strips and joining the end members, one of said means comprising a center panel having a top connecting flange and side flanges, said side flanges being secured to the end members.

3. A metal desk construction including a top section, end members having their side portions bent forming hollow columns to provide pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel having a height substantially equal to that of the end member where it connects with the latter, and said other longitudinal members including a front and rear plate.

4. A metal desk construction including a top section, end members having their side portions bent to provide pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel, and said other longitudinal members including a front and a rear plate, said front and rear plates having side flanges engaging the pedestals on the end members.

5. A metal desk construction including a top section, end members having their side portions bent to provide pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel, and said other longitudinal members including a front and a rear plate, said front and rear plates having side flanges for location between the end members and the pedestals formed therefrom with means securing the plates to the pedestals.

6. A metal desk construction including a top section, end members having their side portions bent to provide pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel, and said other longitudinal members including a front and a rear plate, top and side flanges formed on each of the plates for engaging the top and the end members respectively, and means securing the front and rear plates to the pedestals.

7. A metal desk construction including a top section having reinforcing strips secured to the under surface thereof, end members provided with pedestals, and a plurality of longitudinal members connecting with the strips and joining the end members, said members including a front plate, center panel and a rear plate, each having top and side flanges for connecting with the reinforcing strips and engaging the end members respectively, and means securing the front and rear plates to the pedestals.

8. A metal desk construction including a top section, end members having pedestals thereon and longitudinal members connecting the end members and the top, said top connection including horizontal flanges on the top marginal portions of the longitudinal members engaging with horizontal strips secured to the under surface of the top, the outer strips being directed inwardly for connection with the flanges on the front and rear longitudinal members to thereby form a lock holding the parts in assembly.

9. A metal desk construction including a top section, end members having their side portions looped to form hollow columns providing pedestals and a vertical center panel joining the members and being connected to the top, said center panel having a height substantially equal to that of the end members where it connects with the latter, and an adjustable foot rest secured to the base of the center panel.

10. A metal desk construction including a top section, end members having their side portions looped to form hollow columns providing pedestals and a vertical center panel joining the members and being connected to the top, said center panel having a height substantially equal to that of the end members where it connects with the latter, a bracket secured to the center panel, supports pivotally mounted on the bracket and having adjustable arms carrying a foot rest.

11. A metal desk construction including a top section, end members having their side portions looped to form hollow columns providing pedestals and a vertical center panel joining the members and being connected to the top, said center panel having a height substantially equal to that of the end members where it connects with the latter, means secured to the center panel for pivotally supporting a foot rest, said means having adjust-

able arms whereby the foot rest may be adjusted vertically.

12. A metal desk construction including a top section, end members having their side portions looped to form hollow columns providing pedestals and a vertical center panel joining the members and being connected to the top, said center panel having a height substantially equal to that of the end members where it connects with the latter, means secured to the center panel at the base thereof for supporting a foot rest, said means including arcuate supports and arcuate arms adjustably secured thereto, whereby adjustment of the arms will vary the position of the foot rest vertically and horizontally.

13. A metal desk construction including a top section, end members having their side portions bent to provide pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel, and said other longitudinal members including a front and a rear plate, said front and rear plates engaging the pedestals on the end members respectively and being positioned in a plane behind the plane containing the engaged pedestals.

14. A metal desk construction including a top section, end members having their side portions bent to form hollow columns providing pedestals, each of said hollow columns comprising a plurality of folds with one fold being located parallel to and in spaced relation to its end member, and longitudinal members connecting with the top section and joining the ends members, one of said longitudinal members comprising a center panel, and said other longitudinal members including a front and a rear plate, said front and rear plates having side flanges, each of said flanges being located within the space formed by said spaced fold and its end member of the pedestals respectively and thus being positioned behind the pedestals inwardly of the desk.

15. A metal desk construction including a top section, end members having pedestals thereon, and longitudinal members connecting the end members and the top section, said top connection including longitudinal strips secured to the undersurface of the top section and flanges on the longitudinal members engaging with the longitudinal strips respectively, said strips being provided with a fold preventing flexing of the strips transversely whereby the top section is reinforced by the strips.

16. A metal desk construction including a top section, end members having pedestals thereon, longitudinal members connecting the end members and the top section, one of said longitudinal members comprising a center panel having a top flange, said other member including a front and a rear plate each having a top flange, and longitudinal strips secured to the undersurface of the top section, said longitudinal strips including a horizontal flange spaced from the top section for engagement with the flanges on the longitudinal members located between the horizontal flange and the top, and a double fold at right angles to the horizontal flange preventing flexing of the strip transversely to additionally reinforce the top section.

17. A metal desk construction including a top section, end members having pedestals formed on the sides thereon, longitudinal members connecting the end members and the top, said top connection comprising flanges on the longitudinal members engaging with longitudinal strips secured to the undersurface of the top, side flanges on the longitudinal members for detachable securement to the end members, and a plurality of trays detachably supported by one of said longitudinal members and said pedestals.

18. A metal desk construction including a top section, end members having their side portions bent to provide pedestals, longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel, said other longitudinal members including a front and a rear plate, said front and rear plates engaging pedestals on the end members respectively and being positioned in a plane behind the plane containing the engaged pedestals, and a plurality of trays supported by the center panel to the rear side thereof and being additionally supported by the adjacent pedestal.

19. A metal desk construction including a top section, end members having top and bottom flanges and side pedestals, and longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel having a top flange and side flanges, said other longitudinal members including a front and a rear plate, the top flange of the center panel having connection with the top section and the side flanges engaging the end members respectively and fitting within the top and bottom flanges thereon.

20. A metal desk construction including a top section, end members having top and bottom flanges and side pedestals, longitudinal members connecting with the top section and joining the end members, one of said longitudinal members comprising a center panel having a top flange and side flanges, said other longitudinal members including a front and a rear plate, the top flange of the center panel having connection with the top section and the side flanges engaging the end members respectively and fitting within the top and bottom flanges thereon, and portions formed on each side flange of the center panel for securement to the top and bottom flange on the end member.

21. A metal desk construction including a top section, end members provided by panel sheets having their sides looped to form vertical pedestals and a center panel joining the end members and being connected to the top, said center panel being positioned vertically and being substantially the height of the end members where it connects with the same, and means secured to the center panel for pivotally supporting a foot rest, said means having adjustable arms to permit adjustment of the foot rest vertically.

22. A metal desk construction including a top section, end members provided by panel sheets having their sides looped to form vertical pedestals and a center panel joining the end members and being connected to the top, said center panel being positioned vertically and being substantially the height of the end members where it connects with the same, and means secured to the center panel for pivotally supporting a foot rest, said means including arcuate supports and arcuate arms adjustably secured thereto whereby adjustment of the arms will vary the position of the foot rest vertically and horizontally.

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