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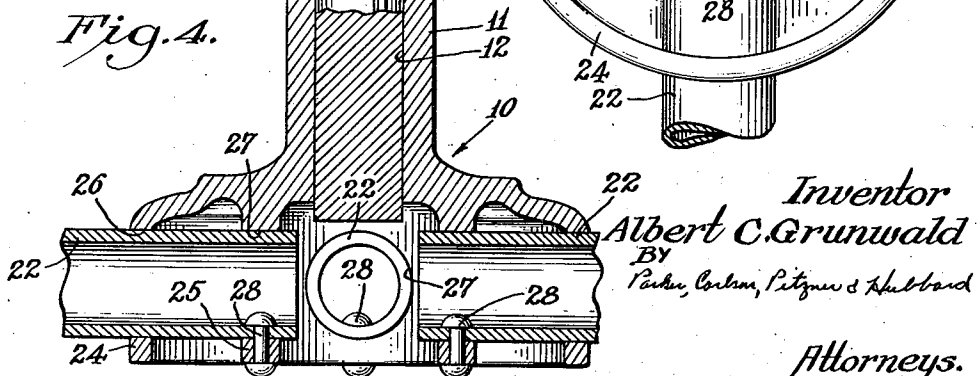
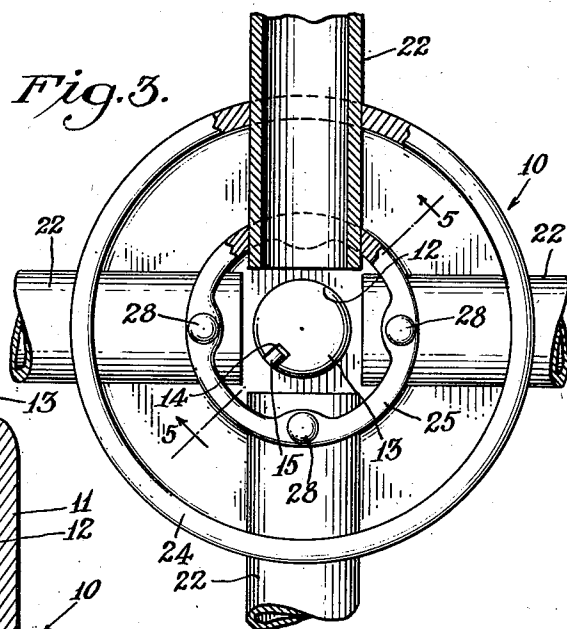
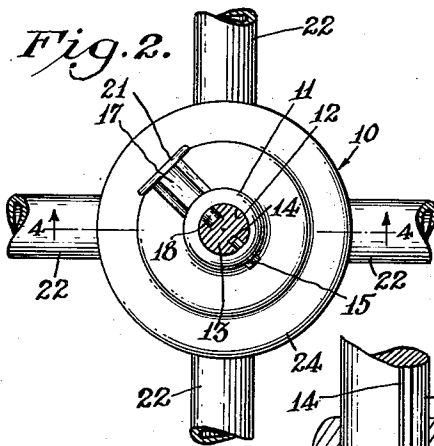
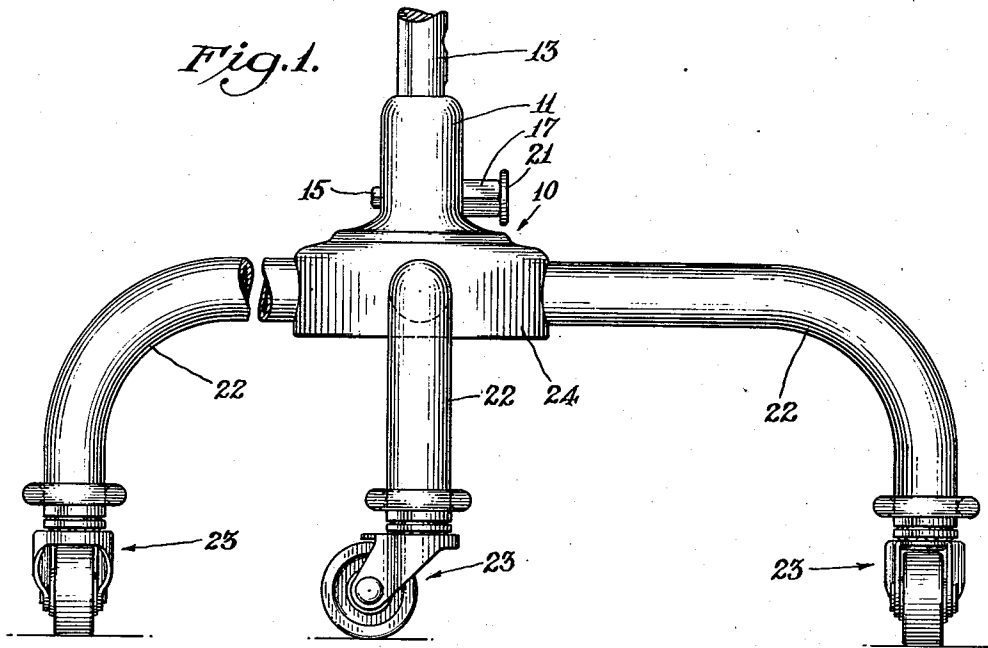
A. C. GRUNWALD

2,295,281

BASE STRUCTURE

Filed Nov. 1, 1939

2 Sheets-Sheet 1



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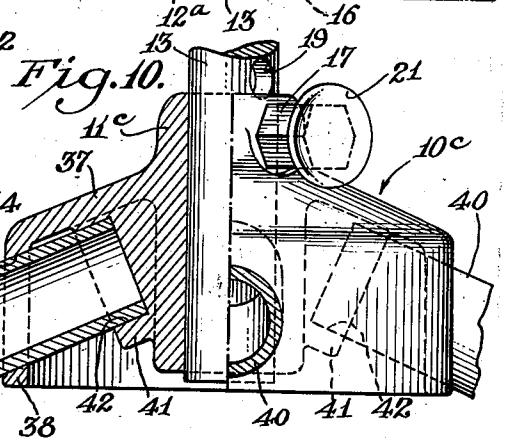
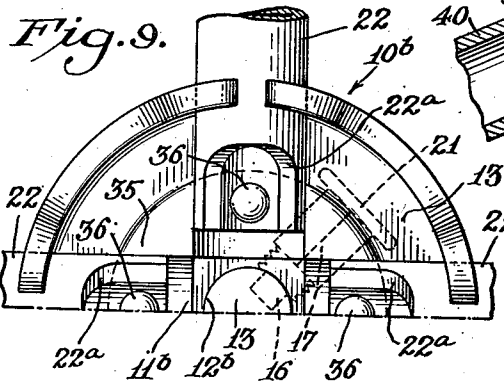
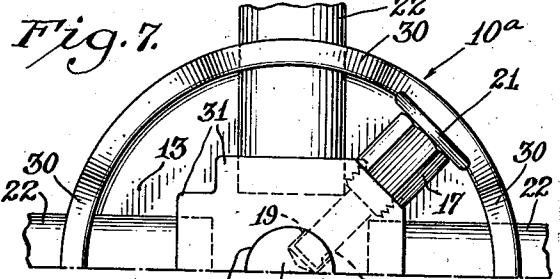
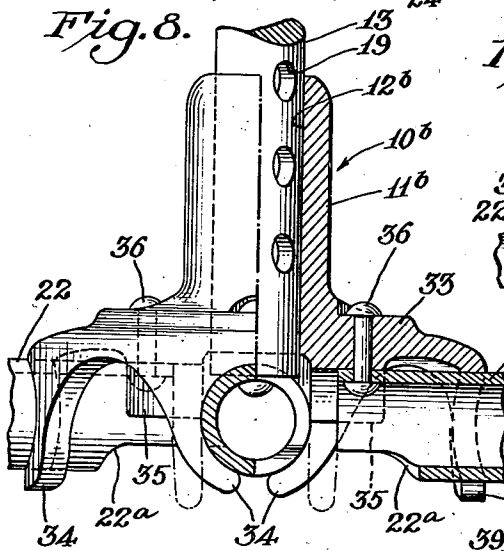
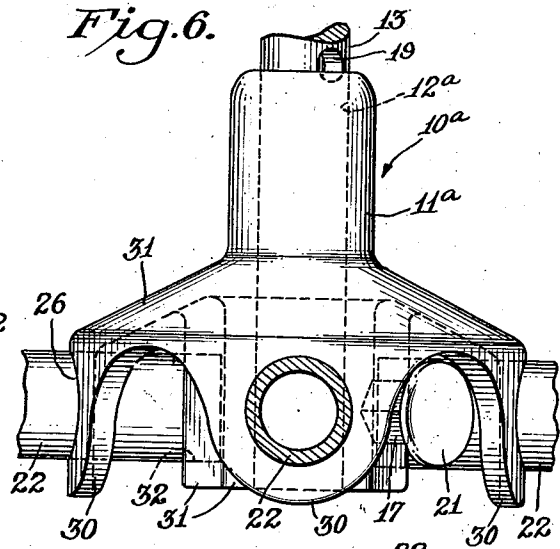
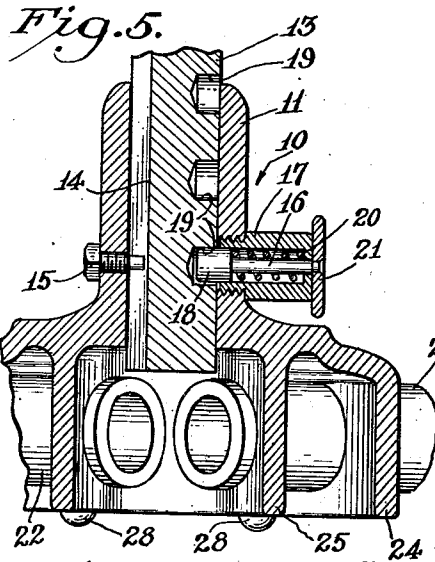
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2,295,281

BASE STRUCTURE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,295,281

BASE STRUCTURE

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Application November 1, 1939, Serial No. 302,271

7 Claims. (Cl. 248—194)

The present invention relates to a novel form of base structure for articles of furniture such, for example, as chairs, typewriter stands, drawing boards, etc.

The general aim of the invention is to provide a base of the type set forth which, though extremely rugged and sturdy in construction, is low in cost by virtue of both the simplicity of its parts, and the ease with which it may be assembled during manufacture.

A more specific object is to provide such a base embodying tubular metal supporting legs, together with a novel form of head structure, rigidly and firmly securing together the legs, for attachment of the assembly to a vertically adjustable standard.

Further objects and advantages of the invention will become apparent as the following description proceeds, taken in connection with the accompanying drawings in which:

Figure 1 is a side view of a supporting base embodying the features of my invention.

Fig. 2 is a fragmentary top plan view of the base.

Fig. 3 is an enlarged fragmentary bottom view of the base.

Fig. 4 is an enlarged fragmentary vertical sectional view taken substantially along the line 4—4 of Fig. 2.

Fig. 5 is an enlarged fragmentary vertical sectional view taken substantially along the line 5—5 in Fig. 3.

Fig. 6 is a fragmentary side elevational view of a modified form of the base.

Fig. 7 is a fragmentary bottom view of the construction shown in Fig. 6.

Fig. 8 is a view of a second modified form partially in side elevation and partially in vertical section.

Fig. 9 is a fragmentary bottom view of the form shown in Fig. 8.

Fig. 10 is a view of a third modified form, partially in side elevation and partially in vertical section.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed; but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

Referring more particularly to the drawings, 55

a base structure has been shown in Fig. 1 which is particularly suited for use on an office chair, though those skilled in the art will appreciate that supporting bases embodying the invention may be utilized in a variety of other articles of furniture. This particular base structure comprises a head, designated generally as 10, which is preferably formed as a metal casting. The head includes an upright sleeve portion 11 having a central axial bore 12 (Fig. 4) in which is slidably received a vertically adjustable standard 13, and to the upper end of which may, for example, be attached a suitable chair seat (not shown). To guide the standard 13 for vertical adjusting movement, a longitudinal spline groove 14 is formed in it to receive a spline screw 15 threaded in the sleeve 11 (Figs. 2 and 3).

As a means of holding the standard 13 at various points of step-by-step vertical adjustment, a spring biased plunger 16 is utilized (Fig. 5). This plunger is slidably mounted in a bushing 17, threaded in the side of the sleeve 11, and the enlarged head 18 of the plunger is received in any selected one of a series of corresponding recesses 19 spaced longitudinally along the standard. A helical compression spring 20 urges the plunger inwardly into its engaged position. To disengage the plunger for readjustment of the standard position, the operator grasps an outer disk shaped head 21 on the plunger and pulls the plunger outward to disengage the head 18 from the registering recess 19. Then the user may slide the standard 13 axially until the desired position of adjustment is reached, whereupon the plunger 16 is released so that it snaps back into engagement with the recess which has been brought into registry with it.

In accordance with one aspect of the present invention, a novel arrangement has been provided for rigidly attaching to the head 10 a series (herein shown as four in number) of tubular steel legs 22. These legs have been shown in Fig. 1 as being of a substantially inverted L-shape with horizontal portions extending laterally from the head 10 in directions radial of the axis for the standard 13. To the depending lower ends of these legs 22 are secured the usual casters 23.

In the instant embodiment the means for attaching the legs 22 to the head 10 comprises two downwardly extending annular ribs 24 and 25 formed integrally on the bottom of the head casting (Figs. 3, 4 and 5). The lower portion of the head is of an inverted cup shape with the side walls of the cup constituting the outer peripheral rib 24. The inner rib 25 is spaced from

the outer rib, and both ribs are substantially concentric with the sleeve bore 12. Registering pairs of apertures 26, 27 (Fig. 4) are formed in the respective ribs, and the inner end portions of the legs 22 project through and are snugly fitted in these apertures. The head thus formed grips each leg at two spaced points so as to insure a firm rigid engagement with it.

To complete the connection of the legs to the head, rivets 28 are used to connect the ends of the legs to the inner rib 25. These rivets are received in registering holes formed respectively in the lower edge portions of the rib and the inner end portions of the legs. Since the legs project into a central chamber defined by the inner rib 25, which is open at its bottom, they are readily accessible for insertion of the rivets, while at the same time the latter are effectually hidden from view.

In Fig. 6 a modified form of head, designated generally as 10^a, has been shown which may be used to replace the head 10 in the base of Fig. 1. As before, this head includes a vertical sleeve portion 11^a having a central bore 12^a in which is received the vertical standard 13. Also as before, a pair of generally concentric integral annular ribs are provided on the bottom of the head casting to receive the tubular metal legs 22. In the present instance, however, the outer rib is discontinuous, rather than continuous in form, being made up of a series of scallops or projections 30 around the periphery of a tapered or outwardly flared projection 31 on the head. As before, this outer rib is provided with apertures 26 to receive the legs 22. The apertures 32 in the inner rib, however, do not extend entirely through the latter, but instead are fashioned in the form of dead-end recesses which receive and close the inner ends of the tubular legs. The inner rib, in fact, constitutes a lower end extension of the sleeve 11^a with generally rectangular integral bosses 31 on it and in which the recesses or apertures 32 are fashioned to receive the ends of the legs 22.

In the construction of Figs. 6 and 7 a plunger mechanism, identical with that heretofore described in connection with Figs. 1 to 5, inclusive, is provided and the same reference numerals are used to indicate the identical parts. In the present instance, however, this mechanism is located beneath and substantially hidden by the cup shaped lower portion of the head 10^a. Since the outer peripheral rib is, in this case, discontinuous, access to the plunger operating head 21 is afforded by locating the latter in registry with one of the openings between a pair of the scallops 30 (Fig. 6). By virtue of the construction described the tubular legs 22 are held firmly in position and, at the same time, the head 10^a is given a pleasing appearance, particularly by hiding from view the projecting plunger type adjustment mechanism.

In the second modified form of head 10^b, shown in Figs. 8 and 9, both the inner and outer depending ribs on the head are discontinuous in form. In this case the head comprises a vertical sleeve portion 11^b having a central axial bore 12^b in which is received the standard 13. Integral with the lower end of this sleeve is an extension 33 of generally inverted cup shaped form. The discontinuous side wall of this cup shaped extension comprises a series of pairs of fingers 34 defining between them apertures in which are received the tubular legs 22.

In assembling the base of Figs. 8 and 9, the

fingers 34 are initially shaped to project downward as indicated in dot-dash lines in Fig. 8. Then, when the legs are in place the fingers are bent inward toward each other to clench or grip the legs.

The discontinuous inner rib comprises, in this instance, an annularly arranged series of U-shaped bosses or pads 35 (Fig. 8) having their faces arcuately recessed or, in other words, apertured, to embrace the tops of the inner ends of the legs 22. These legs are desirably cut away as indicated at 22^a so as to afford access to rivets 36. These rivets pass through registering holes in the bosses 35 and the sides of the legs 22 so as to hold the legs rigidly in position.

As in the case of the construction shown in Figs. 1 to 5, inclusive, the standard 13 is held in any selected position of axial adjustment by a plunger mechanism (Fig. 9) located on the side of the sleeve 11^b. This plunger mechanism is identical with that heretofore described.

The fourth form of head 10^c, shown in Fig. 10 is somewhat more compact than the other three in that a major portion of the vertical sleeve 11^c is located within the integral and downwardly facing cup shaped extension 37, which is formed on it. The side walls of this extension form a continuous annular rib 38 apertured as indicated at 39 to receive tubular legs 40. These legs are generally like the legs 22 heretofore shown and described except that their top portions are inclined upwardly at a slight angle instead of being exactly horizontal. As in the case of the construction shown in Figs. 6 and 7 the inner rib for receiving the ends of the legs comprises bosses 41 formed on the sides of the lower portion of the sleeve 11^c. In these bosses are formed apertures or dead-end recesses 42 into which the ends of the legs 40 project. As in the other constructions, the standard 13 is held in its selected position of vertical adjustment by a plunger mechanism arranged in the side of the sleeve 11^c and of the form heretofore set forth.

I claim as my invention:

1. In a base for an article of furniture, the combination of a head casting having a vertical bore therein adapted to receive an axially adjustable standard, a plurality of depending generally annular ribs on the lower end of said head substantially concentric with said bore, said ribs having a plurality of sets of registering apertures therein, and tubular legs extending outwardly and downwardly from said head, each of said legs having a portion thereof received in a pair of registering apertures in the respective ribs and snugly fitted therein.

2. In a base for an article of furniture, the combination of a plurality of tubular metal legs each being of substantially inverted L-shaped configuration, a central cast metal head, the generally horizontal portions of the legs projecting in to said head, said head having an upright hollow sleeve portion to receive a vertical standard and an integral downwardly facing portion of inverted cup shape at the lower end of the sleeve, said cup portion having an integral annular rib in its interior spaced from the cup side wall and concentric therewith, whereby the rib and cup side wall form a pair of depending concentric ribs on the bottom of the head, said concentric ribs having registering apertures therein through which the inner end portions of the legs project, and rivets for fixing said legs to at least one of said ribs.

3. In a base for an article of furniture, the

combination of a head having a vertical sleeve portion adapted to be telescoped on the lower end of a vertical standard, a downwardly projecting integral rib on the lower end of said head, said rib having apertures therein at points spaced circumferentially about it, tubular legs projecting outwardly and downwardly from said head with portions thereof extending through said apertures, said legs and the edge portions of said rib adjacent said apertures having registering holes therein, and fastening means in said holes to hold the legs in place.

4. In a base for an article of furniture a plurality of tubular metal legs arranged to project generally radially from a central point, a head located at the center of the group of legs and defining a central chamber open at the bottom bordered by a generally vertical depending side wall, said side wall being apertured at spaced points about the chamber to receive the inner end portions of the legs projected through said apertures into said chamber, said depending side wall having holes therein leading from the lower edge thereof to the apertures therein, said legs having holes therein registering with the first named holes, and fastening means in said registering holes holding the legs in place on the head.

5. In a base for an article of furniture, the combination of a cast metal head including a vertical sleeve portion and an inverted cup shaped portion, said cup shaped portion having therein an integral interiorly located rib made up of a series of annularly arranged bosses presenting downwardly facing arcuate surfaces, the outer side wall of said cup shaped portion being

apertured at spaced points registering with said bosses, tubular metal legs extending outward from the head and having inner end portions projecting through said apertures and lying against the complementary arcuate surfaces on said bosses, and rivets through said bosses and the contacting portions of the legs for fixing the legs to the head.

6. In a base of the type described the combination of a central head having a vertical bore therein to receive a standard, said head having a downwardly facing inverted cup shaped portion at its lower end, a plunger, means supporting said plunger within the confines of said cup shaped portion for movement into and out of said bore to engage releasably a vertically adjustable standard inserted in the bore, the side wall of said cup being interrupted to expose the outer end of said plunger, said side wall being apertured at spaced points, and a plurality of tubular metal legs projecting from said head with their inner end portions snugly fitted in said apertures.

7. In a supporting base of the type described the combination of a metal head member of inverted cup shape, a vertical sleeve rigid with said member to receive a standard, said member having a discontinuous side wall fashioned in the form of a plurality of downwardly facing pairs of fingers, a plurality of tubular metal legs extending outwardly from said head member at spaced points about it, and the inner end portions of said legs being arranged between corresponding pairs of fingers with the latter clenched about the legs.

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