April 2, 1968 T. G. WALKINSHAW 3,376,068

FOOTRING MOUNTING FOR CHAIRS

Filed Oct. 3, 1966

Fig. 1.

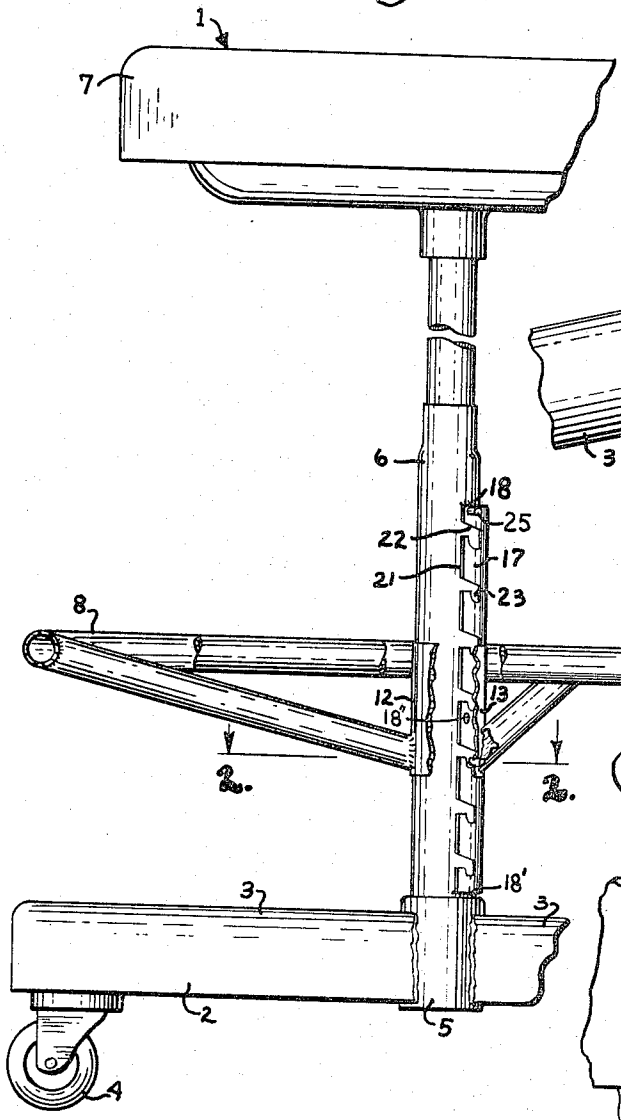


Fig. 2.

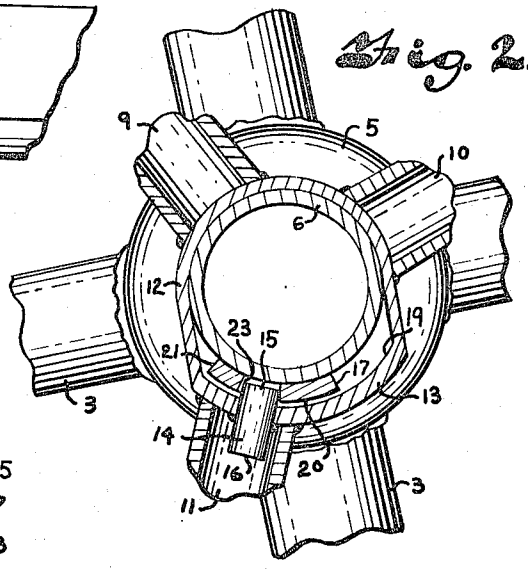
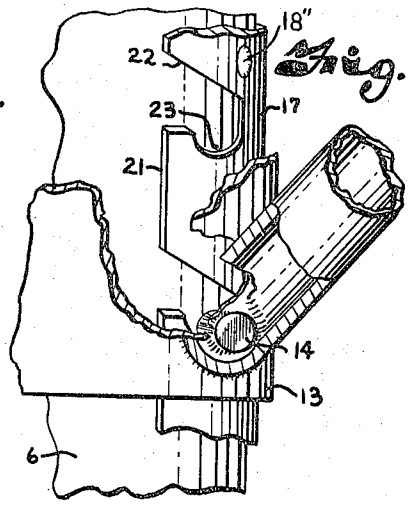


Fig. 3.



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FOOTRING MOUNTING FOR CHAIRS

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ABSTRACT OF THE DISCLOSURE

This invention relates to a footrest or ring vertically and adjustably mounted on a pedestal of a chair wherein there is mounted upon a barrel a hub or elongated sleeve surrounding the barrel, and is vertically and rotatably slidable with respect thereto. The hub has a vertically extensible bulge portion, to which a pin is rigidly secured having its inner ends projecting inwardly of the bulge portion. An elongated strip member is rigidly secured to the barrel, and has a plurality of spaced apart slots, the upper edge of the slots extending laterally and downwardly into the strip member and into the pockets for receiving the pin. The upper side of the slot forms a cam surface for guiding and aiding in the pin being entered into the slots and pockets and removal of the pin from the pockets and slots by upward pressure on the ring. There is also included a stop member at the top, for preventing dislodgement of the ring and its parts from the barrel.

This invention relates to chair structures and, more particularly, to a vertically adjustable mounting for footrings.

Heretofore, adjustable footring mountings consisted of rather complex structures which often included spring loaded plungers selectively receivable in sockets or the like. Such structures are relatively complex, are often difficult to operate, must be kept clean and oiled for proper operation, and add considerably to the manufacturing cost of the chair.

The principal objects of the present invention are: to provide an adjustable mount for a chair footring which is very simple in design and inexpensive in construction; to provide such an adjustable mount which is easy to operate and has no movable locking parts; to provide such mounting apparatus which is relatively impervious to the accumulation of dirt or foreign matter on engaging parts; and to provide such mounting structure for a pedestal chair which exhibits long life and is well suited for its intended purpose.

Other objects and advantages of this invention will become apparent from the following description taken in connection with the accompanying drawings wherein are set forth by way of illustration and example certain embodiments of this invention.

FIG. 1 is a fragmentary, elevational view showing a chair structure having a footring mounted thereon with apparatus embodying this invention.

FIG. 2 is a cross-sectional view through the barrel of the chair structure taken on the line 2—2, FIG. 1, on an enlarged scale, particularly showing details of the ring supporting apparatus.

FIG. 3 is a fragmentary elevational view, on an enlarged scale, further showing details of the mounting apparatus.

Referring to the drawings in more detail:

The reference numeral **1** generally indicates a chair structure. The structure **1**, in this example, is in the form of an elevated stool, however, armrests and a back may be added, if desired, without departing from the scope of this invention. The structure includes a base **2** having radial legs **3** terminating at the outer ends thereof in depending casters **4**. The inner ends of the legs **3** are joined to a hub portion **5** upon which is centrally secured an elongated upwardly extending barrel **6**. A seat **7** is suitably supported on the barrel **6** and is spaced upwardly from the base **2**. The barrel **6**, if desired, may be provided with suitable structure (not shown for adjustably raising and lowering the seat **7** with respect to the base **2**.

A horizontal footring **8** in the form of a circular tube surrounds the barrel **6** and is spaced radially outwardly therefrom, the axis of the ring preferably coinciding with the axis of the barrel. A plurality of support arms **9**, **10** and **11** are rigidly secured to the footring **8**, preferably at the inner or lower surface thereof and extend radially inwardly and, in this example, downwardly toward the barrel **6**. A hub **12** is generally in the form of a vertical, elongated sleeve and closely surrounds the barrel **6** but is vertically and rotatably slidable with respect thereto. The support arms **9**, **10** and **11** are rigidly secured at the inner ends thereof to the hub **12**, for example, by welding.

The hub **12** has a vertically extending bulge portion **13** along the entire length thereof which is spaced slightly outwardly of the barrel **6** as best illustrated in FIG. 2. A pin **14** extends horizontally through the bulge portion **13** and is rigidly secured thereto, for example, by welding. The pin **14** has an inner end **15** projecting inwardly of the bulge portion **13** and an outer end **16** projecting outwardly of the bulge portion.

An elongated strip member **17** is rigidly secured to the barrel **6**, for example, by welding, as indicated at **18** and **18'**, and extends vertically therealong defining a portion over which the hub **12** must move for selecting an adjusted height for the footring **8**. The strip member **17** projects a small distance radially outwardly of the barrel **6**, for example, the thickness thereof, however such distance is greater than the distance between the pin inner end **15** and the surface of the barrel **6**, FIG. 2. The strip member **17** does not project sufficiently to interfere with the free movement of the bulge portion **13** vertically and partially rotationally thereover upon moving the hub **11**. To accomplish this, the strip member **17** is limited to a circumferential width substantially less than the interior circumferential width of the bulge portion **13**, and radial clearance is provided between the inner surface **19** of the bulge portion **13** and the outer surface **20** of the strip member.

The strip member **17** has a vertical side edge **21** interrupted by a plurality of vertically spaced apart slots **22**. The slots **22** extend laterally and downwardly into the strip member **17** and form respective, vertically spaced apart, rounded pockets **23** therein for laterally receiving and supporting the pin inner end **15** against downward movement and thereby selectively supporting the ring **8** against downward movement.

In operation, when it is desired to adjust the footring **8** to a new position, the ring is pulled upwardly while being rotated about its axis so as to move the pin end **15** out of and away from the pocket **23** in which it is located. When the end **15** of the pin is rotated outwardly past the communicating slot **22**, the hub **12** is free to move vertically along the barrel without interference by the strip member **17**. During such movement the pin **14** is located in the free area **23** along the edge **21**, the bulge portion **13** being of sufficient circumferential width for this purpose. When the ring is located at the desired level, it is rotated in the reverse direction whereupon the pin end **15** either moves into a slot **22** or slidably bears against the vertical edge **21**. If the latter occurs, a further slight adjustment, either upwardly or downwardly, will align the pin end with the closest slot **22** whereupon the ring **8** is rotated further until the pin end **15** is directly above the communicating pocket **23** whereupon releasing the ring

will cause the pin end to engage in the pocket, locking the ring in the new position. A pin **25** is rigidly secured to the upper end **26** of the strip **17** to form a stop and prevent removal of footrest **8** from barrel **6**.

In order to provide a cleaner appearance and prevent an annoying projection of the pin outer end **16** from the exposed outer surface of the hub **12**, the support arm **11**, being hollow, is positioned to receive the pin outer end **16** therein, whereupon the junction between the support arm **11** and the hub **12** surrounds and hides the pin.

The above described structure has been found to provide a simple, inexpensive and highly effective adjustable footring mounting which is insensitive to the accumulation of dirt and is easily operated even by inexperienced persons. It is to be understood that although one form of this invention has been illustrated and described, it is not to be limited thereto except insofar as such limitations are included in the following claims.

What I claim and desire to secure by Letters Patent is:

1. Chair structure comprising:

(a) a base, a barrel mounted on said base and extending upwardly therefrom, a seat supported on said barrel and spaced above said base,

(b) a foot supporting member spaced from said barrel, a hub at least partially surrounding said barrel and being vertically and rotatably slidable thereon, means connecting said foot supporting member to said hub,

(c) said hub having a portion spaced outwardly of said barrel, an extension member on said hub portion and having an inner end projecting inwardly thereof, and

(d) strip means on said barrel, said strip means projecting radially outwardly of said barrel a distance greater than the distance between said extension member inner end and said barrel, but less than the distance between said hub portion and said barrel, said strip means having a width less than the interior width of said hub portion,

(e) said strip means having a side edge, a plurality of vertically spaced apart slots interrupting said side edge, said slots extending laterally into said strip means and forming respective pockets for receiving and supporting said extension member against downward movement and thereby adjustably supporting said ring against downward movement.

2. The chair structure as set forth in claim **1** wherein:

(a) said foot supporting member is a horizontal footring surrounding said barrel and spaced radially outwardly therefrom.

3. The chair structure as set forth in claim **1** wherein:

(a) said means connecting said foot supporting member to said hub comprises a plurality of radially extending support arms secured at opposite ends respectively to said foot supporting member and said hub.

4. The chair structure as set forth in claim **1** wherein:

(a) said hub portion is a vertically extending bulge on said hub.

5. The chair structure as set forth in claim **1** wherein:

(a) said extension member on said hub is a pin rigidly fastened to said hub portion.

6. The chair structure as set forth in claim **1** wherein:

(a) said strip means comprises an elongated strip rigidly secured to said barrel and extending vertically therealong.

7. The apparatus as set forth in claim **5** wherein:

(a) said pin extends outwardly through said hub, and

(b) said means connecting said foot supporting member to said hub includes a hollow support arm secured to said hub about said pin,

(c) whereby exteriorly of said hub said pin is covered by said last named support arm.

8. In a chair structure having an upwardly extending barrel and a foot supporting member vertically and rotatably slidable on said barrel, apparatus for adjustably supporting said foot supporting member along said barrel comprising:

(a) vertical strip means associated with said barrel and having a plurality of vertically spaced apart slots extending laterally thereinto, said slots each communicating with an extension receiving pocket,

(b) an extension on said foot supporting member and rigid with respect thereto, said extension being laterally receivable in a selected slot upon rotation of said foot supporting member and engageable in the pocket associated therewith for supporting said foot supporting member vertically on said barrel, said slots extending laterally and downwardly into said pockets, the upper face of said slots forming a cam surface against which said extension on said foot supporting member engages when said foot supporting member is being raised and to act as a guide for said extension when entering into and being removed from said slots and said pockets.

9. The apparatus of claim **8**, wherein said extension on said foot supporting member is a pin rigid with said member for engaging said cam surface on said slots and in said pockets.

10. The apparatus of claim **8**, including stop means on said strip for preventing removal of said foot supporting member from said barrel.

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