C. R. UHL.

CLUTCH FOR ADJUSTABLE STOOLS OR THE LIKE.

APPLICATION FILED JUNE 7, 1922.

1,435,627. Patented Nov. 14, 1922.

FIG-1-

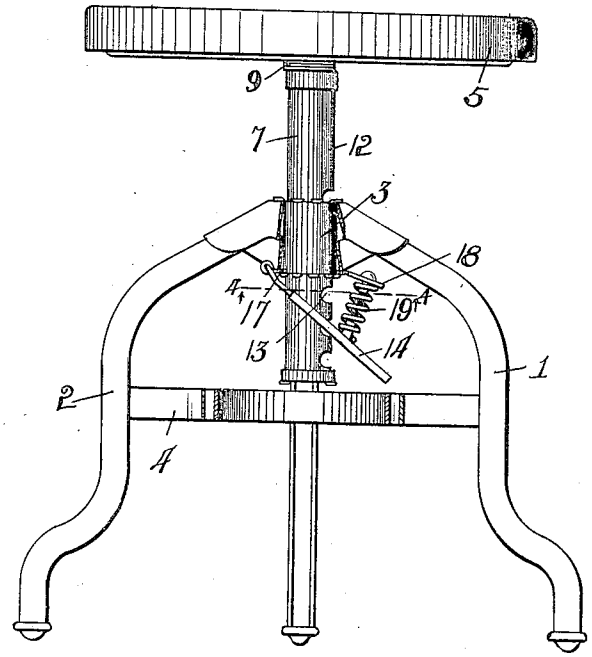


FIG-2-

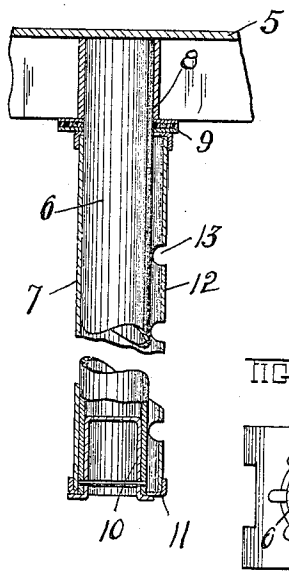


FIG-3-

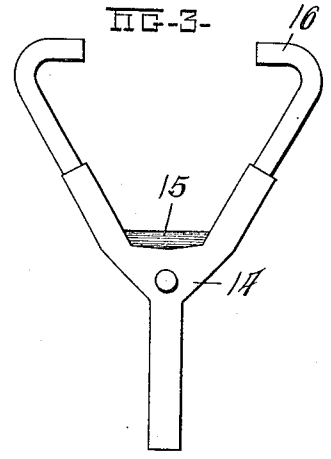
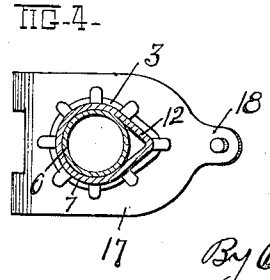


FIG-4-



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His attys.

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UNITED STATES PATENT OFFICE.

CLEMENT R. UHL, OF TOLEDO, OHIO, ASSIGNOR TO THE TOLEDO METAL FURNITURE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

CLUTCH FOR ADJUSTABLE STOOLS OR THE LIKE.

Continuation of application Serial No. 446,083, filed February 18, 1921. This application filed June 7, 1922. Serial No. 566,676.

To all whom it may concern:

Be it known that I, CLEMENT R. UHL, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have made an invention appertaining to Clutches for Adjustable Stools or the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to releasable clutch means for vertically adjustable chairs, stools, tables, or the like, and particularly to those commonly known as the "revolving" type in which the seat or top member is free to revolve with respect to the pedestal member.

The object of my invention is the provision of a simple and efficient clutch construction of the class described, which is adapted to firmly hold the top member against lowering relative to the pedestal member from any adjusted position and at the same time is automatically operable to permit a raising of the top member relative to the pedestal member when a raising pressure is applied to the former and the latter is held against raising. Further objects and advantages of the invention will be apparent from the following detailed description thereof.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of a stool embodying the invention with a part broken away. Fig. 2 is an enlarged fragmentary detail of the stool shaft and bearing sleeve therefor. Fig. 3 is an enlarged plan view of the lever member of the clutch, and Fig. 4 is a cross-section of the seat shaft and bearing sleeve on the line 4—4 in Fig. 1 with parts removed.

Referring to the drawings, 1 designates the pedestal member of a stool, which may be of any suitable form and construction, and in the present instance comprises four legs 2, joined at their upper ends to a vertical guide sleeve 3. The legs are laterally braced and strengthened below their joined ends by a bracing means 4. This form of pedestal is old in the art and, nothing new is claimed therefor.

The seat member 5 of the stool has a shaft or stem 6 rigidly projecting a desired distance downward from its central portion, and carried by this shaft is a combined bearing and clutch sleeve 7. This sleeve preferably is substantially co-extensive in length with the downwardly projecting portion of the shaft and has its upper end in bearing thrust contact with a stationary thrust collar or shaft carrying spider 8 on the under side of the seat through the medium of a plurality of loose or relatively rotatable bearing collars 9, the center one of which may be of hard pressed fibre. The shaft 6 at its lower end has a U-shaped member 10 fixedly inserted therein with its legs projecting below the shaft end and bent outward under the bottom of a flanged collar 11 to cooperate therewith to retain the sleeve 7 on the shaft in a loose rotatable manner. It is therefore evident that the shaft 6 and sleeve 7, while connected for free relative movements, are caused to have axial movements together.

The sleeve 7 projects downward through the pedestal sleeve 3 for free axial movements relative thereto. The sleeve 7 is provided on one side thereof throughout its length with a longitudinally extending rib 12, provided, in the present instance, by an outward bulging of the sleeve at such point. This rib extends down through a registering recess in the pedestal sleeve to prevent a relative turning of the two sleeves 3 and 7. The rib has a plurality of notches or incuts 13 provided in longitudinally spaced relation therein. Any one of these notches may be engaged by a clutch lever 14 to cooperate therewith to retain the bearing sleeve 7 in longitudinally adjusted position with respect to the pedestal.

The clutch lever 14, in the present instance, is of Y form with its forked portion straddling the bearing sleeve 7 below the pedestal sleeve 3 in position for its crotch 15 to engage in a registering notch 13 of the bearing sleeve. The free ends of the fork arms of the lever are inwardly turned

to form trunnions 16, which are fulcrumed in suitable bearings provided in a plate 17 carried by the lower end of the pedestal sleeve 3 in encircling relation thereto. The plate 17 at the opposite side of the sleeve 7 is provided with an ear 18 between which and the handle portion of the lever 14 is disposed a coiled expansion spring 19 to normally urge a movement of the lever into clutch engagement with a registering sleeve notch 13, as is apparent. The handle end of the lever may be swung upward against the tension of the spring 19 to release its crotch 15 from locking engagement with a notch 13.

It is evident in the use of a stool, chair, table, or the like, embodying my invention, that the seat or top member thereof may be easily and quickly raised to any desired position within its range of adjustment by simply lifting upward thereon while the pedestal member is held down or in stationary position by the feet, or otherwise, the lever 14 slipping out of engagement with and past the successive notches during the applied raising pull. The seat is firmly supported in any position of adjustment by reason of the engagement of the lever crotch with a notch 13 in the sleeve 7, and the seat can only be lowered from such raised position by a manual movement of the clutch lever 14 to released position.

One of the objections to the use of stools of the class described and shown herein is the fact that the seat post or standard 7 which supports the seat and extends down through the customary bearing sleeve or hole of the pedestal invariably is loose in the bearing sleeve or hole and permits a limited rocking or wobbling movement of the seat with respect to the pedestal. With the form of clutch which I employ this wobbling action is entirely eliminated as a downward pressure on the seat post or standard 7 will exert a downward thrust at one side thereof on the clutch lever 14 and this downward thrust will then be communicated through the lever to the pedestal at the opposite side of the seat post so that the seat post, when a downward pressure is exerted thereon, will be firmly held against wobbling in the bearing even though it does not have a tight fit therein.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes, without departing from the spirit of the claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. In an article of the class described, a pedestal having a vertical bearing, a top member having a supporting standard guided by the pedestal bearing for vertical reciprocatory movements, said standard having a series of longitudinally spaced notches in one side thereof, an inclined forked lever straddling the standard below the pedestal bearing and fulcrumed to the pedestal at the side of the standard opposed to its notches and adapted to have its crotch portion normally engage with a registering notch to support the standard in any position of vertical adjustment, and means acting on the lever to yieldingly retain it in clutch engagement with the standard.

2. In an article of the class described, a pedestal having a vertical bearing sleeve, a second sleeve mounted in the bearing sleeve for longitudinal adjustment therein and having a notched longitudinally extending rib at one side thereof, a top member rotatably carried by the second sleeve, a forked lever straddling the second sleeve below the bearing sleeve with its crotch in position to engage the rib notches and with its fulcrum at the opposite side of the second sleeve, a member fixedly carried by the pedestal and forming a fulcrum for the lever, and means interposed between the fulcrum member and lever to normally retain the lever in clutch engagement with the second sleeve.

3. In an article of the class described, a pedestal having a vertical bearing, a post mounted in said bearing for longitudinal adjustment therein, and a clutch member releasably engaged to the post below the bearing at one side thereof and extending across the post on an upward incline and connected to the bearing at the opposite side of the post.

4. In an article of the class described, a pedestal having a vertical bearing, a post mounted for vertical movements in the bearing and having vertically spaced notches in a side thereof, a clutch lever fulcrumed to the pedestal at the opposite side of its bearing to the post notches and extending downward therefrom across the post and having a part for releasable engagement with a notch in the post to support the post in adjusted position and to prevent lateral movement of the post in its bearing when a downward pressure is exerted on the post.

In testimony whereof I have hereunto signed my name to this specification.

CLEMENT R. UHL.