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ROLLING STOOL HAVING MEANS TO LOCK IT AGAINST ROLLING

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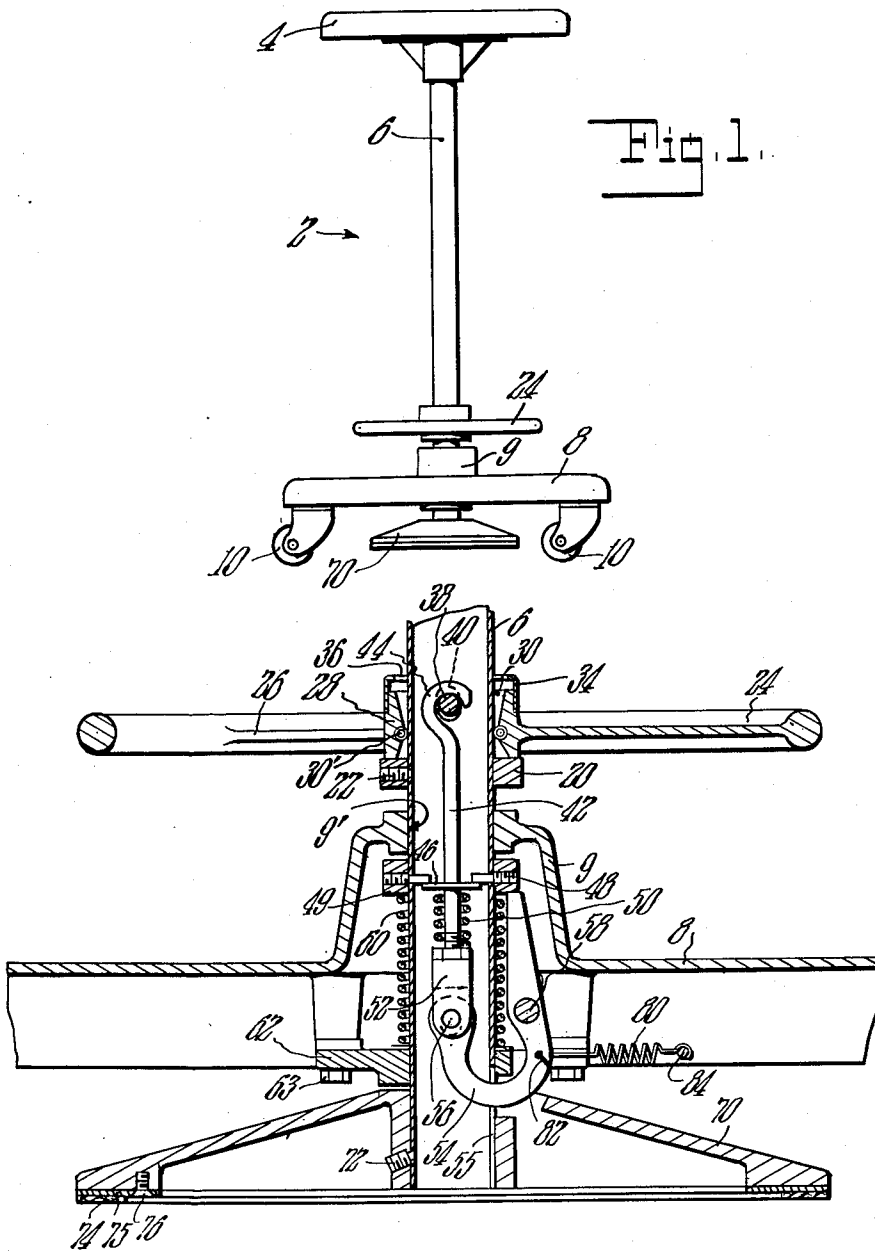


Fig. 2.

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ROLLING STOOL HAVING MEANS TO LOCK
IT AGAINST ROLLINGKenneth H. Pond and Frederick Rogers,
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Our invention relates to new and useful improvements in an operating stool and is directed more particularly to the provision of a means whereby said stool may be easily converted between free-rolling and fixed positions and to improvements in the means for accomplishing this function.

It is the principal object of our invention to provide a new and novel construction of the type in which a free-rolling stool or chair is provided with a means which permits the locking of said stool or chair in a desired position relative to the floor or base on which it rolls. Such a feature in a stool or chair is particularly adaptable to the needs of physicians or dentists who, due to the nature of their work employ stools or chairs in the course of their examinations or operations.

There is the further provision of a simplified construction by which the above stated functions are obtained whereby are eliminated the now present objectionable inconveniences and which in itself will operate with a maximum amount of ease and with a minimum degree of effort.

One of the primary purposes of our invention is to provide structural and operational improvements in devices of the class to which reference has been made, which improvements not only simplify the structure as such, but also provide important distinct advantages in strength, durability, design and the like.

With the above primary object in view, it is another object of our invention to provide a construction of the above described character in which the number of operating parts is greatly reduced and which is compact in accordance with the desires and demands of manufacturers and purchasers alike and which is not only distinctive in its appearance and practical in its value but also reliable in its operation and efficient in its use.

It is a still further object to provide a device which is constructed of relatively simple parts which are adapted to be readily assembled and which when once assembled are securely retained in operative relationship.

We have devised a new and novel structure which offers distinct advantages over known prior art devices inasmuch as there is no known device which provides a stool or chair which can accomplish the functions of the stool of our invention.

Our invention also consists in certain new and original features of construction and combination of parts hereinafter set forth and claimed and shown in the annexed drawings which illus-

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trate a certain form of embodiment thereof, which form is deemed preferable and is a specific disclosure for the purpose of illustrating one embodiment of the invention by way of example since the same has been found in practice to give satisfactory and reliable results.

All of the above objects we accomplish by means of such structure and relative arrangements of parts thereof, as will fully hereinafter appear.

Our invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claims hereunto annexed and more fully described and referred to in the specification with the accompanying drawings wherein:

Fig. 1 is a small scale side elevational view of a stool or chair according to our invention; and Fig. 2 is a sectional elevational view of the operating mechanism of our invention.

Referring now to the drawings more in detail, the invention will be fully described.

In Fig. 1 we have shown a stool or chair 2 having a seat 4 mounted on the upper extremity of a post 6 in any of the conventional manners. A rollable support member 8 is slidably associated with the opposite lower extremity of the post 6 whereby the post 6 is freely slidable within hub 9 of the support member 8 and a plurality of casters 10 are carried by the underside of the support member 8 to provide a stool which may be rolled or transported from place to place, all as is well known.

The post 6 is tubular so as to facilitate the incorporation therewithin of portions of the structure of our invention.

A collar 20 is fixed around the post 6 by means of a screw 22 or similar means.

A circular release member 24 having a plurality of spokes 26 and a hollowed hub 28 is disposed around the post 6 so that the hub 28 rests on the collar 20.

The bore 30 of the hub 28 is tapered outwardly in both directions from the center thereof and a yieldable member 30' is disposed centrally of the bore at the point of smallest diameter. The bearing member 30' yieldingly embraces the post 6 so as to provide means whereby the release member 24 may be tilted relative to the post 6 and collar 20. The yieldable member 30' may be a coil spring around member 6 or it may be a ring-like member formed from yieldable rubber.

The release member 24 is of such dimension as to make it easy for a sitter on the seat 4 to tilt

same by pressing thereagainst with his foot at any point around its circumference so as to obtain the desired tilting action and to accomplish the operation shortly to be described. That is to say, the release member 24 is held loosely on the post 6 for tilting purposes.

A cap member 34 is provided which surrounds the post 6 and is fixed to the top of the hub 28. An opening 36 in the cap 34 is of such dimension that as the release member 24 is tilted, the cap 34 does not contact the post.

A pin 38 extends through a slot 40 in the post 6 and is secured at its opposite ends to the hub member 28. It will be here observed that when the release member 24 is tilted, the pin 38 is elevated relative to the post.

A release rod 42 is disposed within the post 6 and has an upper hook portion 44 which is engageable with the pin 38, as shown.

The release rod 42 is slidable in a washer 46 which is adapted to abut a plurality of dogs 48 which extend inwardly through a collar 49 surrounding the post 6 and through the post 6 itself and into the bore thereof.

A spring 50 surrounds the lower extremity of the release rod 42 and is disposed between the washer 46 and a yoke or bracket 52 with which the release rod 42 is engaged to urge yoke 52 downwardly.

A U-shaped latch member 54 is provided and has an intermediate portion which extends through a slot 55 in the post 6, as shown.

The inner end of the latch member 54 is pivotally connected to the yoke 52 by means of a pin 56. The outer end of the latch member 54 engages the underside of the collar 49 when in latching action.

The latch member 54 is pivoted at 58 by a pin which is secured to the rollable support member 8.

A spring member 60 surrounds the post 6 and is disposed between the collar 49 and a plate 62 surrounding the post 6 and secured to the rollable support member 8 as by bolts 63.

The rollable support member 8 has a hub portion 9 which surrounds the post 6 in a loosely engaging manner whereby post 6 is slidable within the bore 9' of the hub portion 9. Spring 60 urges the post upwardly and resists downward movements thereof.

At the lower end of the post 6, a supporting base member 70 is secured thereto. In the form shown, the supporting base member 70 is circular in shape although it will be understood that same may be of any desired configuration. The supporting base member 70 may be fixed to the post 6 as by a screw 72 or the like.

The lowermost area of member 70 is adapted to rest squarely upon the floor or support upon which the stool is being used. A sheeting of felt or yieldable rubberlike material 74 may be fixed to a ring member 75 which is secured to the member 70 as by screws 76 or the like.

This structure is so designed as to prevent slippage or other unwanted movement of the stool when the member 70 is in its lowermost or supporting position.

Spring member 60 urges the post 6 and the base member 70 upwardly when not in use, that is, when no occupant is in the stool. It will be here understood that when the stool is not in use, the base member 70 may be in an uppermost position away from the floor. When a sitter is on the chair, he may, with his feet, move the structure about on the casters. When on the seat

and he tilts the member 24, the base member through the sitter's weight is moved to the floor. That is, as the member 24 is tilted, member 42 is raised by the upward movement of the pin 38 in the slot 40. The outer end of the latch member 54 is thereby moved outwardly. That is, through the action upon the pivot 58 the outer end of member 54 is disengaged from its engagement with the collar 49. The post 6 and the member 70 are lowered by the weight of the sitter to a point where member 70 rests upon the floor and supports the sitter and prevents movement of the rollable support on the floor.

When the sitter desires to move the stool he relieves the seat of his weight momentarily so that the post is moved upwardly by spring 60 and a spring 80 moves latch into latching position. Said spring has one end 82 secured to the latch 54 and its opposite end secured to a member 84 of member 8.

When in the desired location the sitter tilts member 24 whereby the post is released and member 70 contacts the floor.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claims are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

1. A stool construction comprising in combination, a support provided with rollers for rolling along the floor for transporting said construction, a post having a seat on its upper end and being reciprocable vertically relative to said support between upper and lower positions and provided on its lower end with a supporting base adapted in lower position of said post to bear on a floor and support said post and hold said support against rolling, releasable means for holding said post and supporting base in upper position, and means for releasing said means.

2. A stool construction comprising in combination, a rollable support provided with wheels for transporting said construction along on a floor, a post having a seat on the upper end thereof for a sitter and being reciprocable vertically in said support between upper and lower positions, a supporting base on the lower end of said post for bearing on a floor in lower position of the post for supporting said post and sitter thereon, releasable holding means for releasably holding said post in upper position whereby said post and a sitter are supported by the rollable support, and means operable by a sitter on said seat for actuating said releasable means whereby said post is moved to lower position by the weight of said sitter and said base engages the floor and supports the weight of said sitter and holds the rollable support against movement.

3. A stool construction comprising in combination, a rollable support provided with wheels for transporting said construction along on a floor, a post having a seat on the upper end thereof for a sitter and being reciprocable vertically in said support between upper and lower positions, a supporting base on the lower end of said post for bearing on a floor in lower position of the post

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for supporting said post and sitter thereon, releasable holding means for releasably holding said post in upper position whereby said post and a sitter is supported by the rollable support, and means operable by the foot of a sitter on said seat for actuating said releasable means whereby said post is moved to lower position by the weight of said sitter and said base engages the floor and supports the weight of said sitter and holds the rollable support against movement, and means urging said post upwardly whereby when said seat is relieved of the weight of a sitter said post moves to upper position for the releasable holding by said holding means.

4. A stool construction comprising in combination, a support provided with supporting wheels by means of which the stool may be rolled about the floor, an elongated post reciprocable vertically in said support between upper and lower positions having a supporting base fixed on its lower end below the support for bearing on the floor and a seat on its upper end above the support for a sitter, holding means swingable on said support between holding and releasing positions and a projecting portion provided on said post engageable by said holding means in holding position thereof for releasably holding said post in upper position, and operating means carried by said post for swinging said holding means to releasing position having a member disposed above said support engageable by the foot of a sitter on said seat.

5. A stool construction comprising in combination, a support provided with supporting wheels by means of which the stool may be rolled about the floor, an elongated post reciprocable vertically in said support between upper and lower positions having a supporting base fixed on its lower end below the support for bearing on the floor and a seat on its upper end above the support for a sitter, holding means swingable on said support between holding and releasing positions and a projecting portion provided on said post engageable by said holding means in holding position thereof for releasably holding said post in upper position, and operating means carried by said post for swinging said holding means to releasing position having a member disposed above said support engageable by the foot of a sitter on said seat, said holding means including a member pivotally connected to said support having an inner end and an outer end, said outer end of said holding means being engageable with the projecting portion of the post and the inner end thereof being connected with said operating means.

6. A stool construction comprising in combination, a support provided with supporting wheels by means of which the stool may be rolled about the floor, an elongated post reciprocable vertically in said support between upper and lower positions having a supporting base fixed on its lower end below the support for bearing on the floor and a seat on its upper end above the sup-

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port for a sitter, holding means swingable on said support between holding and releasing positions and a projecting portion provided on said post engageable by said holding means in holding position thereof for releasably holding said post in upper position, and operating means carried by said post for swinging said holding means to releasing position having an operating member disposed above said support engageable by the foot of a sitter on said seat, said holding means including a member pivotally connected to said support having an inner end and an outer end, said outer end of said holding means being engageable with the projecting portion of the post and the inner end thereof being connected with said operating member, said operating means being circular in form disposed around said post and mounted thereon for tilting movements thereof.

7. A stool construction comprising in combination, a support provided with supporting wheels by means of which the stool may be rolled about the floor, an elongated post reciprocable vertically in said support between upper and lower positions having a supporting base fixed on its lower end below the support for bearing on the floor and a seat on its upper end above the support for a sitter, holding means swingable on said support between holding and releasing positions and a projecting portion provided on said post engageable by said holding means in holding position thereof for releasably holding said post in upper position, and operating means carried by said post for swinging said holding means to releasing position having an operating member disposed above said support engageable by the foot of a sitter on said seat, said holding means including a member pivotally connected to said support having an inner end and an outer end, said outer end of said holding means being engageable with the projecting portion of the post and the inner end thereof being connected with said operating member, said operating means being circular in form disposed around said post and mounted thereon for tilting movements thereof, and spring means urging said post upwardly relative to said support.

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