

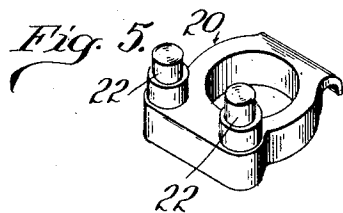
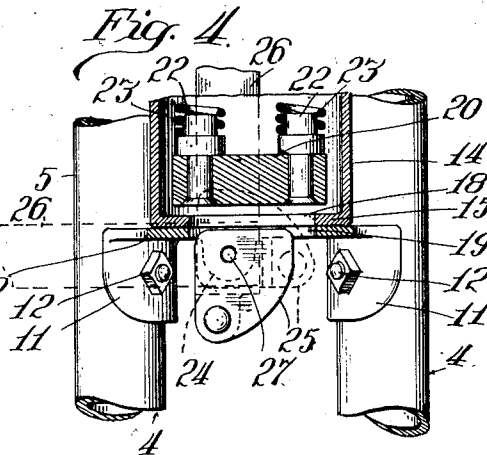
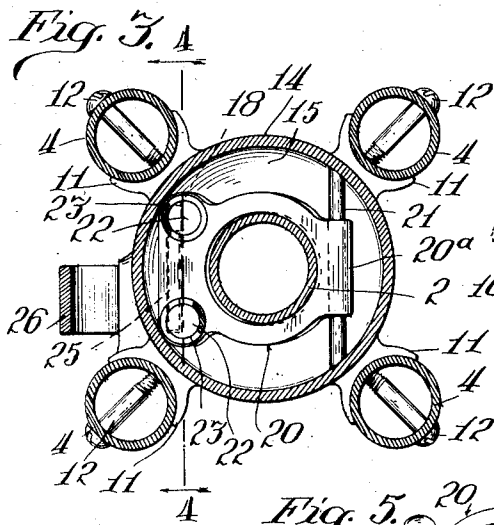
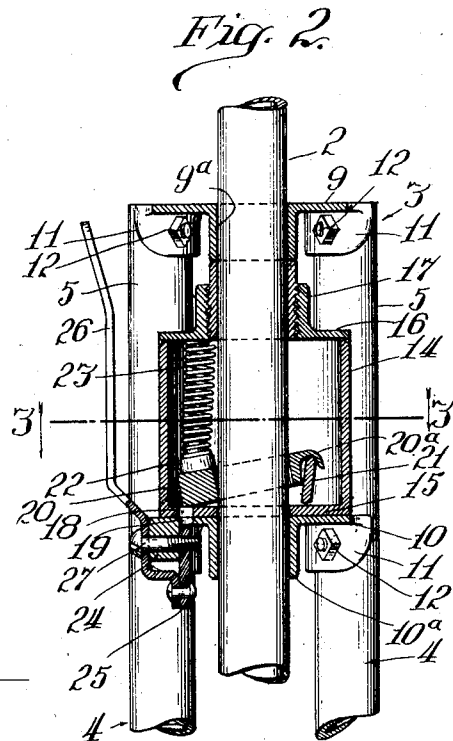
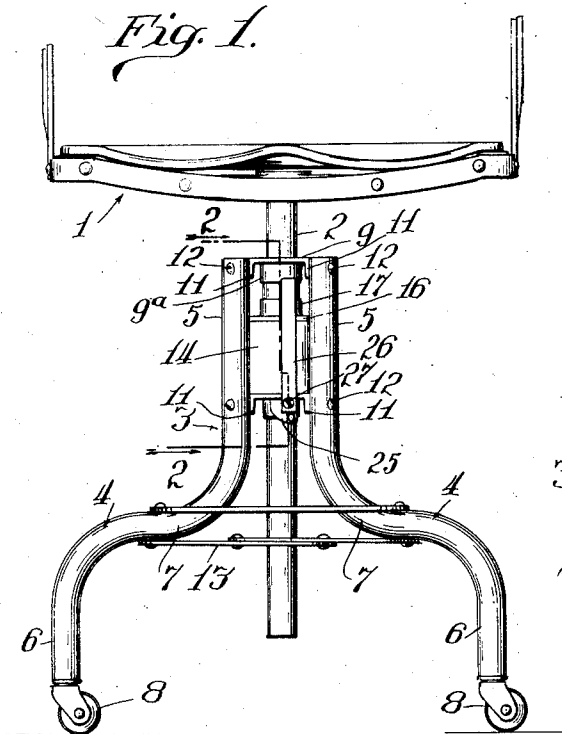
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1,674,081

A. J. ADAMS

SWIVELING CHAIR

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UNITED STATES PATENT OFFICE.

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SWIVELING CHAIR.

Application filed July 27, 1925. Serial No. 46,228.

This invention relates to improvements in swiveling chairs and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

5 The primary object of the invention is to provide a novel and improved bearing between the seat post and standard of a chair whereby the post may be quickly adjusted vertically with respect to the standard and
10 at the same time may have a rotative bearing therein.

A further object of the invention is to provide a bearing construction wherein a plain tubular post may be employed instead
5 of the solid threaded post as heretofore, thus eliminating the necessity of considerable machine work with a resultant reduction in the cost of manufacture and in the weight of the finished chair.

10 These objects of the invention as well as others together with the many advantages thereof will more fully appear as I proceed with my specification.

In the drawings:—

5 Fig. 1 is a view in front elevation of a swiveling chair embodying my invention.

Fig. 2 is a detail vertical sectional view on an enlarged scale as taken on the line 2—2 of Fig. 1.

0 Fig. 3 is a horizontal sectional view as taken on the line 3—3 of Fig. 2.

Fig. 4 is a detail vertical sectional view as taken on the line 4—4 of Fig. 3.

5 Fig. 5 is a perspective view of a binding or clamping collar embodied in my improved construction.

Referring now in detail to that embodiment of the invention illustrated in the accompanying drawings:—1 indicates the seat frame and seat of a swiveling chair, and 2 indicates the post upon the top end of which the seat frame is secured in any suitable manner. As shown herein, said post is tubular and has a smooth exterior surface
5 as distinguished from a screw threaded exterior as heretofore. As the construction of the seat frame itself and the manner of attaching the same to the post, forms no particular part of the present invention, it need
10 not be described in further detail.

3 indicates as a whole, the standard or base of the chair and with respect to which the post is vertically adjustable and is capable of a rotative bearing in any one of its
5 adjusted positions. Said standard is made

up of a plurality of tubular metallic legs, 4 each comprising a vertical top portion or end 5 and a vertical bottom portion or end 6 which is offset with respect to top portion and is connected thereto by intermediate
60 horizontal and reversely curved portions 7. The bottom end of each leg is provided with the usual caster 8.

The top ends of said legs are grouped together about vertically spaced top and bottom
65 spiders or plates, 9 and 10 respectively, each of which includes arcuately spaced ears 11 with which said leg parts are engaged and are secured to, as by the bolts 12—12. Each plate includes vertically aligned de-
70 pending bearing sleeves 9^a and 10^a, respectively, to receive the tubular post 2. When the legs are secured to said spiders or plates, the bottom ends thereof are each disposed
75 radially so that the standard presents a stable support for the chair as a whole. The horizontal portions of said legs are all connected together by a suitable bracing spider 13.

Mounted on the tubular post 2, between
80 the spiders or plates 9 and 10 is a tubular barrel or housing 14 of a diameter substantially filling the space between the legs at this point. Said housing includes a flat bottom or end wall 15 which has an end
85 thrust rotative bearing on the top surface of the bottom spider 10, and a top wall 16 which has a tubular extension 17 that has an end thrust bearing against the bearing sleeve 9^a on the top spider or plate 9. In
90 said bottom wall of the barrel is provided a slot 18 (see Figs. 2 and 4) adapted to register with a slot 19 in the bottom spider or plate 19 for a purpose to appear later.

Located in the bottom end of the barrel is
95 a binding ring or annulus 20 (see Fig. 5) which fits somewhat loosely in said barrel and has a bore of a diameter permitting movement of the post therethrough when said ring stands in a plane at a right angle
100 to said post. Said ring has a hook 20^a on one side thereof which engages a cross bar 21 formed in the bottom portion of the barrel, diametrically opposite the slot 18 thereof. On the opposite side of said ring
105 on one face thereof are formed two studs 22—22 which receive the bottom ends of helical expansion springs 23—23, the top ends of which engage with the top wall of the barrel as best shown in Fig. 2. Said
110

expansion springs 23 normally urge said ring into a position wherein it is arranged in a plane at less than a right angle to the post. When the ring is brought into a right angular position with respect to the post, as will later appear, said post and standard are capable of a relative vertical movement, but, however, when the angular position of said ring is changed to one less than a right angle, the said ring binds on the post and securely connects it to the barrel so that the post and barrel are locked against relative endwise movement but will be capable of a rotating movement with respect to the standard.

The means for bringing the ring into said right angular position against the action of the springs 23 is operable from without the barrel and is as follows; on the bottom surface of the bottom spider 10 between two of the ears 11 and adjacent the slot 19 thereof before mentioned, is a depending ear or lug 24. Pivoted on said ear in the plane of the slot 19 is a cam shaped member 25 (see Fig. 4) adapted to be entered through said slot. On the other side of said ear is pivoted a lever 26, the common pivotal axis of said cam member and lever being provided by a pin 27. The short end of said lever is offset inwardly to engage a portion of said cam and is fixed thereto and the long outer end of said lever is offset outwardly to pass the adjacent leg members of the standard and at the same time provide the handle for actuating the cam.

Assume that the post 2 is in position with respect to the various parts before mentioned on the standard and that it is locked in one vertical position with respect to the standard by reason of the fact that the ring 20 is disposed in the barrel in a manner to bind upon the post. Under such conditions the operating lever 26 stands substantially vertical, and the cam 25 is located without the slot 19 in the bottom spider or plate 10. The post being gripped or bound by the ring of course is non-rotatively fixed with respect to the barrel which having end thrust bearing on the bottom plate 10 is free to rotate with respect to the standard.

Now assume that it is desired to adjust the seat and post vertically (either upwardly or downwardly) with respect to the standard, the seat is first turned so that the slot 18 in the bottom wall of the barrel is brought into register with the slot 19 in the plate 10. The lever 26 is then swung downwardly in a clockwise direction and the cam 25 will enter the registering slots 19 and 18 and engage that part of the ring directly opposite the pivotal point thereof and depress said part of the ring so that the ring stands in a position at a right angle to the post thus releasing the binding action of the ring on the post. An upward or downward

movement is then given to the seat and post until the desired adjusted height of seat is reached after which the lever 26 is actuated to release the ring which again binds upon the post as before described. Thus the adjustment is quickly made.

My improved construction has many advantages. It permits the use of a tube as distinguished from a threaded and key slotted solid post, thus reducing not only the cost of manufacture but also the weight and machine work required.

While in describing my invention, I have referred to certain details of mechanical construction and arrangement of parts thereof, I do not wish to be limited thereto except as may be pointed out in the appended claims.

I claim as my invention:

1. A chair embodying therein, a standard and a seat post having a smooth exterior, a tubular barrel like member surrounding said post, means on said standard engaging the ends of said barrel like member to prevent endwise movement but to permit a rotative movement thereof, means in said barrel like member for releasably binding said member to said seat post and a device carried by said standard and adapted to be passed through a part of said barrel like member for releasing said binding means from the seat post.

2. A chair embodying therein, a standard and a seat post having a smooth exterior, a barrel like member through which the seat post extends, means on said standard and engaging the ends of said barrel like member to prevent endwise movement but to permit a rotative movement thereof, a ring located in said barrel like member for releasably binding said member to the post and a lever operated device carried by said standard and adapted to be passed through a part of said barrel like member for releasing the binding ring from the seat post.

3. A chair embodying therein, a standard and a seat post having a smooth exterior, said standard comprising a plurality of legs, spaced plates connecting said legs together, a barrel like member arranged between said legs and engaging at its ends with said spaced plates and through which said seat post extends, a ring arranged in said barrel like member and adapted to bind against said post, and means supported by one of said spaced plates and adapted to be passed through a part of said barrel like member for actuating said ring to release the binding action thereof from said post.

4. A chair embodying therein, a standard and a seat post having a smooth exterior, said standard comprising a plurality of legs and top and bottom connecting plates, a barrel like member having a rotative bearing arranged between said legs and engaging at its ends with said spaced plates so as

to be capable of a rotative movement and through which said post extends, a ring arranged in said barrel like member and adapted to bind against said post and means carried by one of said plates for actuating said ring to release the binding action thereof from said post.

5. A chair embodying therein, a standard including top and bottom plates, and a post extending through said plates, a barrel like member arranged between said plates and having rotative bearing on one of plates and surrounding a portion of said post, a binding ring in said member for connecting said member to said post, and means carried by one of said plates for releasing the binding action of said ring.

6. A chair embodying therein, a standard including top and bottom plates, and a post extending through said plates, a barrel like member arranged between said plates and having rotative bearing on one of plates and surrounding a portion of said post, a binding ring in said member for connecting said member to said post, spring means in said member engaging said ring and normally urging it into binding action on said post, and means adapted to extend through one of said plates and through a portion of said barrel for engaging the ring to release its binding action from the post.

7. A chair embodying therein, a standard including top and bottom plates, and a post

extending through said plates, a barrel like member arranged between said plates and having rotative bearing on one of plates and surrounding a portion of said post, one of said plates and a portion of said barrel like member have slots therein adapted in one relative position to register with each other, a ring in said member and surrounding said post, spring means normally urging said ring into binding action on said post and means located on one of said plates and adapted to be entered through said slots when in registering position and to actuate the ring against said spring means to release the binding action of said ring on said post.

8. A chair embodying therein, a standard comprising a plurality of leg members, top and bottom bearing plates to which the top ends of said legs are secured in a grouped relation, a barrel like member surrounding said post between said plates and capable of a rotative bearing on one of said plates, a ring in said barrel member pivoted at one side thereto, spring pressed means in said barrel member engaging the opposite portion of said ring for holding the ring in binding engagement on said post, and means carried on that plate upon which the barrel member bears, for releasing the binding action of the ring from said post.

In testimony whereof, I have hereunto set my hand, this 6th day of July, 1925.

ARTHUR J. ADAMS.