No. 882,656. PATENTED MAR. 24, 1908.

W. J. TINGDAHL.

FURNITURE.

APPLICATION FILED JUNE 14, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

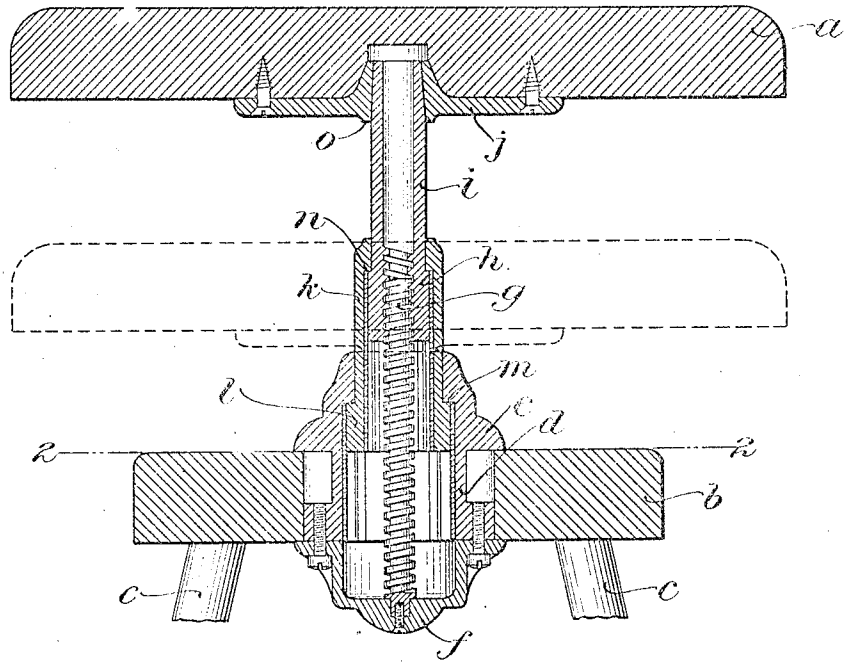
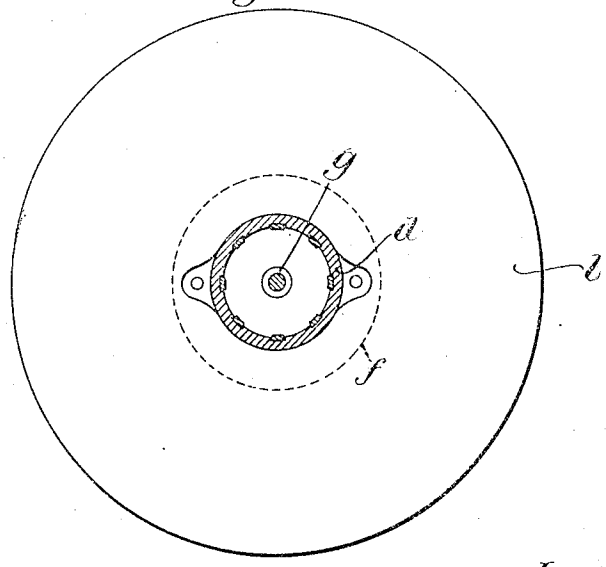


Fig. 2.



Witnesses:
Franklin C. Low.
Everett L. Emmy.

Inventor:
Walfrid J. Tingdahl.
by Emmy Booth & Powell
Atty's

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2 SHEETS—SHEET 2.

Fig. 3.

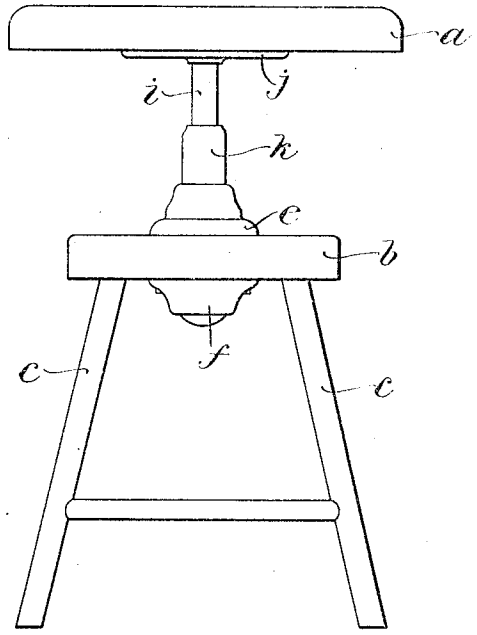
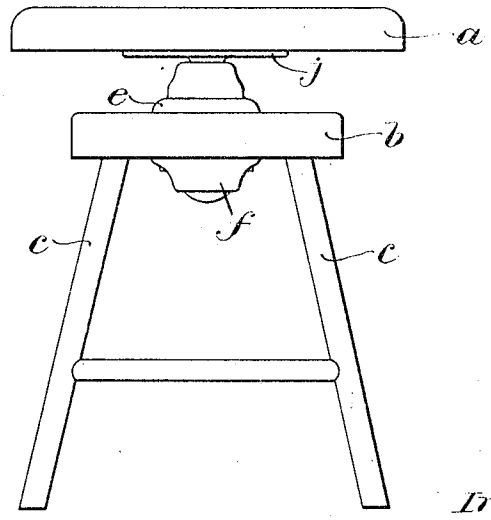


Fig. 4.



Witnesses:
Franklin E. Low
Emmett L. Emmy

Inventor:
Walfrid J. Tingdahl.
by Emery Booth Powell
Atty's.

UNITED STATES PATENT OFFICE.

WALFRID J. TINGDAHL, OF LOWELL, MASSACHUSETTS.

FURNITURE.

No. 882,656. Specification of Letters Patent. Patented March 24, 1908.

Application filed June 14, 1905. Serial No. 265,160.

To all whom it may concern:

Be it known that I, WALFRID J. TINGDAHL, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Furniture, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to furniture and more particularly though not exclusively to seat supports, the same being herein shown and described for illustrative purposes with reference to a piano stool having a revolving seat.

My invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, submitted for illustrative purposes, while its scope will be more particularly pointed out in the appended claims.

In the drawings,— Figure 1 is a vertical section taken through the supporting connections of a piano stool embodying one form of my invention; Fig. 2 is a plan in section on the line 2—2 in Fig. 1; Fig. 3 is an elevation of the piano stool shown in Fig. 1, with the seat elevated and the connections extended, and Fig. 4 is a similar view showing the seat depressed and the connections contracted.

The stool shown in Fig. 1, which is shown merely to illustrate one embodiment of my invention disclosed, comprises the swiveled revolving seat-portion *a* and the horizontal, flat seat-like supporting portion or top *b* mounted upon the legs *c*, each eccentrically attached thereto the seat portion being adjustable for elevation or depression relatively to the supporting portion by means of adjustable connections between the two members.

The particular construction of adjustable supporting connections employed upon the stool illustrated is shown in detail in Figs. 1 and 2. The supporting portion *b* is cut to receive the base piece *d* having the irregular cross-section shown in Fig. 2 and provided with the overlying flange *e*. The base piece is secured to the supporting portion *b* by a supporting plate *f* which is screwed to the two lugs shown upon the base piece and is of a size to overlie the under side of the supporting portion, acting therefore when secured in position as a washer to hold the base piece and its attached parts securely to the stool.

The supporting plate *f* provides support for the vertical screw *g*, the latter being held stationary in the plate *f*, as, for example, by squaring the lower end thereof and holding it in a squared recess by means of the set screw shown. Adjustable support for the seat *a* is provided by the screw *g* which engages with the rotatable nut *h*, the latter being attached to or as herein a part of the upwardly projecting hollow spindle *i*, which is fixedly secured at its upper end, as by a taper fit to the seat plate *j*, the latter screwed to the under side of the seat *a*. A thread carrying means mounted in the aperture in said seat-like supporting portion is afforded by my invention.

When the seat is in its raised position, as shown in Figs. 1 and 3, the elongated connection is rendered firm and secure by means of the telescopic sliding supporting sleeve *k* provided with babbitt bearings within which the nut is adapted to slide. The lower end of the sleeve is provided with the enlarged head *l* slidable also in babbitt bearings in a cylindrical recess or journal box within the base *d*, said enlarged head being limited in its upward movement by an overlying shoulder *m* on the base piece. The upper end of the sleeve is provided with a shouldered portion *n* which engages with the correspondingly shouldered part of the nut, so that as the latter is raised by appropriate rotation of its spindle it carries with it the sleeve until the limit of upward movement is reached by engagement of the enlarged sleeve head with the shoulder *m*, which is the position shown in Fig. 1. In this position although the nut has approached the end of the screw, firm and rigid support is given to the nut and its spindle directly from the base by means of the then extended supporting sleeve *k*.

When the nut is turned reversely it is lowered until the shoulder *o* on the overhead seat plate meets the upper end of the sleeve, the screw entering within the hollow interior of the descending spindle. Further reverse rotation carries the sleeve downward with the descent of the nut until the enlarged head of the sleeve reaches the bottom of the recess and the sleeve is wholly or substantially withdrawn into the base piece. The nut continues to lower until it also reaches

the bottom of said recess, thus contracting substantially the entire visible portion of the connecting parts into the vertical space occupied by the base piece and causing the seat portion to occupy a depressed position substantially as shown in dotted lines in Fig. 1.

The shoulder *m* on the base prevents the separation of the sleeve and the base so that when the upward limit of movement is reached, as shown in Fig. 1, further extension or separation is prevented. The supporting connections, however, are readily dismantled by removing the screws which fasten the supporting plate *f* to the base piece *d*, thus permitting the screw *g* to be turned and withdrawn from engagement with the nut.

It will be seen that the lowering of the seat is not accompanied by any corresponding lowering of the screw and that the connections when contracted present substantially no visible portions beneath the seat within the normal line of vision and the central space between the supporting legs, as in the illustrated embodiment of the invention, may remain open and unobstructed, thereby presenting a more pleasing appearance to the observer.

In Figs. 3 and 4 I have shown the relative positions of the seat portion and the supporting portion in the elevated and depressed positions relatively to the former. While the adjus ble connections between the seat and support are preferably located so as to have no parts, or substantially none, projecting beneath the seat into the normal line of sight, my invention obviously is not limited to this preferred form or arrangement.

While for illustrative purposes I have shown one form and embodiment of my invention and have described with particularity a construction of adjustable suppport which I have found simple, effective and pleasing in appearance, it is to be understood that my invention is not limited to the details or the form or arrangement of parts or the application made thereof in the illustrated form, but that the same may be employed for other purposes than that here disclosed or suggested and with extensive modifications from the form disclosed, without, however, departing from the spirit of the invention.

Claims

1. In a swivel chair, the combination of a stationary screw, a nut engaging said screw and provided with a hollow spindle at its upper end, a bearing sleeve inclosing said nut, a journal box inclosing said bearing sleeve, means for connecting said spindle to the chair body, and means for attaching said journal box to the base.

2. In a swivel chair, the combination of a stationary screw, a nut engaging said screw and provided with a hollow spindle at its upper end, a bearing sleeve inclosing said nut, a journal box inclosing said bearing sleeve, a washer secured to said journal box and supporting said screw, and means for securing said spindle to the chair body.

3. In a swivel chair, the combination of a stationary screw, a nut engaging said screw and provided with a hollow spindle at its upper end, a bearing sleeve inclosing said nut, a journal box inclosing said bearing sleeve, a washer securing said journal box to the chair base and supporting said screw and means for securing said spindle to the chair body.

4. In a swivel chair, the combination of a stationary screw, a shouldered nut engaging said screw and having a hollow spindle at its upper end, a shouldered bearing sleeve inclosing said nut with soft metal bearings for said nut, a journal box inclosing said bearing sleeve having soft metal bearings for said sleeve and a shoulder for limiting the upward movement of same, a washer secured to said journal box and supporting said screw, and means for securing said spindle to the chair body.

5. An article of furniture having a supporting portion and an adjustable portion and adjustable connections between said portions comprising a raised member, a sleeve longitudinally slidable in said raised member, and threaded engaging members within said sleeve, one of said members being in sliding engagement with said sleeve.

6. An article of furniture having a supporting portion and a supported portion and adjustable connections between said supporting and supported portions comprising a recessed member, a screw attached to said recessed member, a hollow nut-carrying member adapted for engagement with said screw, and a sleeve telescopically mounted in said recessed member but adapted to receive bearing support therefrom, said nut-carrying member being telescopically mounted in said sleeve and receiving bearing support therefrom.

7. In a piano stool, the combination with a seat portion and a supporting portion, of adjustable connections between the same comprising a screw and a hollow nut-carrying member engaging said screw, a bearing member inclosing said nut, and a member inclosing said bearing member, said bearing inclosing member being secured to said screw.

8. An adjustable seat having a horizontal seat-like supporting portion provided with a central aperture, legs attached to and supporting the same, a revolving seat, adjustable supporting connections between said seat and supporting portion, and means for attaching said connections to said supporting portion comprising a flanged chambered base member having a portion provided with

lugs adapted to enter the aperture in said supporting member while the flange thereof overlies the said aperture, and a flanged supporting member adapted to underlie the aperture of said seat supporting member and to be secured to the lugs of said base member.

9. An article of furniture comprising a revolving seat portion, a substantially flat horizontal seat like supporting portion, legs eccentrically attached thereto and constituting the sole support therefor, said seat-like supporting portion having an aperture therein substantially centrally located with respect to the point of attachment of said legs thereto, a metallic casting seated in said aperture and having means securing it to the seat like supporting portion, said casting being axially and centrally disposed with respect to the said legs and having a closed lower end and a non-rotary threaded member rising centrally from said closed lower end, said non-rotary threaded member being centrally and axially disposed with respect to the said legs, a complementally threaded member depending from said seat-like portion and operatively engaging said non-rotary threaded member, said casting extending only slightly below the lower face of the seat-like supporting portion, thereby presenting below said lower face a receiving socket of less vertical extent than the distance that the non-rotary threaded member rises above the upper face of the seat-like supporting portion, said casting extending above the said upper face of the seat-like supporting portion to present an upper bearing support, the said non-rotary threaded member being concealed from view, whether the seat portion be raised or lowered.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WALFRID J. TINGDAHL.

Witnesses:

GEORGE B. UPHAM,

RANDOLPH L. HARLOW