March 17, 1925. 1,529,656

L. KORNHAUSER

ADJUSTABLE SPRING ATTACHMENT FOR CLOSET SEATS

Filed April 28, 1924

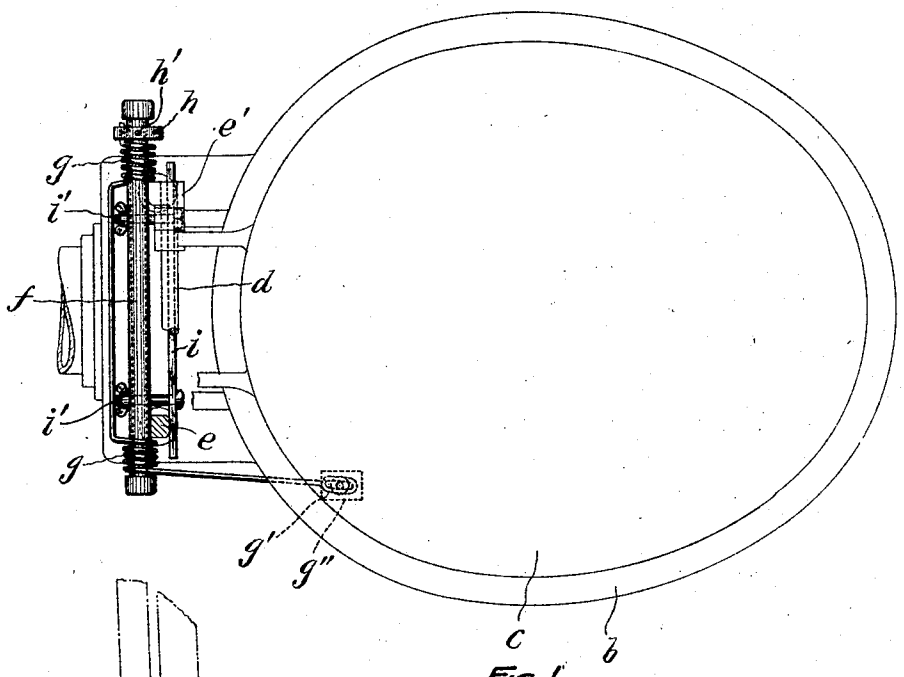


FIG. 1.

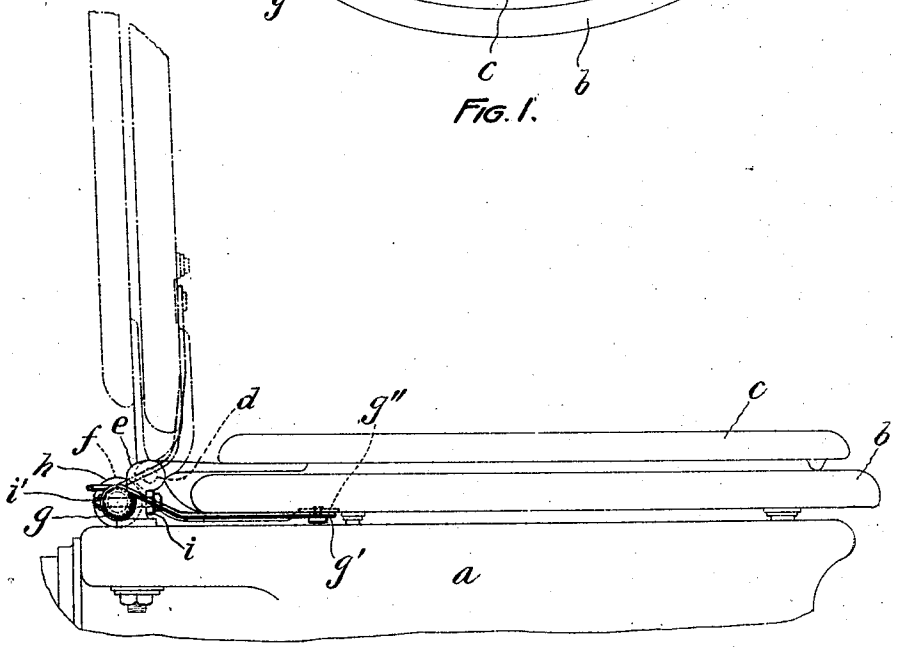


FIG. 2.

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UNITED STATES PATENT OFFICE.

LOUIS KORNHAUSER, OF CLEVELAND, OHIO.

ADJUSTABLE SPRING ATTACHMENT FOR CLOSET SEATS.

Application filed April 28, 1924. Serial No. 709,442.

To all whom it may concern:

Be it known that I, LOUIS KORNHAUSER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Adjustable Spring Attachments for Closet Seats, of which the following is a specification.

My invention relates to improvements in adjustable spring attachment for closet seats and has for its object the provision of a device that may be readily attached to and adjusted with respect to different classes of closet seats without difficulty or attendant expense for fitting and alteration.

In a device of this type adapted for attachment to and removal from various classes of closet seats, it is necessary to afford a wide range of adjustment for the spring which actuates the seat normally into vertical position, as well as wide adaptation for different seat supports.

Moreover, it is requisite that the several parts of the attachment should be simple in structure in addition to combining lightness and strength. Accordingly, my endeavor has been to combine these features in a device that is adapted practically for universal use and for interchange from one position to another.

The details of structure and the purpose and operation thereof may best be explained by making reference to the accompanying drawings, wherein:

Fig. 1 is a plan view of a closet seat to which my improvements have been applied; the seat and lid being closed, and

Fig. 2 is a view thereof in side elevation.

Throughout these drawings I have employed the same character of reference to indicate similar parts. Rearwardly attached to the rim of the porcelain bowl *a* are the usual seat and cover members *b c* respectively hinged to the transverse pivot rod *d*. The hinge support *e* and rod *d* are shown broken away at one side for the purpose of better illustrating my improved construction which I shall now describe.

This attachment comprises a tubular member *f* having a spring *g* terminally coiled about the tube; one end of the spring being retained in an adjustable collar *h* provided with a set screw *h'*, while the other end of said spring extends beneath the seat and reacts thereon. The tube *f* is provided with two transverse bolts *i'*, which extend through the bar *i* adjacent to each of the hinge supports upon the bowl, which bolts enable the attachment to be clamped firmly in position upon the hinge members, as best shown in Fig. 2.

When the attachment has thus been fitted to the hinge supports, it is necessary merely to adjust the tension of the spring to the weight of the seat by rotating the collar *h* sufficiently to place the necessary tension thereon and retain it in its adjusted tensioning position by means of the set screw *h'*. Normally this spring tension will be sufficient to raise the seat substantially into vertical position, as shown by dotted lines, (Fig. 2) when relieved of the weight of the cover; this tensioning also being sufficient to cushion the force of the blow in case the seat and cover are violently closed down. However, under some circumstances, it may be desirable to adjust the tension sufficiently to overcome the weight of both of these members and throw them normally into vertical position, which is accomplished simply by further rotation of the collar *h* upon the tube *f*.

In order to afford certain longitudinal play for the end of the spring with respect to the pivoted seat, a looped portion *g'* is provided for and adapted to slide between the retaining stud and wear-plate *g''* affixed to the under-side of said seat. Thus the attachment is made readily and widely adaptable for use upon various classes of closet seats and those of different weight and construction, while they may be readily inter-changed from one seat to another in order to give the desired service.

It may be noted that the member supporting the coiled spring preferably is of tubular construction in order to combine lightness with a sufficiently large diameter to accommodate the coiled spring. Moreover, the coils of said spring preferably are mounted terminally adjacent to either end of said member so that they will not interfere with the ready attachment or removal of the device by actuating the bolts and clamping bar upon the hinged portion of the closet seat.

Having now described the embodiment of my invention and the advantageous features and utility thereof, I claim as new and desire to secure by Letters Patent the following:

1. In a device of the class described, the

combination with a substantially cylindrical member of a spring coiled thereon; one of its ends being extended angularly for attachment to a closet seat and the other fixed to adjusting means, said adjusting means interposed between the end of the spring and the cylindrical member, and clamping mechanism for temporarily securing said cylindrical member to the hinged portion of the closet seat, substantially as set forth.

2. In a device of the class described, the combination with a tubular member of an adjusting collar rotatably secured near one end thereof, a coiled spring mounted upon said cylindrical member with one end affixed to said adjusting collar and the other end extended for attachment to the closet seat, a clamping member opposing said tubular member, and screw-acting means for clamping the hinged portion of the closet seat securely therebetween, substantially as set forth.

3. In a device of the class described, the combination with a tubular member, of an adjusting collar rotatably mounted thereon, a spring coiled about said tubular member having one of its ends anchored to the adjusting collar and the other extended for attachment to the closet seat, a clamping bar opposing said tubular member, and bolts extending through said bar and member adapted removably to secure the device upon the hinged portion of the closet seat, substantially as set forth.

4. In a device of the class described, the combination with a cylindrical member of relatively large diameter, of an adjusting collar provided thereon, a two-section spring terminally coiled thereon to free the member intermediately and having one of its ends engaged by the adjusting collar and the other end extended for attachment to the closet seat, and clamping means for attaching said member removably to the hinged mounting of said seat, substantially as set forth.

5. In a device of the class described, the combination with a tubular member of an adjusting collar rotatably mounted thereon, a spring called about said member having one of its ends retained by the collar and the other end looped, a coacting wear-plate slidably engaging said loop, and clamping means for removably attaching said member to the mounting of the seat, substantially as set forth.

6. In a device of the class described, the combination with a toilet bowl, of a hinge mounting and a seat provided thereon, and a spring attachment for said seat comprising a tubular member, an adjusting collar rotatably secured near one end thereof, a coiled spring mounted upon said cylindrical member with one end anchored to said adjusting collar and the other end extended to bear beneath said closet seat, a clamping member opposing said tubular member, and screw-acting means for removably clamping the hinged portion of the closet seat securely therebetween, substantially as set forth.

7. In a device of the class described, the combination with a toilet bowl, of a hinge mounting and a seat provided thereon, and an elevating spring device for said hinged seat, comprising a cylindrical member of relatively large diameter, an adjusting collar provided thereon, a two-section spring terminally coiled at each end of said member to free it intermediately and having one of its ends anchored to the adjusting collar and the opposite end extended beneath the closet seat, and clamping means removably attaching the spring device to the hinge mounting of the seat, substantially as set forth.

In testimony whereof I do now affix my signature.

LOUIS KORNHAUSER.