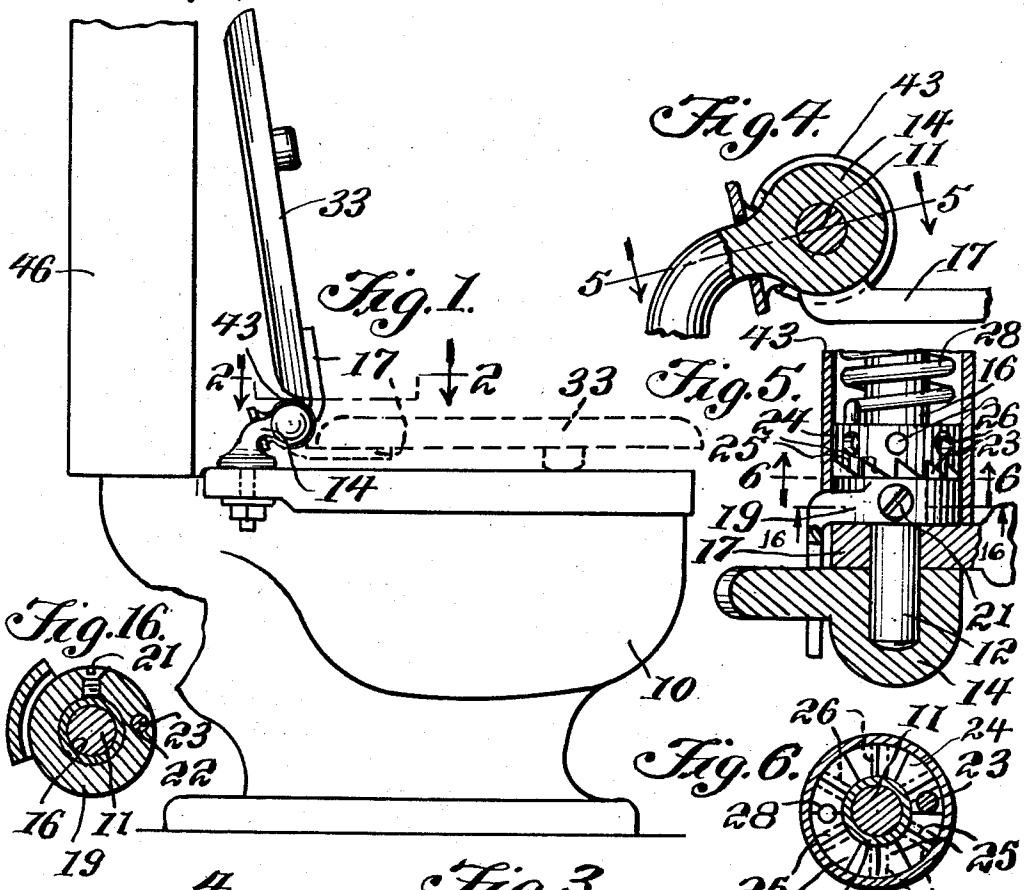
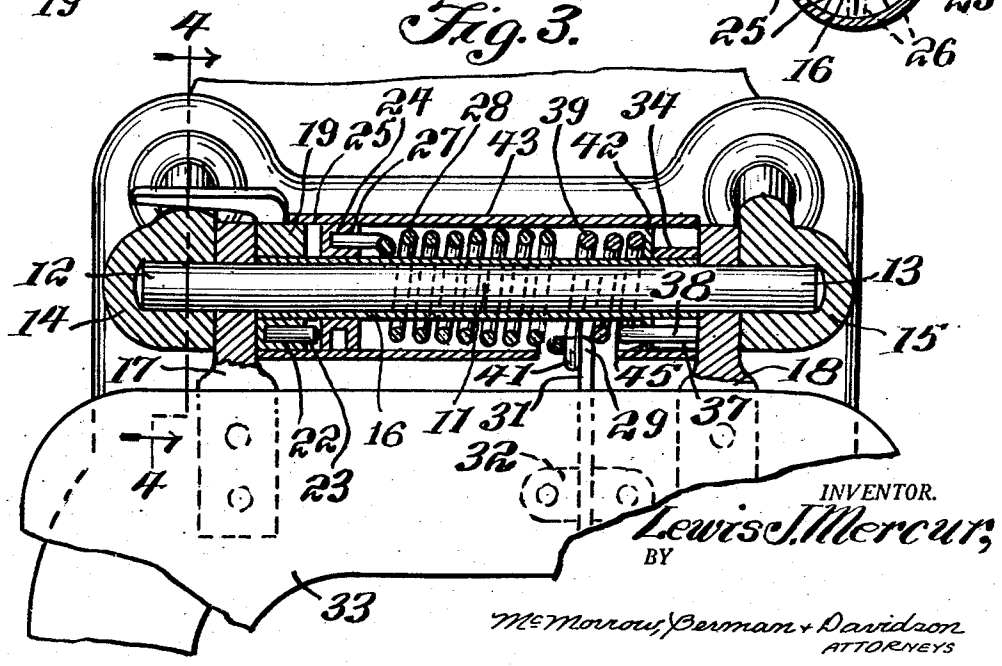
Nov. 26, 1957 L. J. MERCUR 2,814,049

SPRING ATTACHMENT FOR TOILET SEATS

Filed July 23, 1954 2 Sheets-Sheet 1





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Fig. 2.

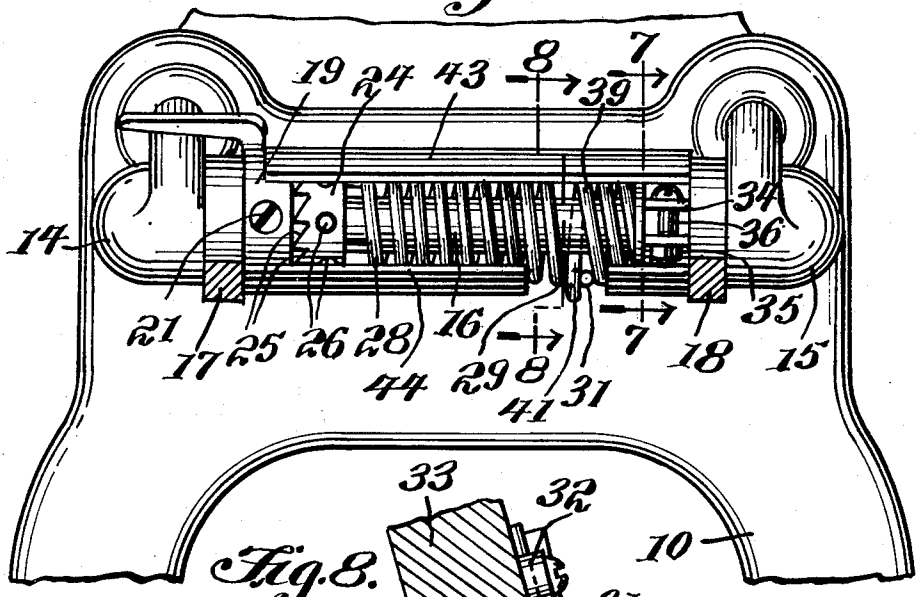
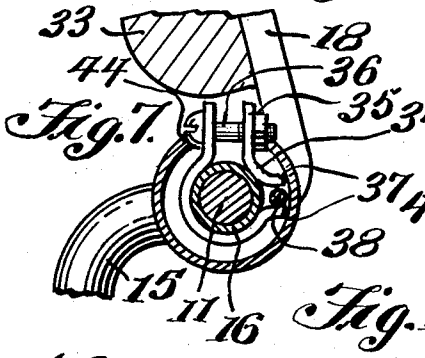


Fig. 8.

Fig. 7.



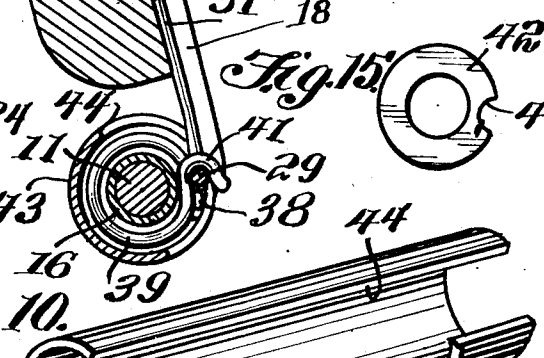


Fig. 15.

Fig. 10.

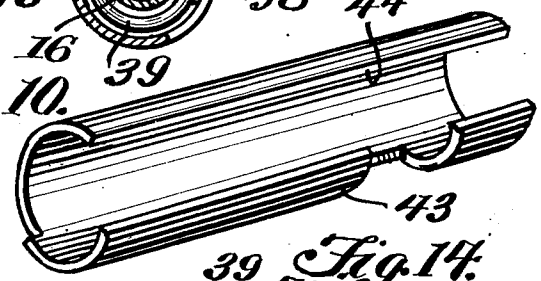


Fig. 9.

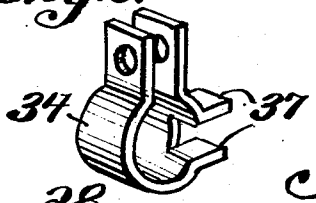


Fig. 14.



Fig. 12.

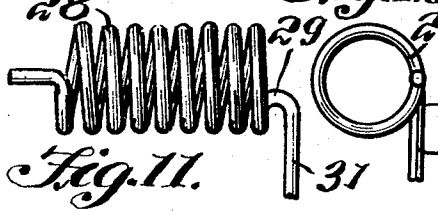


Fig. 13.

Fig. 11.

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SPRING ATTACHMENT FOR TOILET SEATS

Lewis J. Mercur, Miami, Fla.

Application July 23, 1954, Serial No. 445,359

2 Claims. (Cl. 4—251)

The present invention relates to improvements in attachments to toilet seats which permit the seat to be automatically raised to a vertical position, but which may be held down when the cover for the seat is lowered over the seat.

Many devices have been promulgated for the purpose of raising a toilet seat from the horizontal position to a vertical position and many arrangements of springs and counterweights have been suggested and experimented with in an effort to provide a device which would attach to seats of all compositions and which would raise the seat to a non-use position when the lid was raised.

Accordingly, the primary and principal object of the present invention is to provide a device which is capable of being attached to seats of all sorts of composition and which is adjustable to raise the seat to a vertical or non-use position whenever the lid or top of the toilet is raised, or may be used in a toilet without a lid.

Another object of the present invention is to provide a device which may be used with the existing seat-supporting shaft without any alteration whatever, and one which may be adjusted for any weight of seat.

A further object of the present invention is to provide a device which will permit the seat to be raised to a vertical position, but will present a resilient restraint for further movement beyond the vertical, in order that bothersome banging and thumping of the seat on the water tank be avoided.

A still further object of the present invention is to provide a simple and easily assembled device which is easily secured in place on the shaft of such a toilet having a seat thusly supported, and one which may be as readily removed and used on any other similar seat and toilet bowl without particular alteration of either the seat or toilet.

These and other objects and advantages of the present invention will be readily apparent on consideration of the following description and the annexed drawings, in which like reference characters indicate like parts throughout the several views and in which:

Figure 1 is a side view in elevation of the present invention in place on a toilet bowl of conventional design.

Figure 2 is a top plan view partially in cross section taken on line 2—2 of Figure 1.

Figure 3 is a top view in cross section.

Figure 4 is an end view in section taken on line 4—4 of Figure 3.

Figure 5 is a top view in detail of a portion of the present invention taken on line 5—5 of Figure 4.

Figure 6 is an end view in section taken on line 6—6 of Figure 5.

Figure 7 is a detailed view partly in section taken on line 7—7 of Figure 2.

Figure 8 is a similar view to Figure 7 taken on line 8—8 of Figure 2.

Figure 9 is a detailed view in perspective of the clamp for one of the springs of the present invention.

Figure 10 is a view in perspective of the housing of the invention.

Figure 11 is a side view of the main spring of the invention.

Figure 12 is an end view of the spring of Figure 11.

Figure 13 is a side view of the smaller spring of the invention.

Figure 14 is an end view of the smaller spring shown in Figure 13.

Figure 15 is a detailed view in side elevation of one of the parts of the present invention, as will be hereinafter more clearly described, and

Figure 16 is a detailed view in cross section taken on line 16—16 of Figure 5.

Referring to the drawings in greater detail, a toilet bowl is indicated generally by the reference character 10 and a seat 33 is swingably hinged thereto by means of the shaft 11 which has its opposite ends 12 and 13 fulcrumed and anchored in the shaft supports 14 and 15, respectively.

No lid is shown in the embodiment here illustrated, but it is contemplated that a lid for the seat may be used with the present invention, and if so, would also be swingably secured to the same shaft 11. For the purposes of illustration, the shaft 11 is seen to have on it a sleeve 16 extending from each seat bracket 17 and 18, and if any lid were a part of the toilet attachment its brackets would be interposed one each between the seat brackets 17 and 18 and the sleeve 16, or preferably between the seat brackets 17 and 18 and the shaft supports 14 and 15, both respectively.

A collar 19 is secured by screw 21 to the sleeve 16 and on one side of the collar 19 is formed an extension or arm having bifurcated ends to go one either side of one of the supports, 14 in this case.

The collar 19 is formed with a hole 22 which receives a pin 23, and an annular member 24 slides on the sleeve 16 in confronting face to face relation with the collar 19, the member 24 being formed on its confronting face with a plurality of recesses 25 which receive the pin in any one of several adjusted positions. The member 24 has a series of holes 26 on its periphery in which a tool may be inserted for the purposes of rotation of the member to any position where the pin 23 may be secured in any one of the recesses 25. The other non-confronting face of the member 24 has an aperture 27 receiving one end of a helical spring 28 which has its other end bent into an offset portion 29 and extends outwardly at its free end 31 to where it is attached under a bracket 32 to the seat 33, on the underside thereof.

The sleeve 16 has at its other end remote from the collar 19 and member 24 a clamp 34 which is adjustably secured on the sleeve 16 by means of the nut 35 and bolt 36. One side of the clamp 34 has a pair of lugs 37 for the purpose of holding the free end 38 of a second helical spring 39 also positioned on the sleeve 16, the other end of the spring 39 being formed with a detent section or loop portion 41 which receives the offset portion 29 of the first spring 28 when the spring 28 swings the seat upwardly towards the vertical position, most clearly indicated in Figure 1, but also in Figure 2 where the seat brackets 17, 18 are shown in section to indicate a raised position.

A washer 42 separates the clamp 34 from frictional end engagement with a housing 43 which encloses the springs 28 and 39 and has a slot along its length and for a portion 44 of its width in which the end of the spring 28 is movable. The washer 42, being interposed between the spring 39 and the clamp 34 has a cut-out notch 45 for passage of that end of the spring into the clamp 34 where it is held and by means of the clamp 34, the tension of the spring 39 is adjustable so that when the seat is either re-

leased from a horizontal position or aided in its upward movement by a light lifting motion, the spring **39** engages at its loop portion **41** the offset **29** of the main spring **28** as it nears the vertical position, and being of heavier construction or greater tension, the spring **39** prevents the seat from violently hitting against the tank of the toilet, indicated by the reference character **46**.

The operation and installation of the present invention is believed to be clearly obvious from the foregoing. Mere removal of either one of the shaft supports **14** and **15** from the toilet bowl, and slipping the assembled invention on the shaft, with attachment of the end **31** of the spring **28** under the bracket **32** on the seat **33**, completely installs the invention, and its removal therefrom is equally as easy.

While a single embodiment of the invention has been here illustrated and described, other embodiments are contemplated and many changes and modifications of the device may be made and practiced without departing from the spirit and scope of the present invention as more particularly set forth in the appended claims.

What is claimed is:

1. In combination with a toilet bowl having a seat swingably disposed on a shaft having its ends anchored in supports secured to said bowl, a seat-lifting attachment comprising a sleeve circumposed upon the portion of said shaft between said supports, a collar surrounding said sleeve adjacent one of said supports and fixedly attached to said sleeve, an arm on said collar and engageable with said one of said supports, an annular member circumposed upon said sleeve inwardly of said collar and slidable on said sleeve, adjustable means securing said annular member to said collar, a clamp embracing the portion of said sleeve inwardly of and adjacent the other of said supports and secured to said sleeve, a first helical spring surrounding said sleeve inwardly of said annular member and having one end attached to said annular member and having the other end secured to said seat,

and a second helical spring surrounding said sleeve inwardly of said clamp and having one end attached to said clamp, the portions adjacent the other ends of said first and second named springs interengaging each other.

2. In combination with a toilet bowl having a seat swingably disposed on a shaft having its ends anchored in supports secured to said bowl, a seat-lifting attachment comprising a sleeve circumposed upon the portion of said shaft between said supports, a collar surrounding said sleeve adjacent one of said supports and fixedly attached to said sleeve, an arm on said collar and engageable with said one of said supports, an annular member circumposed upon said sleeve inwardly of said collar and slidable on said sleeve, adjustable means securing said annular member to said collar, a clamp embracing the portion of said sleeve inwardly of and adjacent the other of said supports and secured to said sleeve, a first helical spring surrounding said sleeve inwardly of said annular member and having one end attached to said annular member and having the other end secured to said seat, and a second helical spring surrounding said sleeve inwardly of said clamp and having one end attached to said clamp, the portion adjacent the other end of said first named spring being offset and interengaging a detent section formed on the portion adjacent the other end of said second named spring.

References Cited in the file of this patent

UNITED STATES PATENTS

162,437	Walter	Apr. 20, 1875
467,472	Redlinger	Jan. 19, 1892
623,367	Hanington	Apr. 18, 1899
631,462	Hanington	Aug. 22, 1899
1,013,948	Northall	Jan. 9, 1912
1,792,811	Bustin	Feb. 17, 1931
1,847,822	Denton	Mar. 1, 1932
2,352,133	Sperzel et al.	June 20, 1944