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E. BOMMER.

SPRING HINGE.

(Application filed Jan. 23, 1901.)

(No Model.)

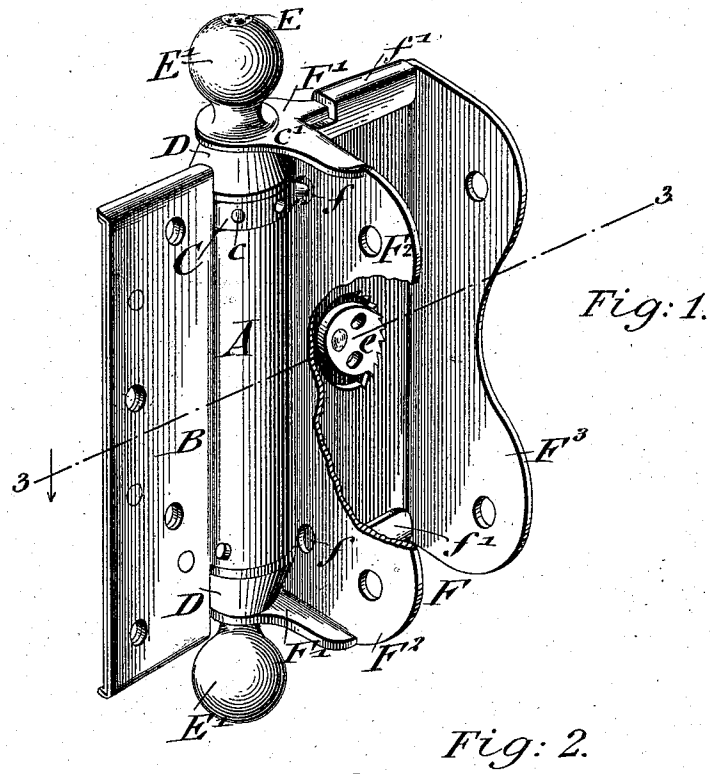


Fig: 1.

Fig: 2.

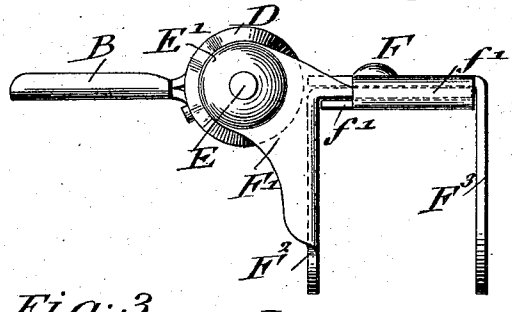
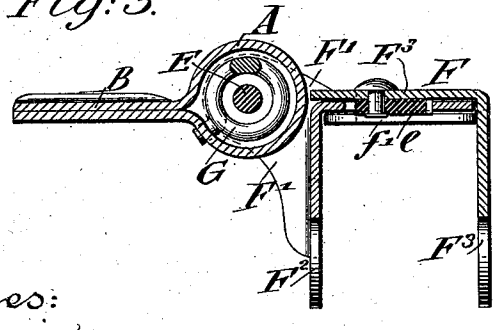


Fig: 3.



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UNITED STATES PATENT OFFICE.

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SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 695,666, dated March 18, 1902.

Application filed January 23, 1901. Serial No. 44,372. (No model.)

To all whom it may concern:

Be it known that I, EMIL BOMMER, a citizen of the United States, residing in New York, borough of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Spring-Hinges, of which the following is a specification.

This invention relates to certain improvements in single and double acting spring-hinges, and more especially to improvements in the spring-hinges known as "box-flanged" spring-hinges which are used on the marble, slate, or stone partitions of water-closets and for similar purposes in which it is desired to bring the door when closed flush with the front edge of the marble partition; and the invention consists of a spring-hinge of which one flange is applied to the door in the usual manner, while the other flange is made box-shaped and applied to the marble partition, being provided with means of adjustment to the thickness of the partition.

The invention consists, further, of a box-flanged spring-hinge in which one flange is attached to the door in the usual manner, while the other or box flange is made in one piece, with the perforated ears extending at right angles at the upper and lower edges of the box-flange; and the invention consists, further, of a spring-hinge in which the box-flange, which is applied to the partition, is made integral with the perforated ears, bent up at right angles at the upper and lower corners of the box-flange, and in which the opposite wall of the box-flange is made adjustable, so as to be fitted to any desired thickness of partition, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved box-flanged spring-hinge, parts being broken away. Fig. 2 is a plan view of the hinge shown in Fig. 1. Fig. 3 is a horizontal section on line 3 3, Fig. 1.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the barrel of an ordinary spring-hinge, and B the flange of the same, which may be integral with the barrel A and made from sheet metal of suitable thickness, the flange B being preferably made of two layers of sheet metal in the well-known manner of sheet-metal spring-hinges.

To one end of the spring-barrel is applied the adjustable spring-holder C, which is provided with socket-holes c, and to which the stop-pin c', by which the tension of the spring G is adjusted, is applied. Above the spring-holder and below the lower end of the barrel A are arranged the pintle-sockets D D, through which and the center of the barrel the pintle E is passed in the usual manner, the pintle being retained by ball-shaped pintle-tops E' in the usual manner. Between the pintle-sockets D D and the pintle-tops E' are interposed the perforated ears F' of the second flange F, which is of U shape, so as to form a box-flange such as is used for attaching the spring-hinges to the marble partitions of water-closets and for similar applications. The box-flange is attached, by means of screw-bolts, to the marble partition after the holes are drilled through the same in the well-known manner. The box-flange F is made, like the flange B, of sheet metal of suitable thickness and bent up by suitable dies integral with the perforated ears F', which are arranged at the upper and lower corners of the box-flange, as shown clearly in Figs. 1 and 4. The perforated ears extend at right angles to the adjacent corners of the box-flange. The wall F^2 of the flange F adjacent to the spring-barrel is provided with openings f at the upper and lower ends, so as to permit the stop-pin c' to enter into one of the same. The opposite one is used when the spring-holder is placed at the opposite end of the barrel, when the spring-hinge is used as a left-hand hinge.

As the slabs used for the marble partitions are of different sizes, it is necessary to provide for different sizes of box-flanges. As this requires, however, in sheet-metal box-flanges a large number of different dies, it is preferable to make the box-flange of two sections, each made right angular in shape, the section F^2 of the flange adjacent to the barrel being made integral with the perforated ears, which are bent laterally at right angles to the same, while the other section of the flange is provided with U-shaped guides f' at its upper

and lower edges, that extend over the adjacent edges of the first-mentioned section F^2, so as to permit the sliding of one rectangular back portion on the other of the right-angular section. After the adjustment is made the two flange-sections F^2 F^3 may be locked together by any suitable means, those shown in the drawings consisting of an eccentric *e*, provided with teeth at a portion of its circumference, said eccentric being set in a recess of the inner wall of the movable portion F^2 of the box-flange, while the eccentric is pivoted to the rear wall of the flange portion F^3. The edge of the circular recess for the eccentric is also serrated, so as to interlock with the teeth of the eccentric after the movable flange F^3 has been adjusted. The pivoted eccentric is provided with two socket-holes for inserting a forked key, by which the eccentric is turned on its pivot so as to move the flange portion F^3 on the flange portion F^2 in outward direction until a box of a thickness corresponding to the thickness of the marble partition is obtained, when by the interlocking of the teeth of the eccentric with the serrations of the recess-wall the proper interlocking of the flange portions is obtained.

The box-flange with an independently-movable flange portion, as described, is preferably used in all cases in which a considerable extent of adjustment is necessary.

The advantages of my improved box-flanged spring-hinge as compared with the old style of box-flanged spring-hinges, in which the flanges are made of cast metal, are that the spring-hinge may be made entirely of sheet metal, that the size of the box-flange can readily be adjusted to the thickness of the partitions to which the spring-hinges are to be applied, and, thirdly, that comparatively simple means for adjusting and locking the box-flange are provided.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A spring-hinge for marble or other partitions, provided with a box-flange made in two sections of right-angular transverse cross-section, the barrel-section of said box-flange being provided with perforated ears extending from the upper and lower corners, guideways of U-shaped cross-section provided at the upper and lower edges of the back portion of the other section, the barrel-section being adjustable in said guideways, and means for adjusting said sections to different thicknesses of partitions.

2. In a spring-hinge for marble or other partitions, a box-flange made in two portions, the portion adjacent to the barrel being provided with perforated ears extending from its upper and lower corners, and the other portion being guided on said first portion, and an eccentric pivoted to one of the portions and engaging a recess of the other portion, substantially as set forth.

3. In a spring-hinge, a box-flange formed in two portions, one guided on and adjustable relatively to the other, and a toothed eccentric pivoted to one portion and engaging corresponding serrations of the other portion, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EMIL BOMMER.

Witnesses:
PAUL GOEPEL,
JOSEPH H. NILES.