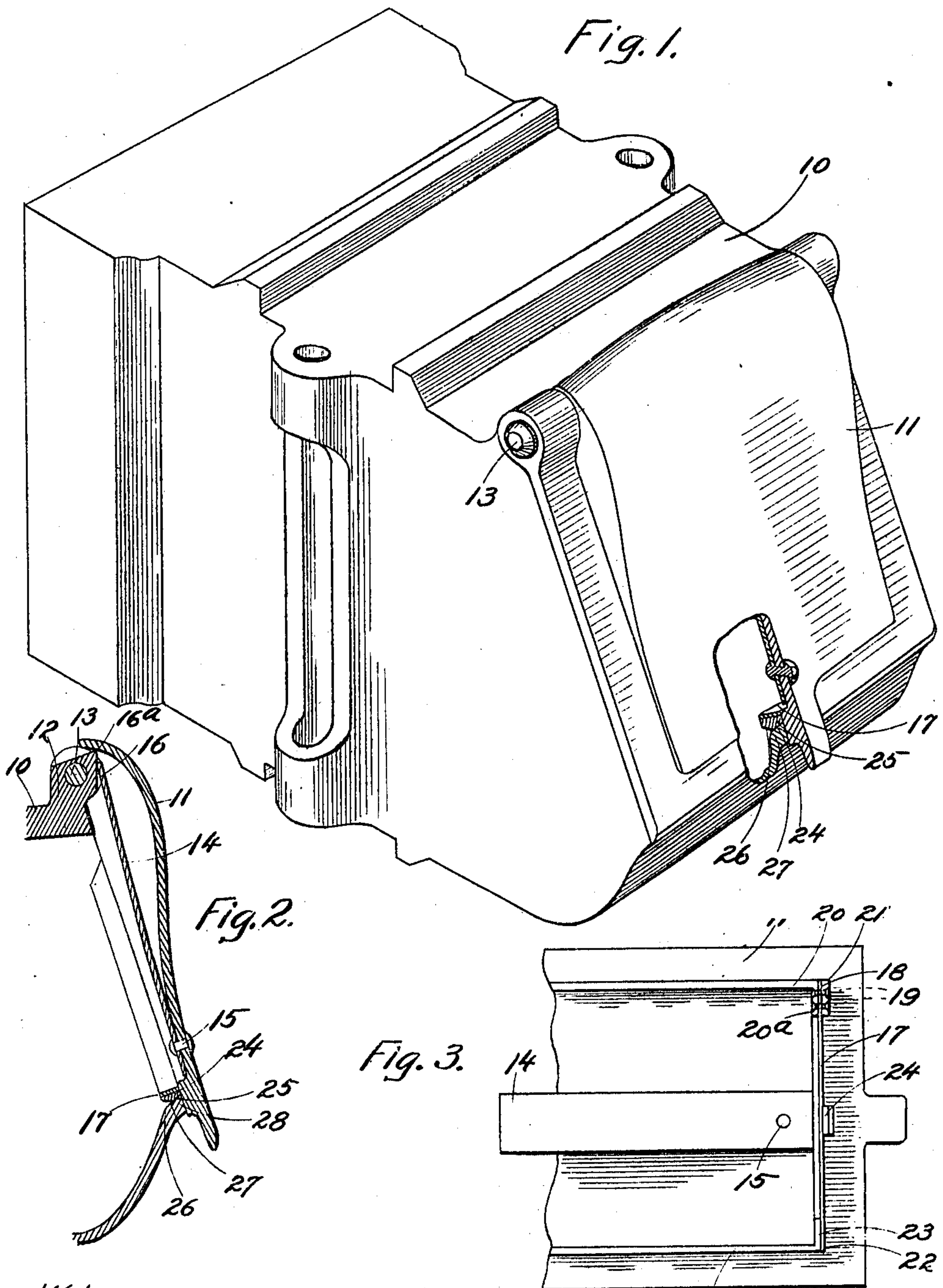


H. W. DREW.  
BOX COVER FASTENER.  
APPLICATION FILED DEC. 10, 1909.

978,362.

Patented Dec. 13, 1910.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## BOX-COVER FASTENER.

978,362.

Specification of Letters Patent. Patented Dec. 13, 1910.

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*To all whom it may concern:*

Be it known that I, HERBERT W. DREW, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Box-Cover Fasteners, of which the following is a specification.

My invention relates to journal boxes and particularly to means for tightly holding the covers thereof in a closed position. At the present time journal box covers are commonly held in a closed position by a spring attached to the inner face of the cover which bears at its end upon an inclined surface adjacent the pivot of the cover in such manner as to be fairly effective in moving the cover to a closed position, but it becomes more or less ineffective in holding the cover tightly closed.

The object of my invention is to provide a holding device for the cover which springs into place when the cover is closed and which yieldably holds the cover in that position. I have preferred to use the same form of spring as is commonly used to cause the cover to approach a closed position, and have added a device which will firmly hold the cover closed after it has been pressed into that position by the operator.

Other objects will be made apparent in the following specification, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a journal box with a portion of the cover and box broken away to show my improvements. Fig. 2 is a sectional view of the cover and a portion of the box. Fig. 3 is an interior view of a portion of the cover looking outwardly at said cover and showing the essential parts which comprise my improvement.

In the drawings I have chosen a common form of journal box 10 for illustrating the operation of my improvements. Pivoted to the journal box is the cover 11 which in general has the usual form. The said cover 11 is pivoted to the upwardly projecting lug 12 by the pin 13.

The cover 11 is commonly provided with a flat spring 14 which is fixed to the said cover by a rivet 15. The spring 14 bears at its upper end upon an inclined face 16 of the lug 12. In opening the cover the upper end of the spring 14 slides upon the face 16 in such a manner as to produce a tension

in the spring 14. This tension has a tendency to move the cover to a closed position so long as the end of the spring is below the upper extremity 16<sup>a</sup> of the face 16.

During the movement of the cover 11 toward a closed position the upper end of the spring 14 slides along the face 16 to a position closer to the pivot of the cover 11 thereby reducing the tension of the spring 14. Therefore when the cover 11 nearly reaches its closed position the tension of the spring 14 is much less and is usually insufficient to hold the cover firmly in its closed position.

In order to provide a means for holding the cover firmly closed I provide the flexible bar or flat spring 17 which is fixed to the cover 11 by means of two rivets 19 at or near one end 18 of said flexible bar 17. The end 18 is preferably inserted between an inwardly projecting lip 20 and an inwardly projecting lug 21 formed on the cover. The lip 20 is provided with a short portion 20<sup>a</sup> placed at right angles to the main body of said lip 20. The rivets 19 are passed through the lug 21, the end of the spring 17 and the part 20<sup>a</sup>. This construction will hold one end 18 of the spring 17 firmly in place. The opposite end 22 of the spring 17 lies loosely against the inwardly turned portion 23 of the lip 23<sup>a</sup>. Lips 20 and 23<sup>a</sup> and lug 21 are preferably integral with the body of the cover. The part 23 will clearly prevent an inward movement of the end 22 of the spring 17. This construction will permit the generally bending and very slightly torsional flexure in the spring 17 which may be caused by the operation described later to occur between the ends of said spring. Whatever torsional flexure there may be is incidental and not essential. The slight movement of the end 22 of the spring 17 in a direction parallel to the body of the spring incident to bending will be freely permitted by this construction.

At the middle of the length of the spring 17 and projecting outward perpendicularly from the plane of said spring I provide a lug 24 which may be either integral with said spring or riveted thereto. This outwardly projecting lug 24 is provided with beveled faces 25 and 26 which are inclined at such an angle that the outward and inward movement of said lug over the edge 28 of the journal box opening will cause the flex-



ure of the spring 17. It will therefore be seen that the spring 17 offers a resistance to the movement of the said lug 24 over the said part 28, the lug 24 acting much as a  
 5 wedge to force the spring 17 inward. Therefore a certain amount of force is necessary to push the cover to a closed position during the final portion of its pivotal movement about the pin 13. It will also be seen  
 10 that a certain amount of force is necessary to effect the initial part of the opening movement of said cover.

The inner surface 27 of the lower edge 28 of the opening in the journal box is preferably inclined at an angle corresponding to the beveled surface 25 of the lug 24. When the cover is in a closed position, the inclined surface 25 of the lug 24 will lie snugly against the beveled face 27. It will be  
 20 firmly held in this position by the tension of the spring 17.

The operation of my device has already been largely referred to and its construction and mode of use are apparent. It may be  
 25 further stated that when closing the cover the operator presses downwardly upon it in the usual way, the spring 14 assisting in moving the cover to a position nearly closed in which position the beveled face 26 lies in  
 30 contact with the upper edge of the part 28. A push or blow by the operator will cause the beveled portion 26 to ride over the part 28 after which the beveled portion 25 comes into contact with the part 28 and holds the  
 35 cover in a closed position.

In view of the fact that the beveled face 25 lies in contact with the beveled face 27 and that said contact is maintained under a constant tension of the spring 17, it will  
 40 be seen that there is a constant tendency to hold the cover in a closed position, and vibration or other causes will be very ineffective in causing the cover to be accidentally opened.

45 While I have described more or less precisely the details of construction, I do not wish to be understood as limiting myself thereto, as I contemplate changes in form and the proportion of parts and the substitution of equivalents as circumstances may suggest or render expedient without departing from the spirit of my invention.  
 50

I claim:

1. In a device of the character described, a journal box, a hinged cover for said box, a  
 55 flexible bar attached to said cover, and means on central part of said bar adapted to engage said box and offer a yieldable resistance to the opening of said cover.

2. In a device of the character described, a  
 60 journal box, a hinged cover for said box, a flexible bar attached to said cover, and a projection on the intermediate part of said bar having a beveled face to permit it to ride over the edge of said box against the resist-  
 65 ance of said flexible bar when said cover is being closed, and another beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being opened. 70

3. In a device of the character described, a journal box, a hinged cover for said box, a flexible bar attached to said cover, said bar being fixed to said cover at one end and bearing freely upon said cover at its other end,  
 75 and a projection on said bar having a beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being closed, and another beveled face to permit it to ride over the  
 80 edge of said box against the resistance of said flexible bar when said cover is being opened.

4. In a device of the character described, a journal box having an opening with an inwardly beveled edge, a hinged cover for said  
 85 box having an inwardly projecting lip with a portion disposed at right angles thereto, and an inwardly projecting lug adjacent said portion, a flexible member fixed between  
 90 said lug and said angularly disposed portion of said lip, an angularly disposed portion of another lip on said cover adapted to receive the pressure of the other end of said flexible member, and means on said flexible member  
 95 adapted to engage the beveled edge of said opening.

In testimony whereof, I have subscribed my name.

HERBERT W. DREW.

Witnesses:

ANNA L. WALTON,  
 HENRY A. PARKS.