No. 685,381. Patented Oct. 29, 1901.

S. J. JOHNSON.

JOURNAL BOX AND LID.

(Application filed Dec. 3, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

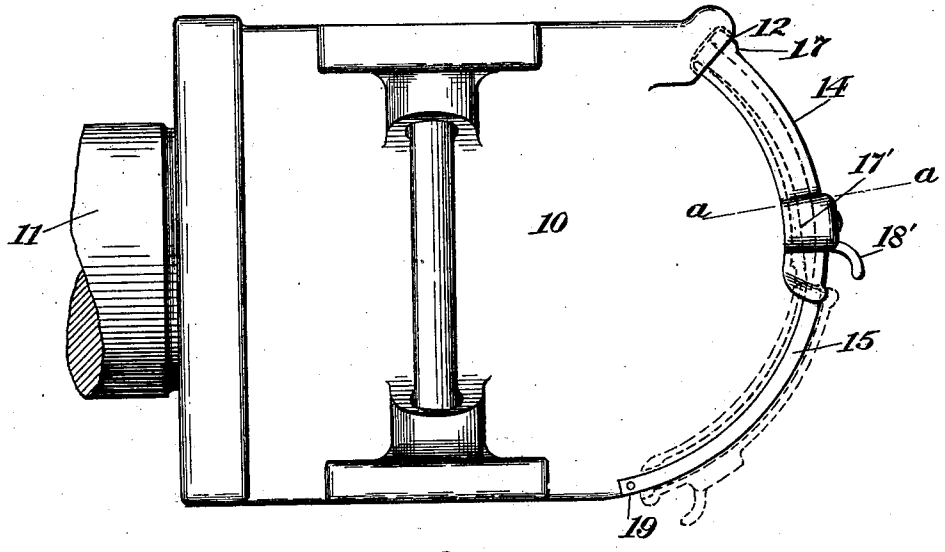


Fig. 9.

Fig. 2.

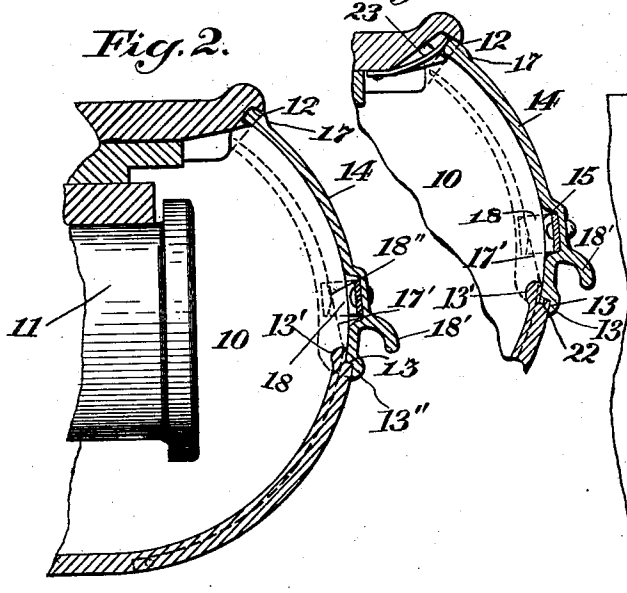
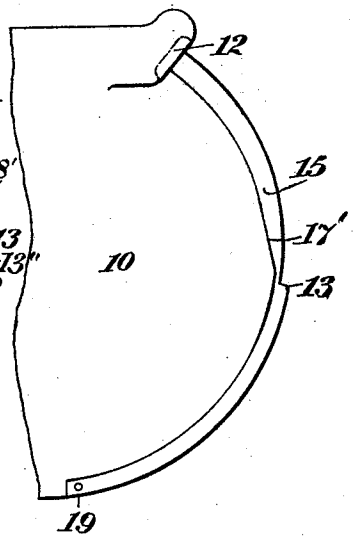


Fig. 3.



Witnesses:
F. C. Fliedner
F. H. Nariland

Inventor,
Sinclair J. Johnson,
By his Attorney.
F. H. Richards.

No. 685,381. Patented Oct. 29, 1901.

S. J. JOHNSON.

JOURNAL BOX AND LID.

(Application filed Dec. 3, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 4.

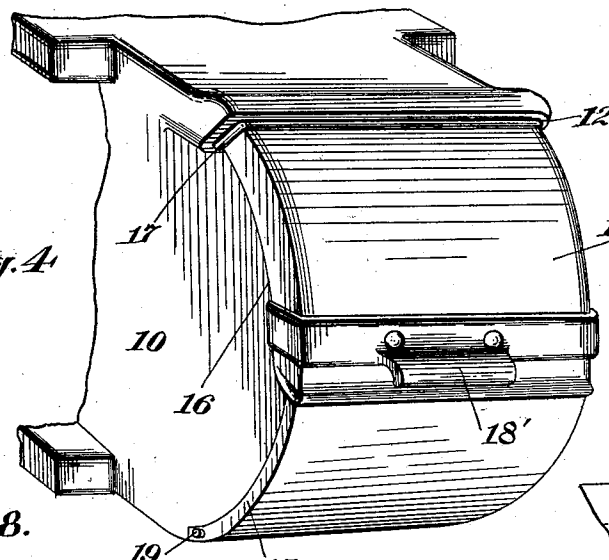


Fig. 8.

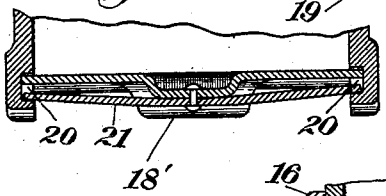


Fig. 5.

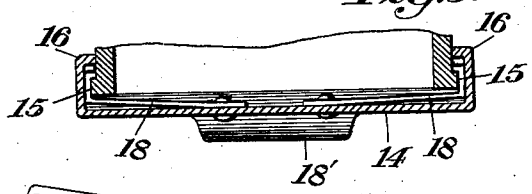


Fig. 7.

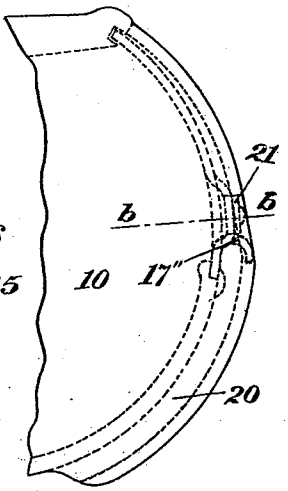
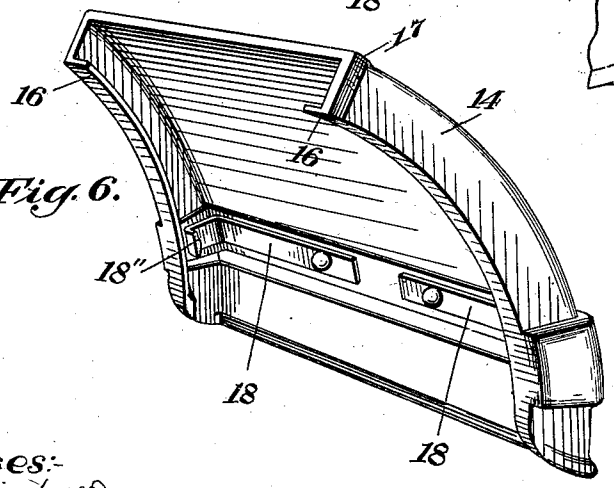


Fig. 6.



Witnesses:-
F. C. Fliedner.
F. H. Hartland.

Inventor,
Sinclair J. Johnson,
By his Attorney.
F. H. Richards.

UNITED STATES PATENT OFFICE.

SINCLAIR J. JOHNSON, OF NUTLEY, NEW JERSEY.

JOURNAL-BOX AND LID.

SPECIFICATION forming part of Letters Patent No. 685,381, dated October 29, 1901.

Application filed December 3, 1900. Serial No. 38,382. (No model.)

To all whom it may concern:

Be it known that I, SINCLAIR J. JOHNSON, a citizen of the United States, residing in Nutley, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Journal-Boxes and Lids, of which the following is a specification.

This invention relates to improvements in journal-boxes, being more particularly directed to a lid therefor which shall securely close the box, excluding dust therefrom, and normally remain in this closed position and at the same time may be readily opened when desired.

Another object of the invention is to provide a lid which shall leave practically the entire opening free for access and which shall not project beyond the box while it is open.

In the drawings accompanying this specification, Figure 1 is a side elevation of a journal-box made according to the present invention. Fig. 2 is a partial vertical section thereof. Fig. 3 is a side elevation of a portion of a box with the lid removed. Fig. 4 is a perspective view of the front portion of the box with the lid in its closed position. Fig. 5 is a section on the line *a a* of Fig. 1. Fig. 6 is a perspective view of the cover looking from the rear. Fig. 7 is a side elevation of a modification of the invention. Fig. 8 is a section thereof on the line *b b* of Fig. 7, and Fig. 9 is a partial vertical section of still another modification.

Similar characters designate like parts in the different figures of the drawings.

In the particular embodiment of the invention which is illustrated in the first six figures of the drawings the journal-box is designated by the numeral 10 and its journal by 11. In the outer portion or end of the box, preferably at the upper side of its front face, is provided an opening giving access to the interior. This front face is preferably curved outwardly in a vertical plane, the curve extending the length of the opening and for some distance beyond. At or near one end of the opening in this curved face may be provided a groove or depression 12, and at or near the opposite side of the opening is a recess in each side of the box, forming a projection 13 across the outer end.

To close the opening of the box, a lid 14 is provided, of sufficient length to extend from the groove 12 to the projection 13 and so shaped in this direction as to substantially conform to the curved face. In its width the lid covers the opening and is preferably adapted to slide at the outer edges thereof. To retain it in place thereon, it engages flanges or projections 15 adjacent to the edge of the opening, being shown as embracing them, an angle-flange 16 extending over the inner edge of flange 15. The flanges on the box, together with the portions of the face upon which the lid slides, form ways therefor.

In the closed position of the lid its upper edge extends into the groove 12, while the opposite end rests upon the projection 13. If desired, a strengthening-rib 17 may extend across this upper portion. The relation of the groove 12 to the upper portion of the edges of the opening upon which the lid slides and to the thickness of the upper edge of the lid itself is such that said lid when closed contacts closely enough with the outer wall of the groove to prevent the entrance of dust. To hold the lower edge in engagement with the projection, a spring 18, here shown as a leaf-spring, is secured to the lid, having its opposite ends bent into approximately the form of the flanged edge of the lid and extending inside the same. The inside of the bent ends of the spring contact with the inside of the flanges 15, which at the points where the spring bears in the closed position of the lid is of sufficient thickness to put the spring under tension to offer most resistance to movement at this point and draw it inward into contact or locked with the projections. The spring, which, although shown as adjacent to the lower edge of the lid, might be located at any point where it would prove most effective, also acts to press the lid against portions of the box at the edges of the opening with which its under side contacts, and thus excludes dust at these points.

Extending across the box, inside the projection 13, is shown a lip 13′, overlapping the edge of the lid when it is closed. The lid may also be provided with a corresponding lip 13″, projecting over the box. Contact between the lips and the opposite surfaces is

maintained by the spring 18, and the conjunction furnishes an efficient dust-guard for these meeting edges.

To release the lid to uncover the opening, the lower edge is drawn outward against the spring by a finger-piece 18', cast with or secured to it, until it clears the projection. It is then drawn downward, the tension of the spring relaxing and the resistance decreasing as it slips over an incline on the flanges shown at 17'. This incline extends a short distance, when it reduces the thickness of the flange, so that the resistance to movement is reduced to a minimum and there is no appreciable tension on the spring. This permits the lid to slide or drop freely downward to expose the entire opening, the side flanges, which may be of substantially uniform thickness in this lower portion, being extended sufficiently to still engage it in its open position, thus providing ways for it in the entire movement. It will be seen that in closing the lid as the spring slides up the inclines 17' its tension will be gradually increased, and when the lower edge of the lid passes the projection 13 it will be drawn to its locked position and held firmly in place. At the same time the upper edge of the lid is held by the spring against the inner edge of the groove 12 and the inside of the lid against the side edges of the opening.

To permit the contacting ends of the spring 18 to have some surface bearing upon the flange, they may, if desired, be beveled, as shown at 18'', the upper portion of the bevel bearing upon the inclines 17' and the lower portion resting against the diminished section of the flange during the lowering of the lid.

A pin or stop 19 may be located on the box in such a position that it will prevent movement of the cover farther than is desired.

In the form of the device shown in Figs. 7 and 8 the side edges of the lid, instead of embracing flanges upon the sides of the box, slide in grooves 20 20, which form ways in the inner faces and are held in their normal inward position for closure by a spring 21. This may be secured to the outside of the lid near the finger-piece with its ends extending into the grooves and bearing against the opposite side from the lid. In this instance an incline 17'' is provided, similar to 17' and for a like purpose, but oppositely placed. Moreover, the lid is here shown without the strengthening-rib 17, it having instead a substantially straight edge extending into a similar groove in the plane of the lid.

In both of the forms which have been described the two opposite portions of the ways above the inclined portions 17' or 17'' and the projections 13, respectively, are shown as curved upon arcs having different centers and different radii, thus bringing the upper edge of the lid into proper relation with the groove 12 when the lid is closed.

In Fig. 9 a means for more positively locking the lid in its closed position against jar or the pressure of the packing of the box is shown. For this purpose one of the meeting edges at the projection 13 may be provided at some point with a groove lying along the lip 13' or 13'' and extending for a greater or less distance, with which engages a tongue or projection 22, carried by the coacting edge. The tongue may be held in the groove by the pressure upon the top edge of the lid of a spring 23, mounted in a recess adjacent to and intersecting groove 12. Manifestly the spring 23 alone may be used, if desired, without spring 18 in this form or in connection with said spring in the forms illustrated in Figs. 1 to 8. In this instance groove 12 must have sufficient depth to permit releasing the tongue from its groove. The construction of the box may be otherwise the same.

In the various forms of the box the lower edge of the lid in its closed position preferably extends by the outer edge of the supporting projection, which aids, in connection with arrangement of the other edges, in excluding dust.

It will be seen that in this journal-box the lid is held securely closed and yet may be easily and quickly opened, and that it is moved from the opening in such a manner as to at once give a view of the interior and then as it drops downward to be entirely out of the way of the person packing or oiling the box, leaving the opening convenient of access, not projecting beyond the plane in which it moves, and therefore not liable to be broken.

Although the face of the box on which the lid slides has been shown as curved substantially on the arc of a certain radius, manifestly this particular form is not essential, since the curve might be widely varied, being flattened or on a longer radius, with the lid of corresponding form.

Having described my invention, I claim—

1. The combination with a journal-box having an opening, of a sliding lid therefor, the box being provided with ways for the lid having two portions of a maximum and a minimum width and an intermediate gradually-inclined portion.

2. The combination with a journal-box having an opening, of a spring-pressed sliding lid therefor, the box being provided with ways for the lid having two portions of a maximum and a minimum width and an intermediate gradually-inclined portion.

3. The combination with a journal-box provided with a curved side and having an opening, of a down-sliding lid therefor, the box being provided with ways for said lid, which gradually increase in width toward the top of said opening so as to offer most resistance to movement at the instant of closing the lid and decreased resistance as the lid is opened.

4. The combination with a journal-box having an opening, of a sliding lid therefor, and means for securing the lid in its closed posi-

tion, the box being provided with ways for the lid having two portions of a maximum and a minimum width and an intermediate gradually-inclined portion.

5. The combination with a journal-box having an opening, of a sliding lid therefor movable downward to uncover the opening, and means for securing the lid in its closed position, the box being provided with ways for the lid having two portions of a maximum and a minimum width offering most resistance to its movement when in a raised position and least while it is being lowered and an intermediate gradually-inclined portion effective during the release and reëngagement of the securing means.

6. The combination with a journal-box provided with a curved side having an opening, of a curved lid therefor, the box being provided with ways for the lid having two portions of a maximum and a minimum width and a gradually-inclined portion.

7. The combination with a journal-box provided with a curved side having an opening, of a curved lid therefor, the box being provided with ways for the lid having two portions curved upon arcs having different centers.

8. The combination with a journal-box provided with a curved side having an opening, of a spring-pressed curved lid therefor, the box being provided with ways for the lid having two portions curved upon arcs having different centers, and an intermediate inclined portion.

9. The combination with a journal-box provided with a curved side having an opening, of a spring-pressed curved lid therefor, the box being provided with ways for the lid having two portions curved upon arcs having different centers.

10. The combination with a journal-box having an opening and a sliding lid therefor, of a spring secured to one of said elements intermediate its ends and contacting with the other during the movement of the lid.

11. The combination with a journal-box provided with a curved side having an opening and a curved lid therefor, of a spring secured to one of said elements and contacting with the other during the movement of the lid.

12. The combination with a journal-box having an opening and a sliding lid therefor, of a spring secured to the lid intermediate its ends and contacting with the box adjacent to the edges of the opening.

13. The combination with a journal-box having an opening and a sliding lid therefor movable upon ways having two portions of different widths and an intermediate inclined portion, of a spring secured to the lid and contacting with the ways.

14. The combination with a journal-box having an opening and a sliding lid therefor, said box and lid provided with projections adapted to secure the lid in its closed position, of a spring secured to the lid and serving to hold it against portions with which it contacts, and the projections interlocked.

15. The combination with a journal-box having an opening and a sliding lid therefor movable upon ways having two portions of different widths and an intermediate inclined portion, of a spring secured to the lid and contacting with the ways to force the lid against the edge of the opening.

16. The combination with a journal-box provided with a curved side having an opening provided at the top with a groove, of a lid therefor adapted to slide downward along said curved side, means being provided in the adjacent edges of the lid and opening and adapted to retain the lid in the closed position; and a spring secured to the opposite edge of said opening and adapted to press said lid outward and downward.

17. The combination with a journal-box having an opening, of flanges of varying thickness adjacent to each side of said opening, and a lid provided with a spring to engage said flanges.

18. The combination with a journal-box having an opening, of flanges adjacent to each side of said opening; a lid having portions adapted to embrace said flanges; and a spring by which the lid is drawn inward toward the flanges.

19. The combination with a journal-box having an opening, of flanges adjacent to each side of said opening; a lid having portions adapted to embrace said flanges; and a spring also embracing the flanges by which the lid is drawn inward.

20. The combination with a journal-box having an opening, of a projection on each side of said opening; a lid movable toward said projections; and a spring carried by said lid contacting with the projections.

21. The combination with a journal-box provided with a curved side having an opening provided at the top with a groove, of a lid therefor adapted to slide downward along said curved side, means being provided in the adjacent edges of the lid and opening adapted to retain the lid in the closed position, and a leaf-spring secured to the opposite edge of said opening and adapted to press said lid outward and downward.

22. The combination with a journal-box having an opening, of a sliding lid therefor, said box and lid being provided with a tongue and groove in adjacent edges adapted to interlock to retain the lid in its closed position, and a lip upon one of the edges extending across the box and overlapping the other when the lid is in its closed position.

23. The combination with a journal-box having an opening, of a sliding lid therefor, said box and lid being provided with a tongue and groove in adjacent edges adapted to interlock to retain the lid in its closed position, and a lip upon the box extending across the

same within the opening and overlapping the lid when it is in its closed position.

24. The combination with a journal-box having an opening, of a sliding lid therefor, said box and lid being provided with a tongue and groove in adjacent edges adapted to interlock to retain the lid in its closed position, and a lip upon each of the edges extending across the box and overlapping the other when the lid is in its closed position.

25. The combination with a journal-box having an opening and provided with ways and a sliding lid therefor, said box and lid being provided with a tongue and a groove at adjacent edges adapted to interlock to retain the lid in its closed position, of a spring secured to said lid and adapted to contact with said ways during the movement of the lid.

26. The combination with a journal-box having an opening, of a sliding lid therefor, said box and lid being provided with a tongue and groove at adjacent edges adapted to interlock to retain the lid in its closed position, and ways for the lid so formed as to offer most resistance to movement when the tongue and groove are in engagement and decreased resistance when the lid is being moved.

SINCLAIR J. JOHNSON.

Witnesses:
FRED. J. DOLE,
C. E. VOSS.