

No. 828,261.

PATENTED AUG. 7, 1906.

G. A. WOODMAN.
JOURNAL BOX.

APPLICATION FILED AUG. 3, 1905.

2 SHEETS—SHEET 1.

Fig. 1

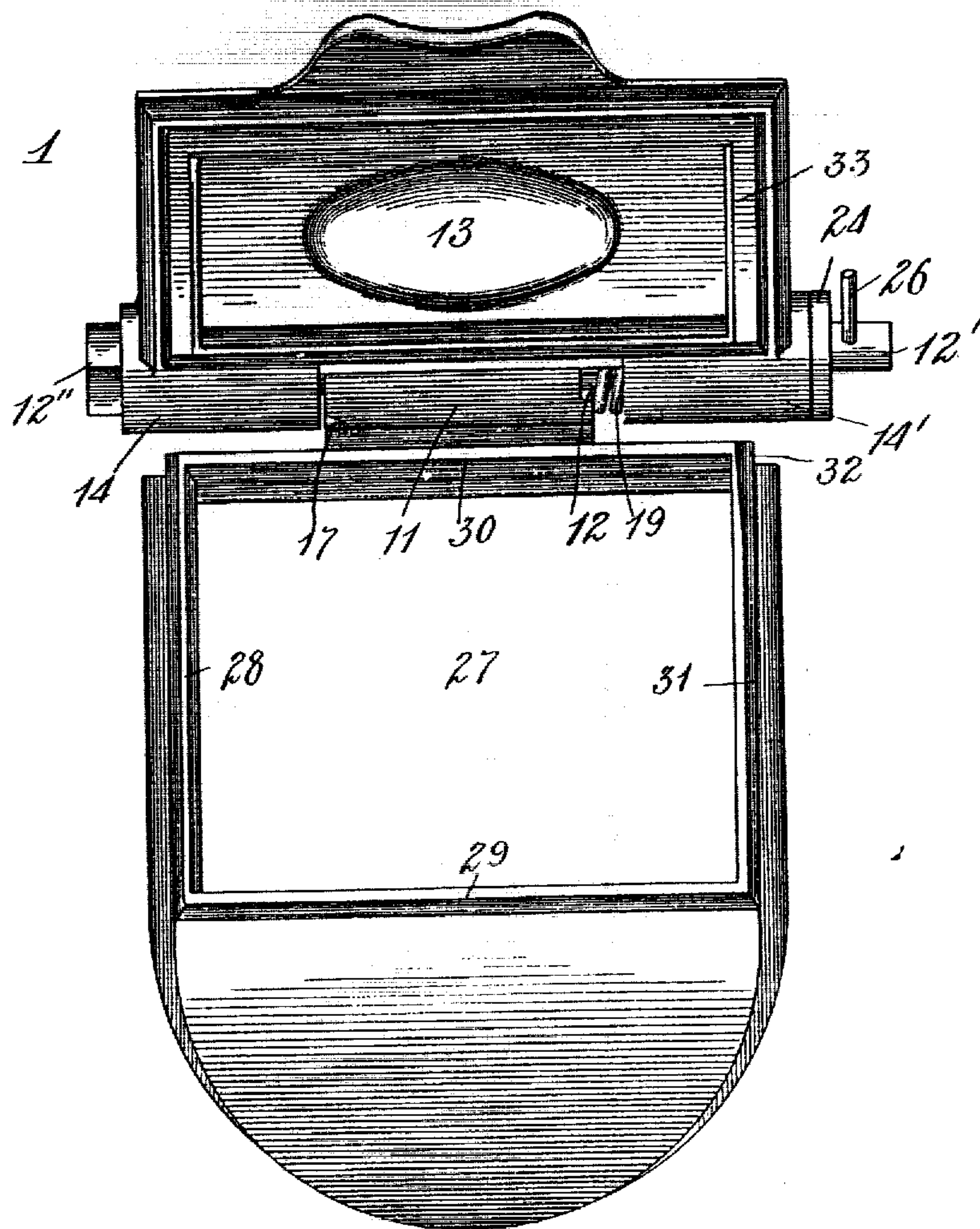
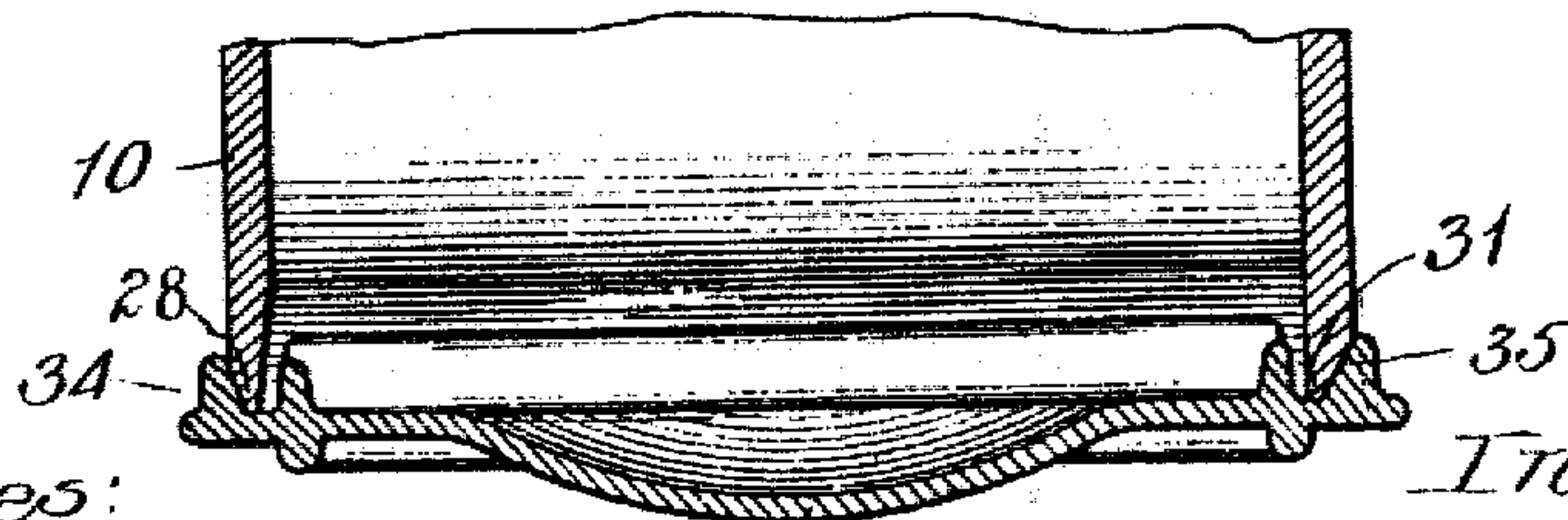


Fig. 2



Witnesses:

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Ray White.

Inventor:

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By J. M. Bell Atty.

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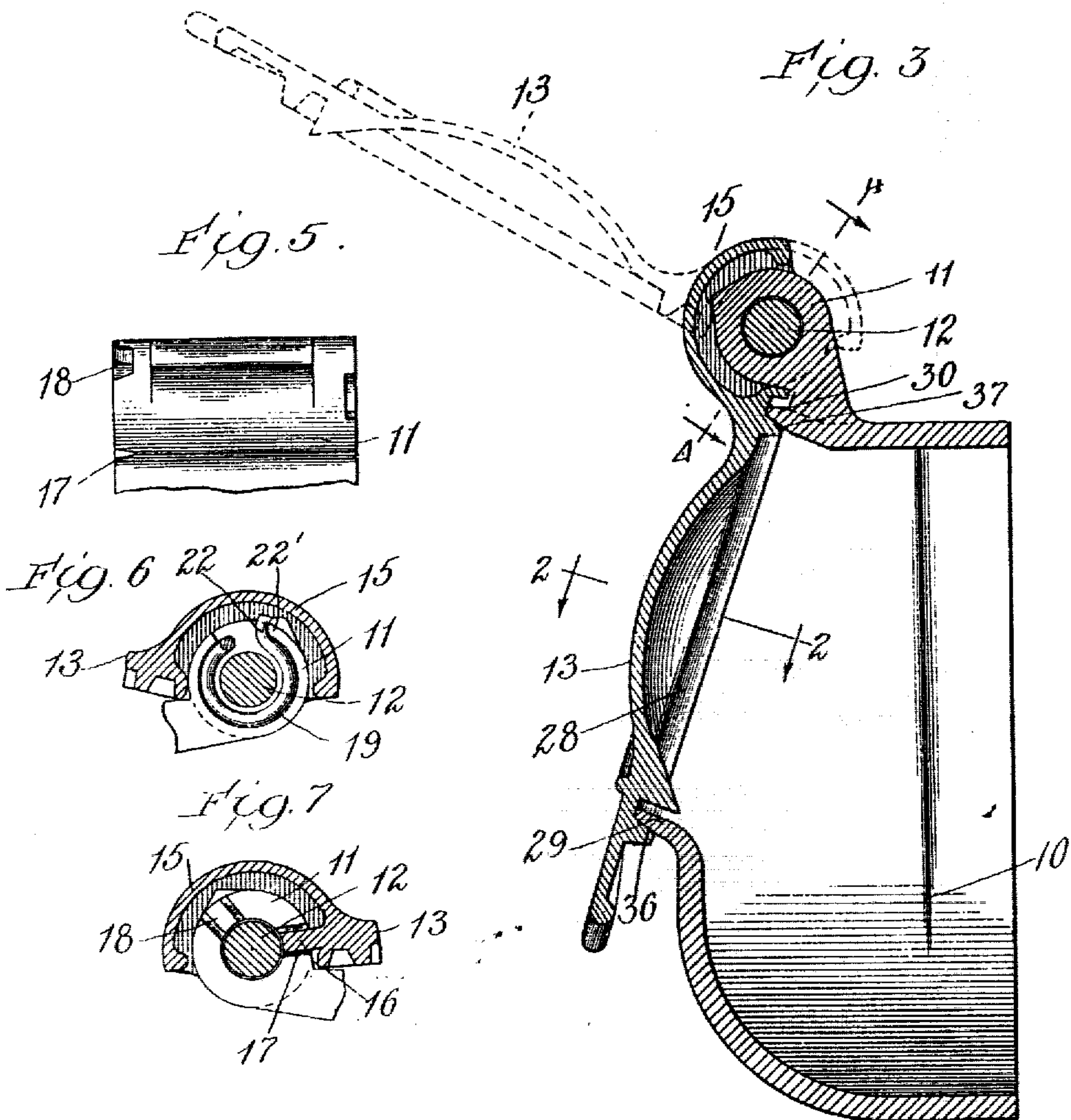


Fig. 4

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UNITED STATES PATENT OFFICE.

GEORGE A. WOODMAN, OF CHICAGO, ILLINOIS.

JOURNAL-BOX.

No. 828,261.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed August 3, 1905. Serial No. 272,468.

To all whom it may concern:

Be it known that I, GEORGE A. WOODMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Journal-Boxes, of which the following is a specification.

This invention relates to journal-boxes; and its objects are to hold the lid securely in open or closed positions, to automatically close the lid when it is released from open position, and to form a tight joint between the lid and the box to prevent dirt from entering the box and the escape of oil therefrom.

In the accompanying drawings I have shown one embodiment of the invention in a car-axle box.

Referring to the drawings, Figure 1 is a front view of a box, showing the lid in open position. Fig. 2 is a sectional view on the line 2 2 of Fig. 3. Fig. 3 is a horizontal sectional view showing the lid closed. Fig. 4 is a sectional view on the line 4 4 of Fig. 3. Fig. 5 is a detail plan view of the box-lug. Figs. 6 and 7 are sectional views on the lines 6 6 and 7 7, respectively, of Fig. 4.

Referring to the drawings, 10 designates a journal-box which is provided with a lug 11, bored to receive a pintle 12, which hinges the lid to the box. The lid 13 has sleeves 14 14' to receive the pintle, and between these sleeves the lid is provided with a hood 15, which partly covers said lug.

The sleeve 14 is provided with a projection 16, and the lug 11 has a notch 17 to receive said projection when the lid is closed and a notch 18 to receive said projection when the lid is open. The sleeves on the lid are spaced apart sufficiently to permit a limited endwise play of the lid relative to the lug on the box, and an expansion-spring 19 is arranged on the pintle within the sleeve 14' and bears against the outer end 20 of said sleeve and against the adjacent end of the box-lug. This spring operates to hold the projection in one or the other of said notches in the box lug, and thereby temporarily locks the lid in open or closed position.

The outer end 21 of the spring is locked to the lid or to the pintle in some suitable manner, and I have shown it bent across the half-round end 12' of the pintle. The inner end 22 of the spring is bent up to lock against a shoulder 22' on the box-lug. The pintle is locked fast to turn with the lid by means of a lip 23, which engages the polygonal head 12''

of the bolt. As the spring is thus locked at one end to the pintle, which is itself locked to the lid, and at its other end to the box-lug, the spring will be stretched torsionally when the lid is opened, and this torsional strain of the spring will cause the lid to close automatically and quickly after it has been shifted sidewise sufficiently to withdraw the projection 16 out of the notch 18.

The pintle-opening 20' in the end 20 of the sleeve 14', which receives the half-round end of the pintle, is circular and of the same diameter as the pintle to permit the pintle to be adjusted rotatively therein. A washer 24, provided with a plug 25, fits in said opening alongside of the half-round end of the pintle to hold the pintle firmly in the opening, and this plug projects above and secures the end of the spring to the pintle. To increase the expansion and torsion of the spring, the pintle may be adjusted rotatively by first removing the cotter-pin 26 and drawing the pintle outward until its head clears the lip 23, and after the spring has been adjusted to its proper tension the pintle is returned to its operative position and locked in place.

The lid is made to fit tightly against its seat formed by the edges of the box surrounding the opening 27, so that dirt may not enter the box and oil may not escape therefrom. The outer face of the side edge 28, the outer face of the lower edge 29, the inner face of the upper edge 30, and the outer face of the side edge 31 are beveled. The bevel on the side edge 31 is increased at its upper end 32, Fig. 1, because the lid will first engage the seat on the box at this point.

The lid is provided on its under side with a rib corresponding to each of said edges on the box, and the inner face of the side ribs 34 35, Fig. 2, and the bottom rib 36 and the outer face of the top rib 37 are beveled, Fig. 3, to fit the correspondingly-beveled faces of the edges of the box around the opening therein. I may provide the lid with parallel ribs to form a channel 33, as shown, Fig. 1, to receive the edges of the box, or the beveled ribs only may be employed.

The beveled ribs on the lid and the beveled faces of the seat on the box form broad contact-surfaces, which are held tightly in engagement by the spring to form a tight joint between the lid and the box and effectually prevent the entrance of dirt and the escape of oil.

The invention is simple in construction

and operation and embodies very few parts. The expansion and the torsion of the spring are both utilized with this invention, the expansion operating to draw the lid sidewise and securely hold it in its closed or open position and the torsion of the spring being utilized to carry the lid tightly against its seat on the box. When the lid moves from open to closed position, it first shifts sidewise (to the left in Fig. 1) to permit the projection to clear the notch 18, and about the same time that the projection reaches the notch 17 the upper end of the rib 35 on the lid will engage the extremely-beveled face at the upper end 32 of the edge 31 of the seat on the box. As the lid continues its downward movement under the influence of the torsion of the spring the expansion of the spring will cause the lid to shift sidewise, and at the same time the projection will enter the notch 17 and the beveled ribs on the lid will slide into close contact with the correspondingly-beveled faces of the seat on the box. The spring then hold the lid securely seated on the box, with a tight joint formed by the broad contacting beveled faces on the ribs and edges of the box.

What I claim, and desire to secure by Letters Patent, is—

1. The combination of a journal-box provided with an opening therein, and an outwardly-swinging lid hinged to the box at the upper edge of said opening and movable bodily sidewise on the box, there being outwardly-projecting edges on the box around said opening and ribs on the under side of said lid at the sides thereof to seat sidewise on said edges at the sides of the opening when the lid is closed, said ribs and edges being beveled to fit each other.

2. The combination of a journal-box provided with an opening therein, and an outwardly-swinging lid hinged to the box and movable sidewise thereon in opening and closing, there being outwardly - projecting edges on the box around said opening and ribs on the under side of said lid to seat sidewise on said edges when the lid is closed, the outer face of the edges of the box at the sides of said opening and the inner face of the corresponding ribs on the lid being beveled to fit each other.

3. The combination of a journal-box provided with an opening therein, and an outwardly-swinging lid hinged to the box and movable sidewise thereon in opening and closing, there being outwardly - projecting edges on the box around said opening and ribs on the under side of said lid to seat sidewise on said edges when the lid is closed, the outer face of the lower edge and the inner face of the upper edge of the box at said opening and the inner face of the rib at the bottom of the lid and the outer face of the rib at the top of the lid being beveled.

4. The combination of a journal-box provided with an opening therein, and an outwardly-swinging lid hinged to the box and movable sidewise thereon in opening and closing, there being outwardly - projecting edges on the box around said opening and ribs on the under side of said lid to seat sidewise on said edges when the lid is closed, the outer face of the side edges of the box and the inner face of the corresponding ribs on the lid being beveled, and the outer face of the lower edge and the inner face of the upper edge of the box around said opening and the inner face of the rib at the bottom of the lid and the outer face of the rib at the top of the lid being beveled to fit each other.

5. The combination of a journal-box provided with an opening therein, an outwardly-swinging lid hinged to the box and movable sidewise thereon in opening and closing, there being ribs on the under side of the lid to engage the edges of the box around said opening, the outer face of a side edge of the box at said opening being beveled, the bevel being increased at the upper end of said edge, and the inner face of the corresponding rib on the lid being beveled.

6. The combination of a journal-box provided with an opening therein, an outwardly-swinging lid hinged to the box and movable sidewise thereon, there being ribs on the under side of said lid to engage the edges of the box at the sides of said opening, said ribs and edges being beveled to fit each other, and means for moving the lid sidewise relative to the box as it is closed against the seat formed by said edges to bring and hold the beveled faces of the ribs tightly against the beveled faces of said edges.

7. The combination of a journal-box provided with an opening therein, an outwardly-swinging lid hinged to the box and movable sidewise thereon, there being ribs on the under side of said lid to engage the side, bottom and top edges of the box around said opening, the side ribs being arranged to engage the outer faces of the side edges of the box around said opening and all of said ribs and edges being beveled to fit each other, and means for moving the lid sidewise relative to the box as it is closed against the seat formed by said edges to bring and hold the beveled faces of the ribs tightly against the beveled faces of said side edges.

8. The combination of a journal-box provided with an opening therein, an outwardly-swinging lid hinged to the box and movable sidewise thereon, there being ribs on the under side of said lid to engage the edges of the box around said opening, the outer face of the edges of the box at the sides of said opening and the inner face of the corresponding ribs on the lid being beveled to fit each other, and means for moving the lid to its seat against said edges and causing the beveled

ribs on the lid to slide down on the beveled edges of the box and into close contact therewith.

5 9. The combination of a journal-box provided with an opening therein, an outwardly-swinging lid hinged to the box, there being ribs on the under side of said lid to engage the edges of the box around said opening, the outer face of the lower edge and the inner
10 face of the upper edge of the box at said opening and the inner face of the rib at the bottom of the lid and the outer face of the rib at the top of the lid being beveled, and means for moving the lid to its seat against said
15 edges and causing the beveled ribs on the lid to seat on the beveled edges of the box and in close contact therewith.

10 10. The combination of a journal-box provided with an opening therein, an outwardly-
20 swinging lid hinged to the box and movable

sidewise thereon, there being ribs on the under side of said lid to engage the edges of the box around said opening, the outer face of the side edges of the box around said opening and the inner face of the corresponding ribs 25 on the lid being beveled, and the outer face of the lower edge and the inner face of the upper edge of the box around said opening and the inner face of the rib at the bottom of the lid and the outer face of the rib at the top of 30 the lid being beveled to fit each other, and means for moving the lid to its seat against said edges and causing the beveled ribs at the sides of the lid to slide down on the beveled edges at the side of the opening in the box 35 and into close contact therewith.

GEORGE A. WOODMAN.

Witnesses:

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WM. O. BELT.