A. L. BUZZELL.

LID HOLDER AND INDICATOR.

APPLICATION FILED OCT. 14, 1908.

917,245. Patented Apr. 6, 1909.

Fig. 1.

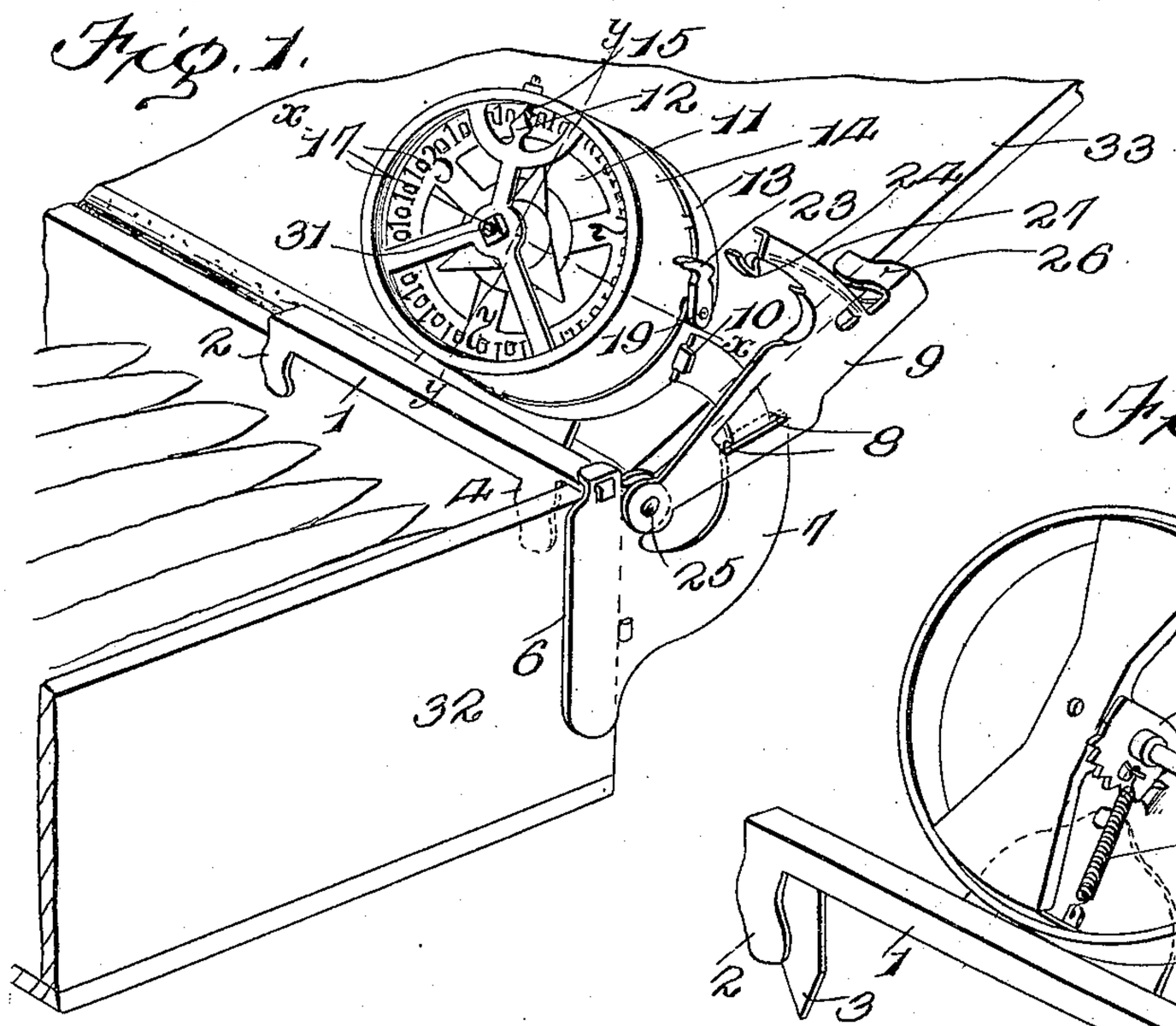


Fig. 2.

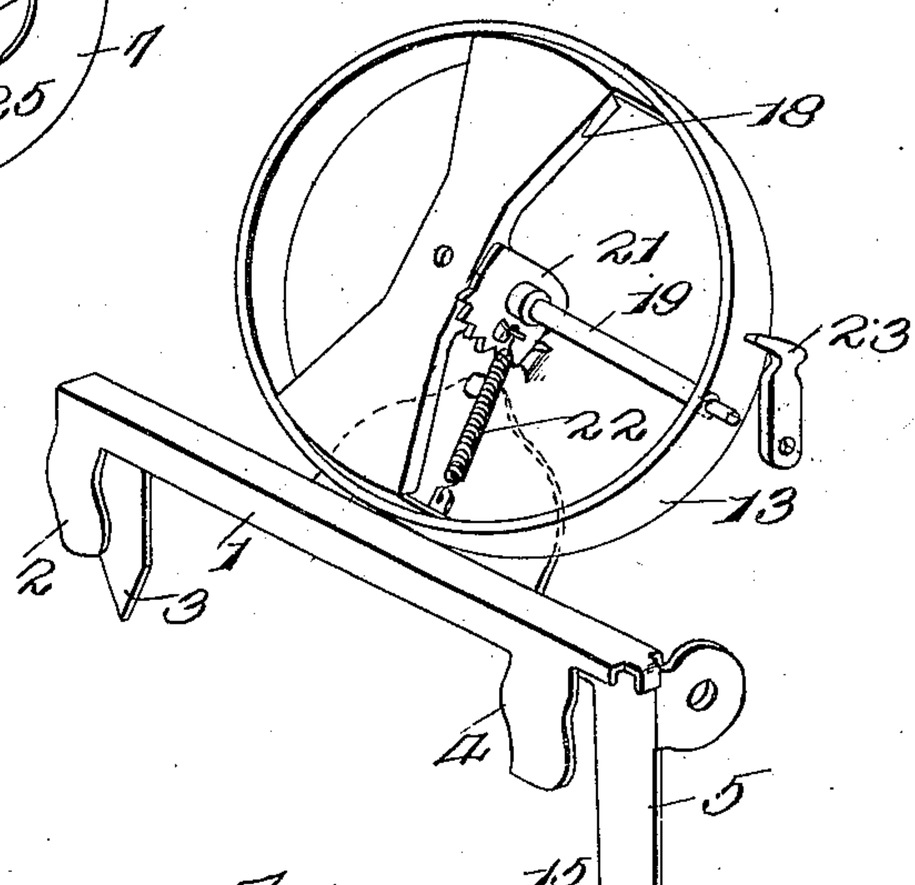


Fig. 3.

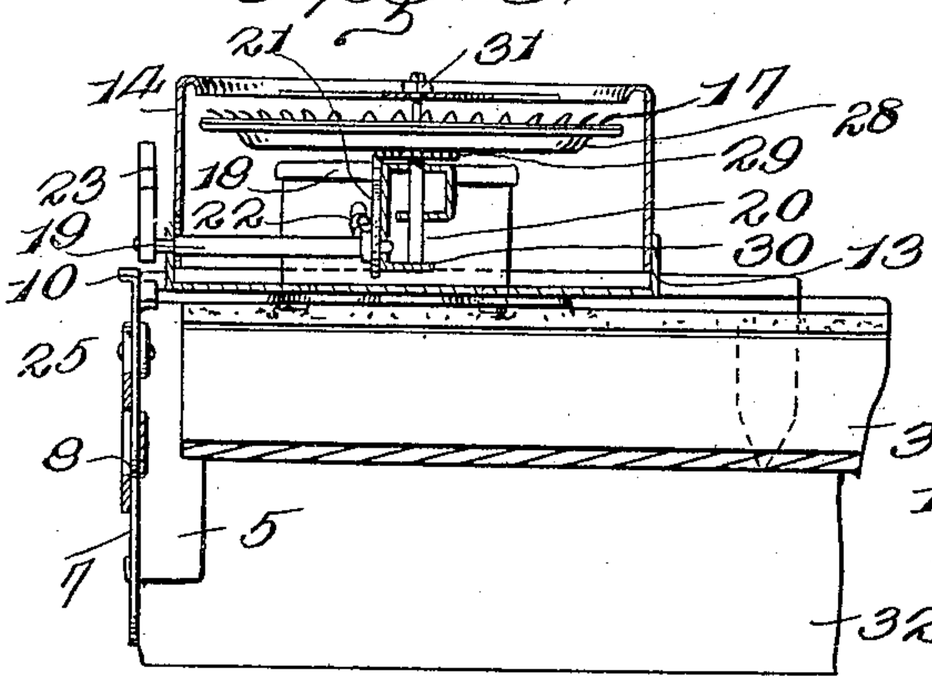
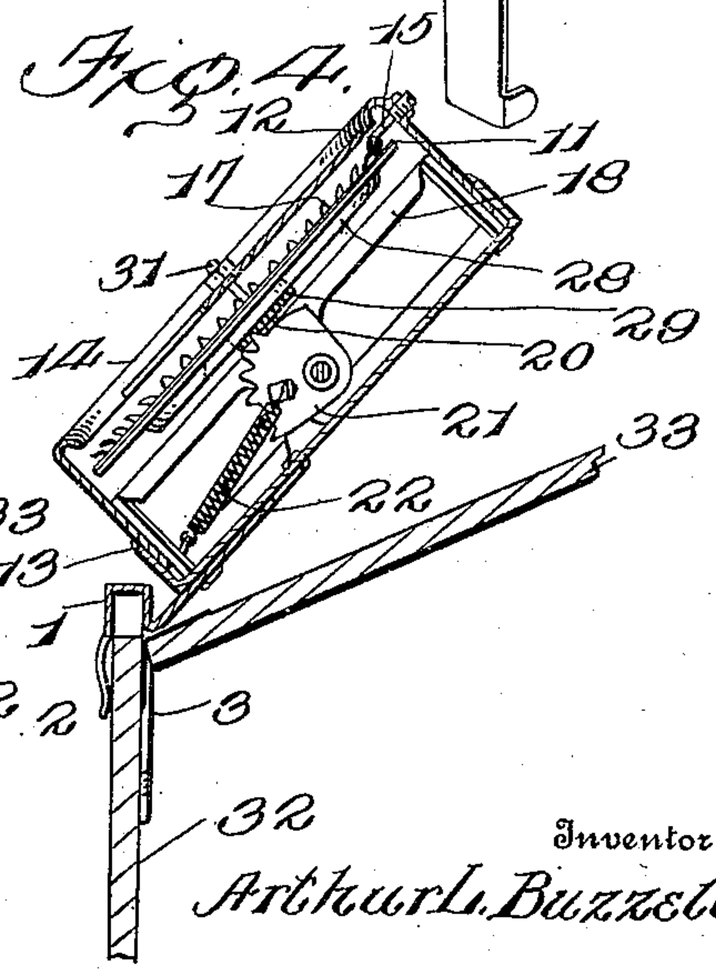


Fig. 4.



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LID-HOLDER AND INDICATOR.

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To all whom it may concern:

Be it known that I, ARTHUR LORING BUZZELL, a citizen of the United States, residing at Wabasha, in the county of Wabasha and State of Minnesota, have invented certain new and useful Improvements in Lid-Holders and Indicators, of which the following is a specification.

This invention provides a novel device combining means for holding the lid or cover of a box open and adapted at the same time to indicate the number of articles to be taken from the box at each removal, said device being of such construction as to be automatically operated when handling the box, the relative movement between the box and its lid or cover serving to actuate the indicating means.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a perspective view of the device, showing it applied to a box. Fig. 2 is a perspective view of the device, the cap plate and dial being removed. Fig. 3 is a section on the line X—X of Fig. 1; and Fig. 4 is a section on the line Y—Y of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The device comprises a supporting frame and an indicating mechanism. The supporting frame consists of a bar 1 of substantially U-form in transverse section, so as to embrace the upper edge and opposite sides of a side of the box to which the device is applied. A clip is located at each end of the bar 1 to clamp opposite sides of the wall of the box to secure the frame when in position. The clip at one end of the bar comprises clamp members 2 and 3, the latter being pointed and slightly longer than the clamp member 2 so as to penetrate the fabric forming the hinged connection between the lid or cover of the box and the side of the latter to which said lid is hinged. The clip at the opposite end of the bar comprises clamp members 4 and 5, the clamp member 4 corresponding with the clamp member 2 and adapted to engage with the inner face of the side of the box to which the frame is fitted. The clamp member 5 is adapted to engage the outerface of the side of the box adjacent to the corner and is considerably longer than the clamp member 4. A bar 6 at the outer end of the bar 1 forms a right angle with the clamp member 5 and engages with the end of the box so as to limit the inward movement of the frame. The bar 6 is spaced from the clamp member 4 a distance to receive the end of the box, thereby preventing possible endwise movement of the frame when in position. A curved arm 7 extends from the bar 6 and forms a part thereof and its outer portion is reduced, leaving shoulders 8 which limit the movement of the operating arm 9 in one direction. A stop 10 at the outer end of the curved arm 7 limits the movement of the operating arm 9 in the opposite direction and consists of a portion of said arm bent laterally therefrom.

The indicating mechanism consists of a dial 11 and a pointer 12, the latter being stationary, while the dial is mounted for rotation. The dial and a part of the operating mechanism are located within the casing which is secured to the bar 1 of the clamp frame. The casing consists of a base 13 and a cap ring 14. The base 13 is of circular form and is provided with a rim which receives the cap ring 14. The pointer 12 is preferably an integral part of the cap ring, the top of the latter having portions cut away to form the pointer and supporting bars, the openings formed by the cut-away portions admitting of the dial 11 being observed. A light spring 15 coöperates with the pointer 12 to designate the number upon the dial, said spring 15 being flat and attached to the inner end of a set screw 16 threaded into a boss provided at a side of the cap ring 14. The spring 15 acts as a supplemental pointer and is adapted to engage with points 17 pressed outward from the dial 11. A bridge 18 has its end portions attached to the base 13 and is provided at a central point with pendent and inwardly extended ears forming a bearing in which the inner end of a rock shaft 19 and the spindle 20 of the dial 11 are mounted. The rock shaft 19 is mounted near its outer end

in the rim of the base 13 and is provided at or near its inner end with a toothed segment 20 which is adapted to impart movement to the dial. A spring 22 is connected at one end to the rock shaft 19 and at its opposite end to a portion of the casing, said spring being normally under tension and serving to quickly return the rock shaft to normal position when released after being actuated so as to impart rotary movement to the dial. A trip 23 is fast to the outer end of the rock shaft 19 and its outer end is beveled and formed with a depression immediately in the rear of the point to insure positive engagement between it and the coöperating yielding trip 24 carried by the operating arm 9. The operating arm 9 is pivoted to the clamp frame at 25 and is provided at its outer end with a clip 26 to make positive engagement with the lid or cover of the box. Spaced slits are formed in the operating arm and the portion between said slits is pressed laterally from the arm to form a keeper to receive the reduced end portion of the curved arm 7, thereby preventing relative lateral displacement of the arms 9 and 7. A curved extension 27 projects from the operating arm 9 and receives and supports the yielding trip 24, the latter consisting of a flat spring at one end fast to the operating arm 9 and having its opposite end curved to form a hook which is adapted to engage with the outer end of the trip 23. When the operating arm 9 is moved upward or forward, the hooked end of the yielding trip 24 rides upon the beveled end of the trip 23 and after clearing the same engages with the depression in the upper or forward side of said trip 23. Upon moving the operating arm 9 rearward and downward, movement is imparted to the rock shaft 19, thereby increasing the tension of the spring 22 and just prior to the operating arm 9 reaching the limit of its movement, the yielding trip 24 clears the trip 23 and the spring 22 being suddenly released quickly returns the rock shaft to normal position, and this movement through the instrumentality of the toothed segment 21, imparts a rapid rotary movement to the dial 11. The dial 11 is weighted so that the force imparted thereto will result in the dial rotating a number of times. A ring 28 formed with or applied to the dial 11, provides the necessary mass or weight to insure the dial making a number of revolutions. A pinion 29 is provided upon the rear side of the dial and is adapted to mesh with the teeth of the segment 21. The spindle 20 is mounted in the bridge 18 and rests upon a step 30 forming a part of the frame provided at the center of said bridge. A set screw 31 is threaded into the central portion of the cap ring and its inner end terminates in a point which bears against the center of the dial or the outer end of the spindle 20 so as to prevent play of the dial in the casing and to insure engagement of the teeth of the parts 21 and 29. A series of points 17 are pressed outward from the dial near its outer edge and serve to separate the numbers or other indicia provided for designating the number of articles to be removed from the box. Should the box contain a miscellaneous collection of articles, each may be numbered to correspond with a number on the dial, the latter after being spun determining which article is to be delivered. If the articles are of like nature, the dial may be provided with a series of like numbers and other interspersed higher numbers so that it may be determined whether one or more articles are to be delivered.

In the practical application of the invention, the clamp frame is fitted to a box 32 and the operating arm 9 is fitted to the lid or cover of said box. When placing the clamp frame in position it is arranged with the bar 6 against the end of the box and with the bar 1 above the rear side so that the clip members are in position to embrace opposite faces of the rear side of the box when the clamp frame is pressed downward. After the clamp frame has been properly positioned, downward pressure upon the bar 1 causes the pointed clamp member 3 to penetrate the flexible hinge between the head and box, the pressure being continued until the bar 1 rests upon and embraces the top edge portion of the rear side of the box. The operating arm 9 is now adjusted to cause the clip 26 at its outer end to embrace opposite sides of the lid or cover 33.

When the device is in position, the cover of the box is held open and the indicator inclines to the plane of the box in convenient position to be read. When grasping the lid or cover 33 to remove the box from a case, shelf or other place, said lid moves upward, carrying the operating arm 9 with it and causing the trip 24 to move upward and forward in position to engage with the trip 23. When the box is lifted by continued application of force to the lid or cover 33, the weight of the contents causes it to tilt forward with the result that the rear portion of the box moving upward and forward carries the indicator away from the operating arm, thereby causing the rock shaft to be moved rearward so as to place the spring 22 under tension, and the instant the trip 24 clears the trip 23, the rock shaft is thrown forward and imparts a rapid rotary movement to the dial by the action of the toothed segment 21 meshing with the pinion 29. When the dial comes to rest, the number or character opposite the pointer indicates the nature or character of the delivery to be made.

The foregoing description of the operation assumes that the cover of the box occupies such a position that the trips 23 and 24 are

separated as indicated in Fig. 1. However, the box when placed upon the shelf or in a case may have its cover at such a slant or angle that the trips 23 and 24 are in engagement, hence when removing the box from its resting place by grasping the cover 32 the weight of the box will cause the latter to drop and the trip 23 to ride from under the trip 24 in the manner herein described, thereby imparting rotary movement to the dial.

It is to be understood that the device is chiefly intended to hold the cover of the box at a desired angle or slant so as to display the label or other matter to the best possible advantage.

Having thus described the invention, what is claimed as new is:

1. A device of the character specified, comprising a frame adapted to be attached to a box and provided with an indicator, and an operating arm connected with said frame and fitted to the lid or cover of the box and adapted to be actuated thereby to operate the indicator.

2. A device of the character specified, comprising a frame adapted to be attached to a box and provided with an indicator, and an operating arm connected with said frame and fitted to the lid or cover of the box to normally hold the same open and adapted to be actuated by movement of said lid to effect operation of the indicator.

3. In a device of the character specified, the combination of a frame adapted to be fitted to a box and provided with an indicator, an arm pivoted to said frame and adapted to make connection with the lid or cover of the box to be operated thereby, and coöperating means between said operating arm and indicator for actuating the latter by movement imparted to the lid or cover of the box.

4. In a device of the character described, the combination of a frame adapted to be fitted to a box and provided with an indicator, an arm pivoted to said frame, interlocking means between said arm and frame to prevent displacement of said arm and to direct the same in its movements, said arm being provided with means for making connection with the lid or cover of the box, and coöperating means between said arm or indicator for actuating the latter when imparting movement to the lid or cover of the box.

5. In a device of the character specified, the combination of a frame adapted to be fitted to a box and provided with an indicator, an arm pivoted to said frame and provided with means for making connection with the lid or cover of the box, interlocking means between said arm and frame to direct the arm in its movements, stops provided upon the frame to limit the movements of said arm, and coöperating means between the said arm and indicator for actuating the latter by movement of the lid or cover of the box.

6. In a device of the character specified, the combination of a clamp frame adapted to be fitted to the box and provided with a curved arm having a reduced portion provided at opposite ends with stops, said frame being provided with an indicator, an operating arm pivoted to said frame and having a portion embracing the reduced part of said curved arm and arranged to operate between the stops thereof, said operating arm being supplied with means for making connection with the lid or cover of the box, and cooperating means between the operating arm and indicator for actuating the latter by movement of the lid or cover of the box.

7. In a device of the character specified, the combination of a clamp frame adapted to be fitted to a box and provided with a curved arm, an indicator carried by said clamp frame and comprising a rock shaft having a trip, an arm pivoted to said frame and adapted to be attached to the lid or cover of the box and having portions engaging with said curved arm to form guide means for directing the arm in its pivotal movements, and a coöperating yielding trip carried by the operating arm to engage with the trip of the rock shaft for actuating the indicator by movement imparted to the lid or cover of the box.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR L. BUZZELL. [L. S.]

Witnesses:

THOMAS IRWIN,

HARRY SCHOLTES.