J. Z. HANSON.

PIVOT HINGE.

APPLICATION FILED MAR. 1, 1919.

1,324,667.

Patented Dec. 9, 1919.

2 SHEETS—SHEET 1.

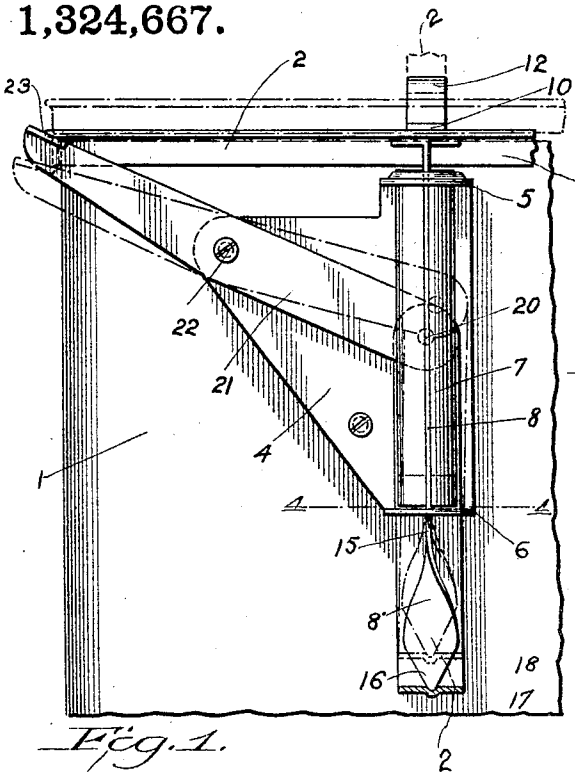


Fig. 1.

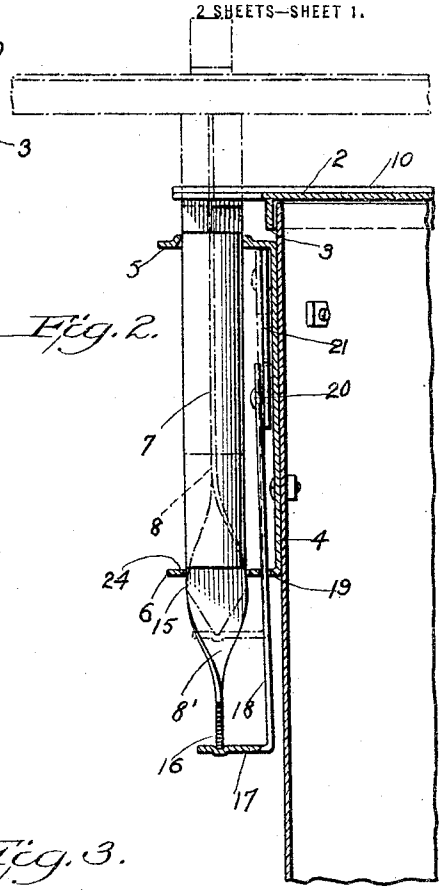


Fig. 2.

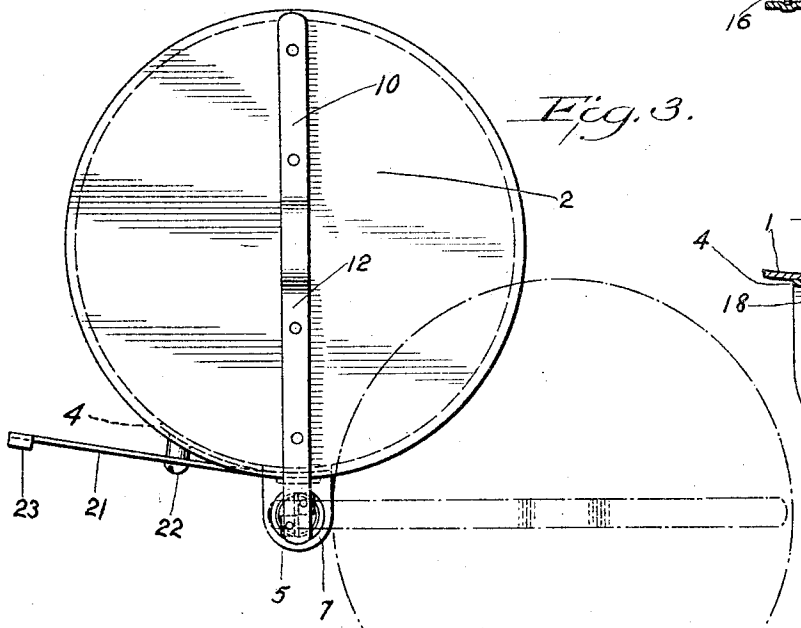


Fig. 3.

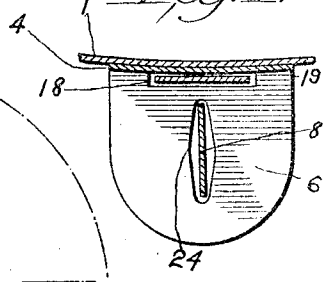


Fig. 4.

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 5.

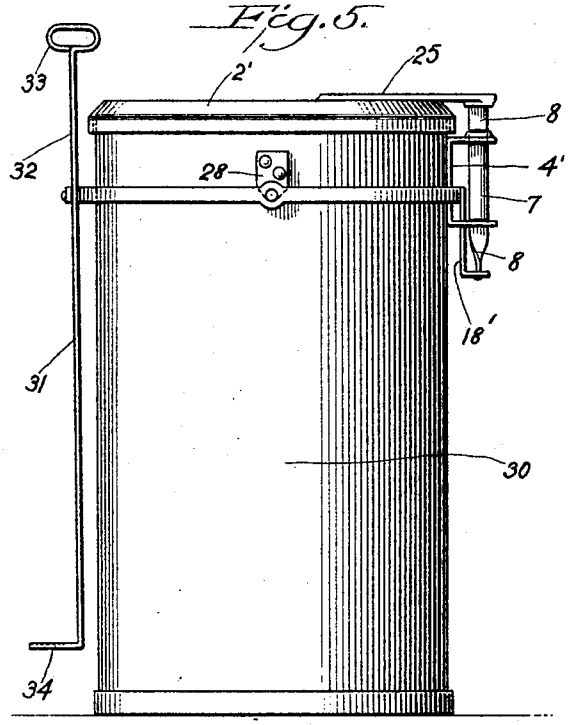


Fig. 7.

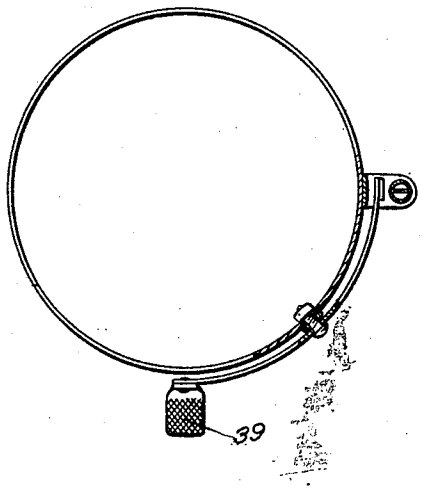


Fig. 6.

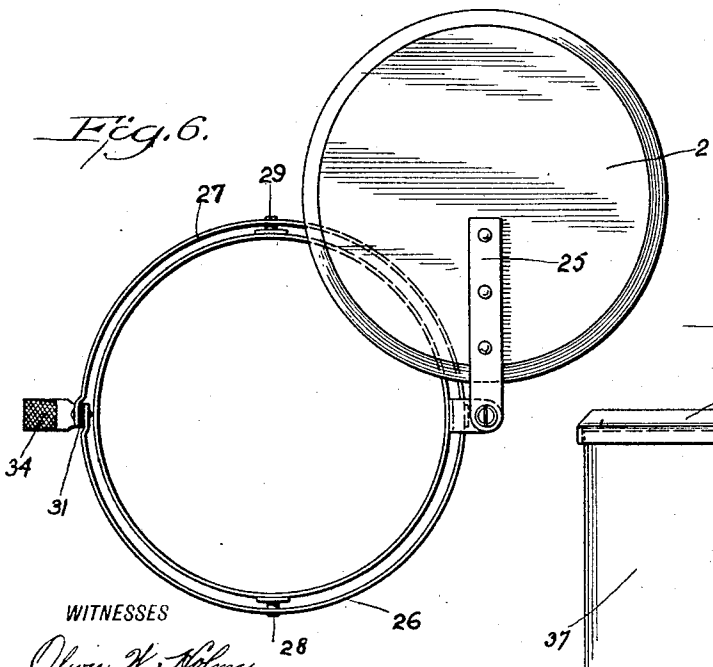
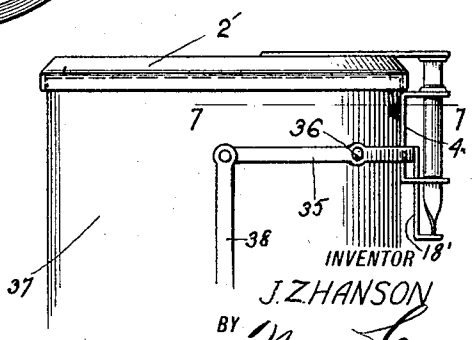


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

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PIVOT-HINGE.

1,324,667. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed March 1, 1919. Serial No. 280,114.

To all whom it may concern:

Be it known that I, JOHN Z. HANSON, a citizen of the United States, and a resident of Muscle Shoals, in the county of Colbert and State of Alabama, have invented a new and Improved Pivot-Hinge, of which the following is a full, clear, and exact description.

This invention relates to pivot hinges and particularly to an improved pivot hinge and associate parts used with lids and containers associated therewith. The object in view is to provide a pivot hinge which may be easily operated for normally holding the lid of a can in place and permitting the easy movement thereof to one side so as to uncover the top of the container or can.

Another object of the invention is to provide a pivot hinge and operating mechanism which will, when operated, first raise the lid of a can and then turn the same to an open position.

A further object is to provide a pivot hinge for lids of cans which will ordinarily lock the lid in place and which will ordinarily be quickly and easily turned to one side, and upon an upward movement of the hinge the lid may be bodily removed.

In the accompanying drawings:

Figure 1 is an elevation of one embodiment of the invention, same being shown applied.

Fig. 2 is a sectional view through Fig. 1 on line 2—2.

Fig. 3 is a top plan view of the structure shown in Fig. 1.

Fig. 4 is a horizontal section through Fig. 1 on line 4—4.

Fig. 5 is a side view of a can with a slightly modified form of the invention shown applied thereto.

Fig. 6 is a plan view of the structure shown in Fig. 5, the lid being shown in an open position.

Fig. 7 is a horizontal section through a slightly modified form of the invention to that shown in Fig. 5, the same being taken on line 7—7 of Fig. 8.

Fig. 8 is a side view of the construction shown in Fig. 7.

Referring to the accompanying drawings by numerals 1 indicates the upper part of a can or container which is normally covered by a lid 2, which may be sheet metal and which may be perfectly flat, though preferably it is provided with a depending flange 3 as is used in garbage cans and the like. A supporting bracket 4 is riveted or otherwise rigidly secured to the container 1, said bracket being provided with outstanding ears 5 and 6, ear 5 having a round aperture for accommodating the round member or barrel 7, and the ear 6 being provided with a slot or flat aperture for accommodating the plate 8. The plate 8 acts as rotating means when moved upwardly for rotating the barrel 7 and also the lid 2 to which it is secured in any desired manner. Preferably the barrel 7 is made from sheet metal bent into a tubular form, said barrel having rigidly secured thereto, by solder or otherwise, the flat plate 8 which extends entirely through the barrel and is twisted at the lower end, while the upper end is preferably split and bent over so as to receive suitable rivets extending through the cross bar 10. This cross bar is not only secured to the upper end of plate 8, but is riveted or otherwise rigidly secured to the lid 2 and is bent centrally for providing a handle 12. This handle is provided in order that the cover may be moved upwardly at any time and the barrel 7 and plate 8 removed. In order that the lid 2 may be elevated and then rotated to a position from above the can 1, the plate 8 is provided with a straight portion 15 and a twisted portion 8′ merging into a pointed end 16 which rests on an outstanding ear 17 of the flat bar 18, which flat bar extends through a suitable slot 19 in the ear 6. Bar 18 is pivotally connected at 20 to lever 21 which lever in turn is pivotally mounted at 22 on the bracket 4. The outer end of the lever 21 may be formed in any desired manner, as for instance with a turned over portion 23 so as to be easily operated. By this construction and arrangement, whenever the turned over portion 23 is pushed downwardly the lever 21 will move the bar 18 upwardly and consequently will act on the point 16 for moving the bar 8 upwardly. For a short distance the bar 8, barrel 7 and lid 2 will move in a straight line vertically and then the curved part 8′

will engage the side walls of the slot 24 and rotate the barrel 7 and parts connected therewith including the lid 2 until it reaches a full open position upon the extreme movement of the lever 21. The weight of the lid and associate parts is carried by the outstanding ear 17 so that when lever 21 is released the lid will automatically return to a closed position.

In large cans, as for instance what is known as a street can a slightly different arrangement of levers is provided as shown in Figs. 5 and 6. In this form of the invention the bracket 4′ is similar to bracket 4 except that it is only slightly wider than the bar 18′, which bar acts in a similar manner to the preferred structure, as well as the plate 8 and the barrel 7. Connected to the top of the plate 8 is preferably a flat comparatively narrow plate 25 which is also connected to the lid 2′ so that when the barrel 7 is raised the lid will also be raised and turned as the barrel is turned. A pair of encircling levers 26 and 27 are pivotally connected with the upper end of the bar 18′, said levers being also pivotally connected to brackets 28 and 29 riveted or otherwise rigidly secured to the can 30. The levers 26 and 27 extend around to the front where they are preferably pivotally connected together and to a bar 31 which has an upwardly extending section 32 containing a knob or handle 33 and a foot member 34 at the lower end, whereby the mechanism may be operated by a downward movement of the handle 33 or the foot of the operator may be placed on the projection 34. It is, of course, evident that the levers 26 and 27 could be rigidly secured together, or formed integral at the front and the bar 31 pivotally connected therewith without departing from the spirit of the invention.

In Figs. 7 and 8 will be seen a further modified form of the invention in which the mechanism is operated only by the foot. The bracket 4″ and associate parts are identical with that shown in Fig. 5, whereas the lever 35 is pivotally mounted at 36 on the can 37 and pivotally connected to the bar 18′ so as to move said bar upwardly when it is desired to open the lid 2′. The outer or free end of the lever 35 has a link 38 connected therewith, said link having a foot member 39 arranged at the bottom thereof which is preferably near the bottom of the can whereby when the foot is placed on this foot member and pressed downwardly bar 18′ will be raised and the lid 2′ elevated and turned to one side as described in respect to Figs. 5 and 6 and also as indicated in Figs. 1 to 4 inclusive.

What I claim is:

1. A pivot hinge for cans having removable lids comprising a bracket adapted to be secured to the can, said bracket being formed with outstanding ears, one of which has a round aperture and the other a flat aperture, a tubular elevating member fitted into said round aperture, a flat plate secured to said tubular member and extending therethrough and also through said flat aperture, the tubular member being twisted at the bottom presenting turning cams, means at the top for securing the lid of said can thereto, an elevating bar having an outstanding ear projecting between said twisted end, and means for elevating said bar whereby said cover will be elevated and turned to one side as the twisted part of said plate engages the walls of said flat slot.

2. A pivot hinge for cans having lids comprising a supporting guiding member, a vertically movable rotary member held in position by said supporting guiding member, means for connecting said vertically movable member with the lid of said can, means for raising said vertically movable member, a lever encircling said can connected with said means, a pair of pivots for said encircling lever, and a manually operated member connected with said lever at the front for actuating the same.

3. A pivot hinge for cans having lids comprising means for elevating and turning the lid of a can, an encircling band for said can connected with said means, a pair of journal members for said encircling means for journaling the same on said can, and an operating member for said encircling means whereby the encircling means acts as a lever, said operating means comprising a bar having a handle at one end and a foot member at the opposite end.

4. A pivot hinge for cans having lids comprising a bracket connected to said can, a longitudinally movable member carried by said bracket and connected with the lid of said can, means for rotating the longitudinally movable member so that the lid will be turned to one side when the device is operated, a lever pivotally mounted on said can connected with said means for actuating the same, and a depending link having a foot member thereon pivotally connected with said lever for moving the lever when actuated.

JOHN ZACIOUS HANSON.