H. E. KERR.

PAIL.

APPLICATION FILED APR. 9, 1910.

991,321.

Patented May 2, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

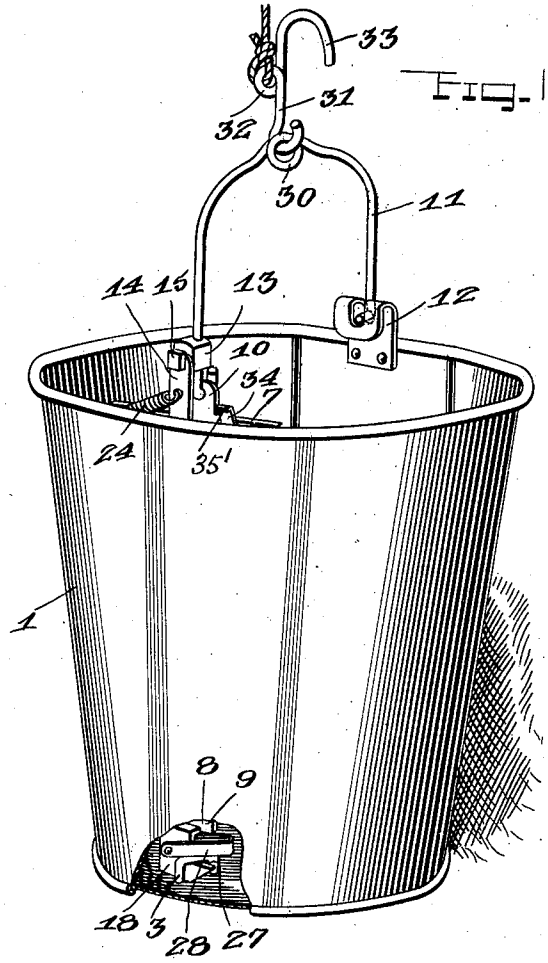
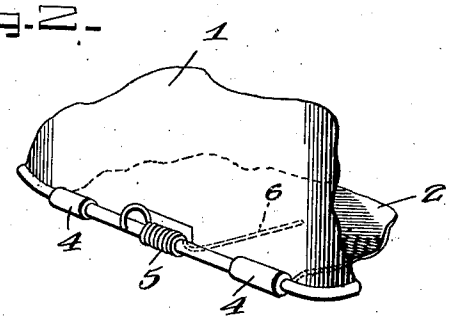


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

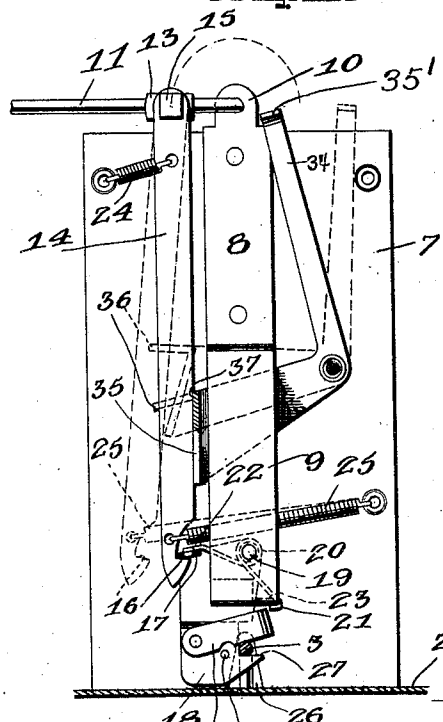


Fig. 4.

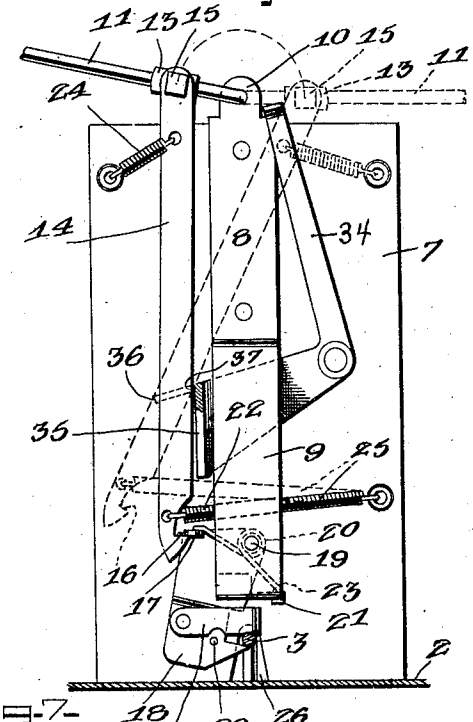


Fig. 7.

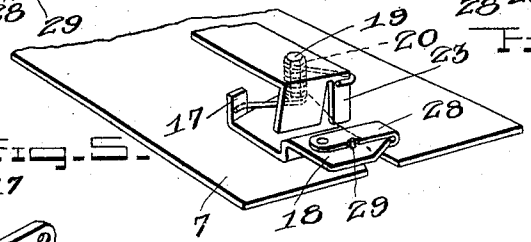


Fig. 5.

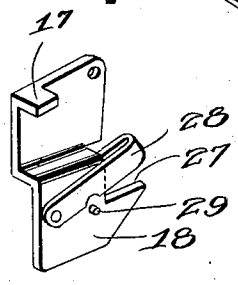
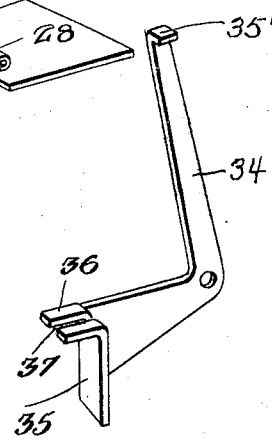


Fig. 6.



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UNITED STATES PATENT OFFICE.

HOMER E. KERR, OF SPRINGVILLE, PENNSYLVANIA.

PAIL.

991,321. Specification of Letters Patent. Patented May 2, 1911.

Application filed April 9, 1910. Serial No. 554,481.

To all whom it may concern:

Be it known that I, HOMER E. KERR, citizen of the United States, residing at Springville, in the county of Susquehanna and State of Pennsylvania, have invented new and useful Improvements in Pails, of which the following is a specification.

This invention relates to pails especially adapted for use in fruit-picking, the primary object being, to provide a pail with a hinged bottom, and improved means for releasing the bottom to permit the contents of the pail to be discharged.

The present invention is designed as an improvement upon that disclosed in United States Letters Patent No. 931,315 granted to me under date of August 17, 1909, and two of the distinguishing features of the improvement are; first, that the mechanism or device that controls the opening of the pail is entirely inclosed and protected by a housing, thus effectually preventing any accidental movement or disarrangement of the parts, and secondly, that the mechanism for securing and controlling the bottom of the pail is so constructed that the pail may be lowered from a ladder or from the limb of a tree or carried about without liability of accidental opening of the bottom.

The construction of the improved pail will be fully described hereinafter in connection with the accompanying drawings which constitute a part of this specification, and its novel features will be set forth and defined in the appended claims.

In the drawings: Figure 1 is a view in perspective, partly broken away, of a pail embodying the invention. Fig. 2 is a detail perspective showing the manner of hinging the pail bottom. Fig. 3 is an elevation of the housing-plate carrying the devices which secure and release the pail bottom. Fig. 4 is a similar view to Fig. 3, but showing a different relation of parts. Fig. 5 is a detail perspective of the latch device which engages a loop projecting from the bottom of the pail, and Fig. 6 is a similar view of the lever employed for throwing the latch-tripping bar into and out of engagement with the latch. Fig. 7 is a detail perspective view of the lower portion of the plate and bracket, and also of the latch-device with its guard showing slitted arm on the lower end of bracket; the pin interposed between the plate and bracket being shown in dotted lines while the coil-spring surrounding same is shown partly in dotted lines.

The reference numeral 1 designates the pail provided with a bottom 2 hinged to the pail, and having an eye or loop 3 projecting from its inner surface at the side opposite the hinge 4. A coil spring 5 surrounds the pintle of the hinge, and one end 6 of this spring bears upon the under surface of the bottom 2 to cushion the opening of the latter, and thus prevent too sudden a discharge of the contents of the pail which might bruise the fruit.

The numeral 7 designates a housing-plate to which the bottom-securing and releasing devices are secured. This plate is soldered within the pail to one side of the latter, so that all of the working parts of the device are concealed and protected between the inner surface of the pail and the housing-plate.

Secured centrally to the plate 7 is a bracket 8 extending longitudinally of the plate and provided with a loop or offset 9. The upper end 10 of the bracket projects above the plate 7 and is perforated to serve as an ear for one end of the bail 11, the opposite end of which engages a perforated ear 12 projecting from the upper edge of the pail as shown. Arranged upon the bail 11 adjacent to the end 10 of the bracket is an adjustable block 13 to which is pivotally secured the upper end of a bar 14, by means of a set screw 15 which also serves as the securing means for the block 13. This bar 14 is formed at its lower end with a notch 16 to engage a lug 17 projecting from the upper end of a latch device 18 pivoted upon a pin 19 between the plate 7 and the bracket 8. A coil spring 20 surrounds the pin 19, one end 21 of said spring engaging the lower portion of the bracket 8, while its opposite end 22 engages the lug 17 of the latch the tension of the spring causing the latch to engage an arm 23 formed by slitting the lower end of the bracket and bending upward a portion thereof.

The upper end of the bar 14 is connected by a coil spring 24 to one side of the housing-plate 7, and its lower end is connected to the opposite side of said plate by a coil spring 25. The function of the spring 24 is to draw the bar 14 downward after it has been raised by the bail, and the spring 25 pulls

the notched lower end of the bar into engagement with the lug 17 of the latch.

The lower edge of the plate 7 is formed with a slot 26 to receive the loop or eye 3 projecting from the bottom 2, and the latch 18 is slotted to provide a lip 27 which engages said eye; the said slot 26 of plate 7 being so constructed as to serve as a guide for the loop or eye 3 relative to the lip 27 of the latch 18 when the bottom 2 is being closed. A guard consisting of a yoke 28 embracing the lower end of the latch 18 and pivoted thereto overlaps the eye and coöperates with the latch in securing the eye and holding the hinged bottom in closed position. The lower edge of the sides of the yoke 28 are notched to engage stop-pins 29 projecting from opposite sides of the latch. The guard 28 serves as a retaining catch for the loop or eye 3 by bearing against the same and holding the lip disengaged from the loop 3 until the pail has been raised, thereby permitting the bottom 2, to swing open to discharge the contents of the pail; the real function of said guard occurring when the latch 18 is tilted and withdrawn from its engagement with the loop 3, when the guard drops by gravity thereby preventing the lip 27 from returning to its engagement under the loop or eye 3. In closing the bottom the guard 28 is raised by the loop 3, and when closed, rests lightly upon said loop, as shown in Fig. 3. The slot-pins 29 are used to prevent the guard 28 from dropping too far when the lip 27 is disengaged from the loop or eye 3.

The bail 11 has a central loop 30 to which is attached one end of a wire 31 bent to form a loop 32 and terminating in a hook 33, adapted to engage over the limb of a tree or round of a ladder. The loop 32 is adapted to have a rope attached thereto for raising and lowering the pail.

The utility and operation of the device will be readily understood from the drawing in connection with the foregoing description.

Normally the pail bottom is held closed by the latch 18 under tension of the spring 20, and as the bar 14 is pivotally attached to the bail, when the latter is in its upright position (as when suspended from a suitable support) the bar 14 is held upward and out of contact with the lug 17 of the latch. When the bail is lowered to rest upon the top of the pail, the bar 14 automatically engages the lug 17 under tension of the spring 25, and when the bail is lifted the latch 18 is tilted, thus releasing the eye 3 to open the bottom and discharge the contents of the pail. For the purpose of moving the latch-tripping bar 14 out of contact with the lug 17, so that the opening of the hinged bottom may be prevented when desired and the pail handled without tripping the latch, I employ a lever 34 of the bell-crank type, fulcrumed upon the housing-plate 7, and having its short arm provided with a flange 35 having an angular extension 36 formed with a slot 37 to receive the bar 14. The upper end of this lever 34 projects above the top edge of the plate 7, and is curved to provide a finger-piece 35′ by means of which the lever may be moved to force the tripping bar out of alinement with the lug 17, or to return said bar to its normal position.

It will be noted that a characteristic feature of the present invention is, that all of the operative elements of the device are securely housed and protected and are hence not liable to damage or disarrangement.

While I have hereinbefore referred to suspending the pail from the limb of a tree or the round of a ladder, it is obvious that the pail may be attached to any suitable supporting device worn about the body of the fruit-picker, leaving both hands free for picking the fruit.

Under certain conditions it may be desirable to detach the spring 24 from the side of the plate to which it is attached as shown in full lines in Fig. 4 and connect said spring to the opposite side of the plate shown in dotted lines in Fig. 4. This turns the bail to the opposite side of the pail and securely holds the tripping bar out of the path of the pivoted latch.

I would have it understood that the invention includes all such modifications and variations as may fall within the terms and scope of the claims.

Having fully described my invention, what I claim to be new and desire to secure by Letters Patent is:—

1. The combination with a pail having a bail and a hinged bottom provided with a projection, of a pivoted latch adapted to engage said projection, and means for tripping said latch, comprising a spring-controlled bar adapted to engage the latch and pivotally secured to the bail of the pail.

2. The combination with a pail having a bail and a hinged bottom provided with a projection, of a spring-pressed pivoted latch adapted to engage said projection, a pivoted guard carried by said latch, and means operated by the bail of the pail for tripping said latch.

3. The combination with a pail having a bail and a hinged bottom provided with a projection, of a spring-pressed pivoted latch adapted to engage said projection, a pivoted guard carried by said latch, and means operated by the bail of the pail for tripping said latch comprising a spring-pressed bar pivotally secured to said bail and notched to engage said latch.

4. The combination with a pail provided with a hinged bottom having an eye, of a plate secured within the pail, a bracket secured to said plate and serving as one of

the bail ears of the pail, a spring-controlled latch pivotally secured between said plate and said bracket, and adapted to engage an eye projecting from said bottom, and means for tripping said latch actuated by the movement of the bail.

5. The combination with a pail provided with a hinged bottom, having an upwardly projecting eye, of a spring latch pivotally secured within the pail, and adapted to engage said eye, a bar pivotally secured at its upper end to the bail of the pail, and notched at its lower end to engage said latch, and means for forcing said bar out of alinement with said latch.

6. The combination with a pail provided with a hinged bottom, having an upwardly projecting eye, of a spring latch pivotally secured within the pail, and adapted to engage said eye, a bar pivotally secured at its upper end to the bail of the pail, and notched at its lower end to engage said latch, and means for forcing said bar out of alinement with said latch comprising a bell-crank lever adapted to engage said bar.

7. The combination with a pail provided with a hinged bottom, having an upwardly projecting eye, of a spring latch pivotally secured within the pail, and adapted to engage said eye, a bar pivotally secured at its upper end to the bail of the pail, and notched at its lower end to engage said latch, and means for forcing said bar out of alinement with said latch comprising a bell-crank lever having a flanged extension provided with a slot to receive said bar.

8. The combination with the body of a pail having a bail, of a bottom secured thereto by a spring hinge, and provided with a loop or eye, a spring-pressed latch adapted to engage said eye, and formed with a projecting lug, and a spring controlled tripping-bar pivotally secured to the bail of the pail, and notched to engage said lug.

9. The combination with a pail having a hinged bottom, of a plate secured to the pail, means attached thereto and substantially housed thereby engaging said bottom for securing and releasing the same, and a bail on the pail engaging said first means for operating the same.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HOMER E. KERR.

Witnesses:
A. B. SMITH,
MARY JAGGER.