(No Model.)

A. B. ANDERSON.

FRUIT GATHERER.

No. 454,320. Patented June 16, 1891.

Fig. 1.

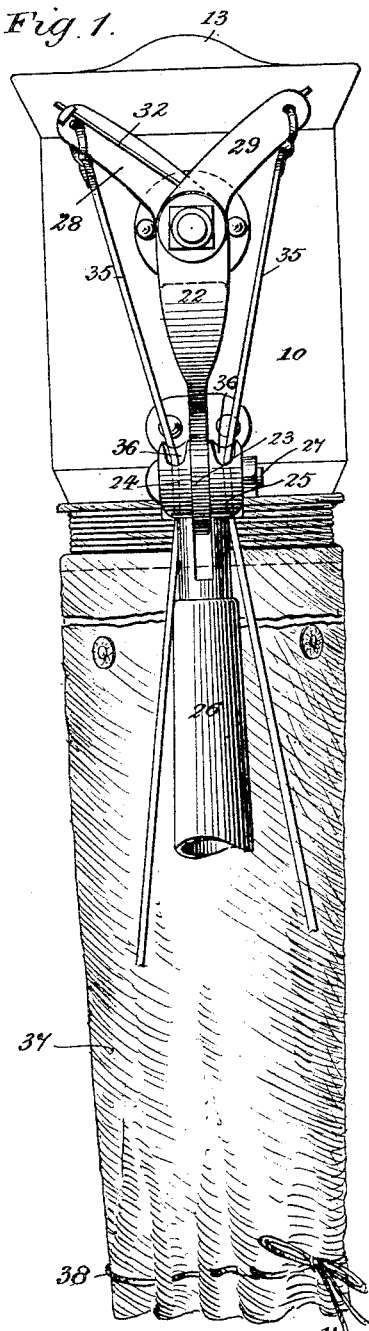


Fig. 2

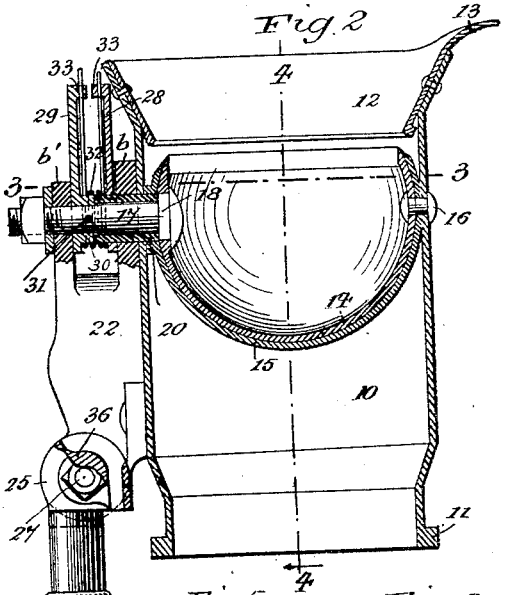


Fig 5

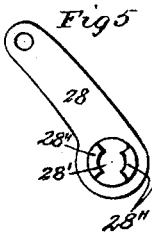


Fig 6

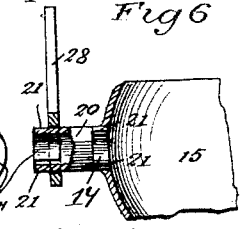
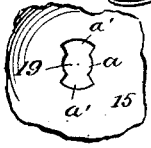


Fig. 4

Fig. 7.



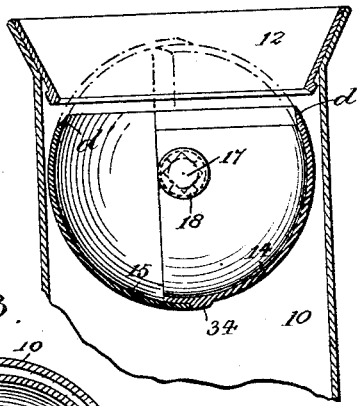
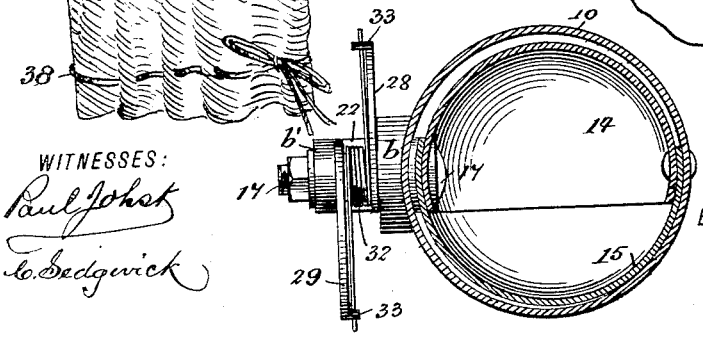


Fig. 3.



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ANDREW B. ANDERSON, OF SAVANNAH, GEORGIA.

FRUIT-GATHERER.

SPECIFICATION forming part of Letters Patent No. 454,320, dated June 16, 1891.

Application filed September 25, 1890. Serial No. 366,081. (No model.)

To all whom it may concern:

Be it known that I, ANDREW B. ANDERSON, of Savannah, in the county of Chatham and State of Georgia, have invented a new and useful Improvement in Fruit-Pickers, of which the following is a full, clear, and exact description.

My invention relates to an improved fruit-picker, and has for its object to provide an implement by means of which fruit—such as apples, oranges, pears, quinces, &c.—may be gathered conveniently and expeditiously without injury and without the necessity of climbing into the tree; and a further object of the invention is to construct the implement in a simple, durable, and economic manner and to so form the mouth that any one of a cluster of fruit may be removed from a branch without danger of detaching or of bruising the others.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the implement. Fig. 2 is a central vertical section through the body portion thereof. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2. Fig. 4 is a vertical section taken on the line 4 4 of Fig. 2. Fig. 5 is a front elevation of the lever or arm 28, and Figs. 6 and 7 are detail views.

The body of the device consists of a cylindrical shell 10, made from any approved material, metal being preferred, and in one or more pieces. The upper end of the mouth of the body is flared outward, and the lower end is of less diameter than the other portions and is provided with an exterior annular flange 11. To the inner face of the flaring mouth a ring or band 12 is preferably secured, approximating in shape the frustum of a cone, which ring or band extends downward below the flaring mouth, and a lip 13 is usually formed upon the upper edge of the ring, as is best shown in Figs. 1 and 2. The ring or band at its lower end forms a guard to protect the entering fruit from contacting with the cutting-edges of the cups 14 15, as will be readily understood. Below the ring within the body two semicircular cups 14 and 15 are pivoted, which cups are capable of telescoping one above and in the other, and also of independent movement in opposite directions. The two cups near their upper edge revolve upon a common pin 16. At the opposite upper edge, however, they are pivoted in a peculiar manner, which consists in passing a pin 17 through apertures produced in the two cups, and also through an opening in the body of much greater diameter than that of the pin. The head of the pin is located within the body, and immediately back of the head a polygonal collar 18 is formed upon the pin, which neatly fits into the opening of the inner cup 14, the said opening being of corresponding shape, as shown in Fig. 2 and in dotted lines in Fig. 4. The opening 19 in the outer cup, as shown in Fig. 7, is provided with essentially straight side surfaces a and curved or semicircular end walls a', the ends of the opening being of much greater width than the central portion thereof. A sleeve 20 is loosely mounted upon the pin 17 and is provided at each end with semicircular oppositely-arranged studs 21, as shown in Fig. 6. The sleeve is of a proper diameter to turn freely in the opening of the body, and the inner set of studs enter the curved end portions of the outer cup-opening 19, fitting snugly therein, whereby the outer cup is securely locked to the sleeve. Upon the side of the body at which the pin 17 is located a bracket 22 is firmly secured, the upper end whereof is bifurcated, and the inner member b is apertured to receive the sleeve 20, and the outer member b' is also apertured to receive the pin 17. The pin is threaded at its outer end and is provided with a suitable washer and nut, as is best illustrated in Fig. 2. The lower end of the bracket extends a slight distance out from the body and is shaped to form a knuckle 23, adapted to be entered between two knuckles 24 and 25, produced upon a socket attached to the upper end of a pole 26 of any desired length, and a hinge connection is obtained between the bracket and pole by passing a suitable pintle 27 through the knuckles, as illustrated in Fig. 1. The upper edges of

the cups are beveled upon opposite sides, as best shown in Fig. 4, to produce cutting-edges *d* and *d'*, and the cups are manipulated to cause their cutting-edges to pass each other, as shown in dotted lines in Fig. 4, through the medium of two oppositely-curved arms 28 and 29, the lower ends of which arms are located between the upper members of the body-bracket. Arm 29 is provided with an opening at its lower end surrounded by a collar 30. The inner arm 28 has an aperture 28' at its inner end fitting on the studs 21 of sleeve 20, and said arm is further provided at its opening with a segmental collar or two segmental studs 28'', (see Fig. 5,) which fit into the spaces between the studs 21, and thus lock the arm 28 and sleeve 20 together, as shown in Figs. 2 and 6. The studs 21 and 28'' form a longitudinal extension of the sleeve 20. The opening in the arm 29 is just sufficiently large to receive the pivot-pin 17, and the arm is attached to the pivot-pin in any approved manner, usually by passing a key 31 through the collar of the arm into the pin. When the collars of the two arms 28 and 29 abut, the space between the members of the brackets is entirely filled. The arms are normally held to project in opposite directions, as shown in Fig. 1, by a spring 32, coiled around their collars, the ends of which spring are passed through sockets 33, formed upon the inner face of one arm and the outer face of the opposite arm at their upper ends. When the arms are in their normal position, (indicated in Fig. 1,) the cups are retained in an open or receiving position, (indicated in positive lines, Fig. 4,) and when in this position the lower ends of the cups overlap one another, being prevented from opening too wide at the top by a stop 34, formed upon the inner cup. A rope, cord, or chain 35 is secured to the upper end of each of the arms 28 and 29, and the said ropes, cords, or chains are passed downward through guide-openings 36, formed in the knuckles 24 and 25 of the pole. From thence the cords, ropes, or chains extend downward as far as desirable, and if the pole be very long they are made to pass through guide-staples of any approved construction or through screw-eyes secured to the pole. A flexible chute 37 is used in connection with the body, which chute is constructed of canvas or a like material and is made in a series of sections, one section being buttoned or otherwise detachably attached to the other, and the bottom of each section has connected therewith a draw-string 38, whereby the chute may be partially closed at any desired point in its length to check the fall of the fruit. The upper end of the chute is secured to the reduced lower end of the body 10, the attachment being usually effected by tightly wrapping the upper end of the chute with cord; but the chute may be attached to the body in any other suitable or approved manner.

I desire it to be distinctly understood that I do not confine myself to the details of construction as shown and described, as equivalent construction may be substituted without departing from the spirit of the invention— as, for instance, the arm 28 may form an integral portion of the sleeve 20, and the said sleeve 20, instead of being attached to the outer cup in the manner shown, may be secured thereto by a pin, key, or its equivalent.

In operation the spring 32, as heretofore stated, normally causes the arms 28 and 29 to extend outward in opposite directions, and this position of the arms causes the cups to assume the open or receiving position shown in Fig. 4. The device is elevated when the parts are in this position, and the mouth of the body is brought beneath the fruit to be gathered. When the body has been elevated sufficiently to cause an orange, for instance, to enter the cups, the cords, ropes, or chains 35 are drawn upon by the operator, whereupon the cutting-edges of the cups are made to approach each other as the arms are drawn toward the center of the body, and the very moment that the cutting-edges are brought in contact the stem of the fruit is severed and the orange drops downward into the flexible chute, as when the cutting-edges of the cups meet their lower edges are separated to permit the passage of the fruit. It will be noticed that when the cup is open to receive fruit its bottom will be closed and prevent the fruit from entering too far, and thus the branches and leaves will be kept out, and as the upper edges of the cup are below the upper edge of the receiver 10 the latter will also tend to prevent the entrance of branches and leaves. The lip 13 may be omitted, if desired; but when attached it is utilized to guide one of a bunch of fruit properly into the cups.

It will be observed that the device is exceedingly simple and capable of convenient and expeditious manipulation, and that any desired amount of fruit may be conducted down the chute without injury, as the fall of the fruit may be checked or broken at intervals in the length of the chute by tightening any desired number of the draw-strings.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the vertically-divided cup normally open at its mouth and closed at its bottom to support the fruit, of mechanism for bringing the upper edges of the sections together to sever the fruit and at the same time separate their lower edges to discharge it, substantially as set forth.

2. The combination, with the receptacle open at its ends, of the vertically-divided cup therein, normally open at its mouth and closed at its bottom to support the fruit, and operating devices connected with the two sections of the cup to bring the upper edges together to sever the fruit and at the same time

separate their lower edges to discharge it into the receptacle, substantially as shown and described.

3. The combination, with the vertically-divided cup normally open at its mouth and closed at its bottom to support the fruit and operating devices to simultaneously bring the upper edges of the cup-sections together to sever the fruit and separate the lower edges to discharge it, of a flaring ring supported above the mouth of the cup, the lower edge of the ring serving as a guard to prevent injury of the fruit by the upper edges of the cup-sections, substantially as shown and described.

4. The combination, with the tubular receptacle having an outward-flared ring at its upper open end, the lower edge of which forms a guard, of the vertically-divided cup, the mouth of which is normally open and adjacent to said lower edge and the bottom of which is normally closed to support the fruit to be severed, and operating devices connected with the two sections of the cup to bring their upper cutting-edges together and simultaneously separate their lower edges to open the bottom of the cup, substantially as set forth.

5. The combination, with the open-ended receptacle 10, of the vertically-divided cup therein normally open at its mouth and closed at its bottom, the two sections of the cup overlapping and pivoted together and to the receptacle at 16, the bolt 17, extending from the inner section 14 in line with pivot 16 through the receptacle, the sleeve 20, projecting from the outer cup-section 15, concentric with the bolt and turning thereon, and spring-actuated operating-arms projecting from the bolt and sleeve, substantially as shown and described.

6. The combination, with the open-ended receptacle 10, having a bifurcated bracket 22 on one side, of the vertically-divided cup within the receptacle, normally open at its mouth and closed at its bottom to support the fruit, the cup-sections 14 15 being pivoted at 16 to the receptacle, and a concentric bolt and sleeve connected at their inner ends to the respective cup-sections in line with pivot 16, the bolt being extended through both arms of the bracket 22 and having a nut on its outer end, and the sleeve terminating between the two arms and the spring-actuated operating-arms on the bolt and sleeve, respectively, within the slot of the bracket.

7. The combination, with the receptacle or support 10, of the two semicircular overlapped sections pivoted at 16 and provided opposite said pivot with irregular-shaped openings, a bolt passing therethrough and having its inner end shaped to engage the opening of the inner section, a sleeve turning on the bolt and shaped at its inner end to engage the opening of the outer section, an operating-arm removably secured to the bolt beyond the outer end of the sleeve, and an inner operating-arm having an opening receiving the outer end of the sleeve, said arm and sleeve having interlocking studs and a spring for throwing the arms apart, substantially as shown and described.

8. In a fruit-picker, the combination, with the tubular body or receptacle and the fruit-severing devices having operating-arms, of an apertured knuckle 23 on said body or receptacle below the axis of the arms, and the pole-socket having two knuckles 24 25, pivoted to the knuckle 23, and each having a guide-opening 36 extending through them transverse to their axes, substantially as shown and described.

ANDREW B. ANDERSON.

Witnesses:
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JOSEPH BARRETT.