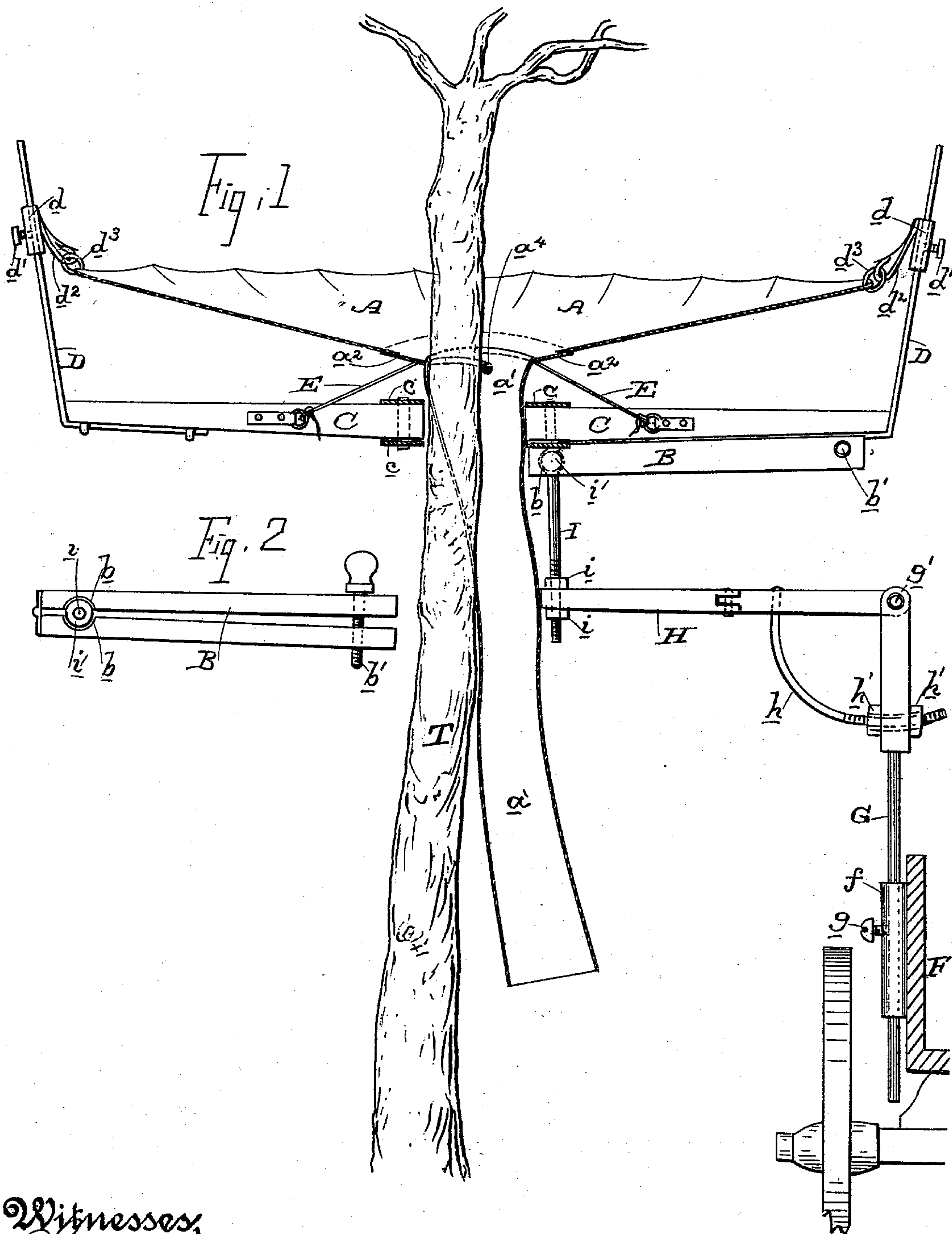


2 Sheets—Sheet 1.

No. 478,903.

Patented July 12, 1892.



Witnesses,  
 Et Anne  
 J. A. Bayless

Inventor,  
Samuel E Ball  
By Dewey & Co. atty.

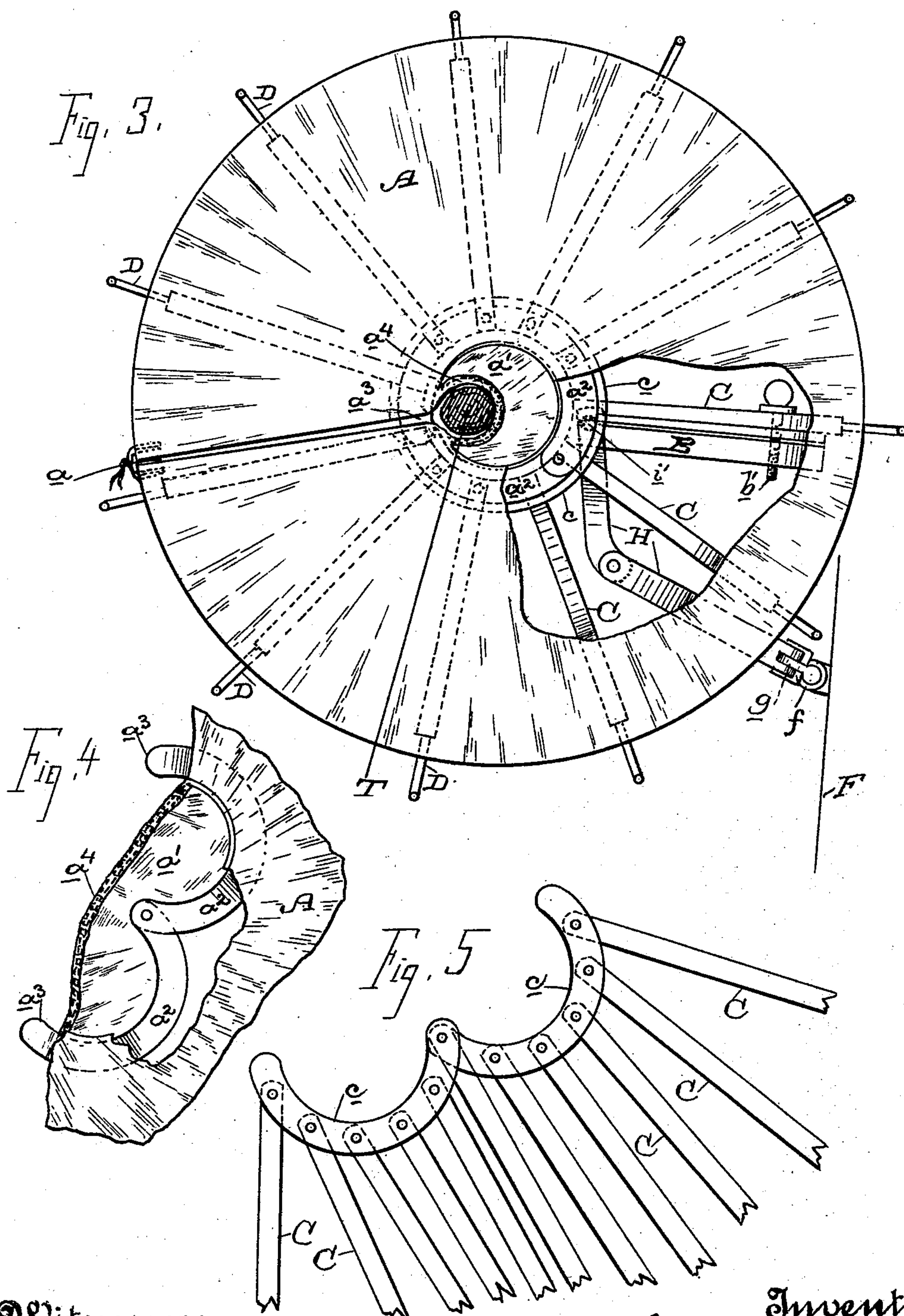
(No Model.)

2 Sheets—Sheet 2.

S. E. BALL.  
FRUIT GATHERER.

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# UNITED STATES PATENT OFFICE.

SAMUEL E. BALL, OF WINTERS, CALIFORNIA.

## FRUIT-GATHERER.

SPECIFICATION forming part of Letters Patent No. 478,903, dated July 12, 1892.

Application filed April 8, 1892. Serial No. 428,356. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL E. BALL, a citizen of the United States, residing at Winters, Yolo county, State of California, have invented an Improvement in Fruit-Gatherers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of fruit-gatherers in which is employed a receiver adapted to be fitted around the tree-trunk and to catch the fruit which is shaken from the tree.

My invention consists in the novel construction and arrangement of the adjustable, expandible, and collapsible receiver hereinafter fully described, and specifically set forth in the claims.

The object of my invention is to provide a gatherer of this class adapted to be easily transported from tree to tree, to be adjusted in various positions to suit different trees and the lay of the ground, and to be readily and quickly set in place under the tree.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an elevation of my fruit-gatherer applied to a tree, the receiver A and spout  $a'$  being in section. Fig. 2 is a view of bar B to show the controllable ball-and-socket connection of the rod I therewith. Fig. 3 is a plan of my fruit-gatherer, a portion of receiver A being broken away. Fig. 4 is a detail of the trunk-clamping portion of receiver and spout. Fig. 5 is a view showing the hub  $c$  and radial arms C of the receiver-frame collapsed.

A is the receiver, consisting of a funnel-shaped piece of material, preferably a sheet of strong fabric. It has an open center and is open at one side on a radial line  $a$ . Its discharge spout or neck  $a'$  is tubular and is joined to it at its upper end by means of pivoted curved clamping-arms  $a^2$ , which are connected with the spout and with the main sheet all around, except near their separable ends  $a^3$ , which are free of both sheet and spout. This portion of the spout-top, which is thus free of all connections, lies at and crosses the inner end of the radial opening  $a$  of the main sheet and is elastic by reason of having hemmed into it an elastic strip  $a^4$ .

B is the supporting-bar of the receiver-

frame. To it are pivoted the curved sections  $c$  of the separable frame-hub, said sections having their opposite ends free and overlapping. In these sections are pivoted the radially-extending arms C, to the outer ends of which are connected the standards D, which, though they may be rigid, are preferably made of a springy nature to better stretch the receiver-sheet. This sheet is connected all around its rim to these standards. This connection may be of any suitable character and preferably adjustable. Thus I have shown on each standard a sliding sleeve  $d$ , whose position thereon is regulated by a set-screw  $d'$ . Each sleeve carries a snap  $d^2$ , which is adapted to engage a ring  $d^3$ , secured to the sheet. Thus by setting these connections up or down the concavity of the receiver can be varied. The spout  $a'$  of the receiver passes down through the sectional hub of the supporting-frame. Bands E, preferably elastic bands, are connected with the under side of the receiver and with the arms to hold the receiver-center down and prevent the wind from reversing it.

F represents the side of a wagon or other truck. Upon this is fitted a pipe  $f$ , in which is mounted and adapted to be raised and lowered a standard G, which is fixed in position by a set-screw  $g$ . To the top of this standard is pivoted by a horizontal pin  $g'$  a jointed bracket H, which can move up and down through a vertical arc about its pivotal center  $g'$ , and its outer section can move horizontally about its joint somewhat similarly to a gas-bracket. The movement of the bracket in a vertical arc is effected and regulated by the curved bar  $h$ , the lower end of which passes through the standard and is fitted with adjusting-nuts  $h'$ .

To the outer end of the bracket is fitted a vertical rod I, which can be raised up and down by means of its threaded lower end and the nuts  $i$ . The upper end of this rod is connected with the supporting-bar B of the receiver-frame by a ball-and-socket joint adapted to be tightened or clamped in any position. This joint is here shown as consisting of a ball-head  $i'$  on the top of rod I, fitting a spherical socket  $b$  in the bar B, which said bar is made in two parts, each carrying half the socket, and adapted to be tightened to-



gether by the screw  $b'$ , whereby the ball can be loosened from and clamped in the socket.

T is a tree-trunk.

The operation is as follows: In proceeding  
5 to the tree the radial arms C are folded together like the ribs of a fan and the receiver is collapsed. The arms and receiver are turned back by bending the jointed bracket H, so that they lie directly over the wagon.  
10 When the tree is reached, they are projected bodily outwardly, so that the separated ends of the clamp-arm  $a^2$  pass on each side of the tree-trunk, which thus bears against the outside of the elastic free portion of the spout-top. This giving before the trunk causes  
15 the free ends of the clamp-arm  $a^2$  to embrace the trunk on the other side, and thus it is fully encircled by this portion of the spout-top and by the arms. The spout itself passes  
20 down clear to one side of the trunk. The severed ends of the main sheet are now pulled outwardly and come together and are fastened on the other side of the tree, the arms C turning out radially. Thus the receiver entirely  
25 encircles the tree and fits closely its trunk. The tree being shaken its fruit will drop into the receiver and be carried down through its spout into a suitable receptacle below. When  
30 all the fruit is gathered from that tree, the ends of the sheet are unfastened and it and the arms are folded up or collapsed as before, and the whole device is then withdrawn from the tree-trunk. These several adjustments here-  
35 in before described are intended to suit the device to all possible conditions. Its height is regulated by the vertically-movable standard G and also by the rod I. Its approach to  
40 and contact with the tree is effected by the swinging jointed bracket H. Its inclination to suit the lay of the land, so that it may remain level even on a side hill, is effected by  
manipulating the ball-and-socket joint between rod I and bar B, whereby the receiver may be tilted or inclined as desired. To get  
45 under low-branched trees, it may be inclined on the pivot-pin  $g'$  and the concavity of the receiver may be varied by the adjustable connection of its rim with the standards D, as heretofore mentioned. The receiver being  
50 made of fabric will, when stretched, have considerable elasticity, so that the fruit in dropping upon it will not be bruised. There will never be much weight of fruit upon it, as it will pass off as soon as it falls, and the jar  
55 of succeeding falling fruit will prevent any of the preceding ones from sticking. The spout being baggy will prevent the fruit from bruising.

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

1. In a fruit-gatherer, the combination of the expansible and collapsible receiver having a side opening to fit it about a tree-trunk, the  
65 discharge-spout from said receiver adapted to pass down beside the trunk, the sectional separable hub adapted to open from and close

about the trunk, said hub encircling the discharge-spout, and the swinging radial arms of said hub supporting the receiver, substantially as herein described. 70

2. In a fruit-gatherer, the combination of the expansible and collapsible receiver having a side opening to fit it about a tree-trunk, the discharge-spout from said receiver adapted  
75 to pass down beside the trunk, the sectional separable hub adapted to open from and close about the trunk, said hub encircling the discharge-spout, the swinging radial arms of said hub, and the standards connected  
80 with said arms and with the rim of the receiver, whereby the latter is held above the arms and hub, substantially as herein described.

3. In a fruit-gatherer, the combination of  
85 the expansible and collapsible funnel-shaped receiver with its side opening and discharge-spout, the separable sectional hub encircling said spout, the swinging radial arms of the hub, the standards of the arms, and adjust-  
90 able connections between said standards and the rim of the receiver, whereby the concavity of the latter may be varied, substantially as herein described.

4. In a fruit-gatherer, the combination of  
95 the expansible and collapsible receiver having an open center and a radial side opening to fit it about a tree-trunk, the tubular discharge-spout adapted to pass down beside the trunk and secured at its upper end to the open center  
100 of the receiver, except at one portion opposite the side opening thereof, which said portion is elastic, and the pivoted curved arms secured to the spout-top and having their free  
105 ends at the elastic portion thereof, whereby they clamp said portion about the tree-trunk, substantially as herein described.

5. In a fruit-gatherer, the expansible and collapsible receiver having the side opening and discharge-spout, and the supporting-  
110 frame therefor, consisting of the separable sectional hub, radial swinging arms, and standards, in combination with an adjustable bracket by which said frame is carried and may be adjusted to different positions, sub-  
115 stantially as herein described.

6. In a fruit-gatherer, the expansible and collapsible receiver having the side opening and discharge-spout, and the supporting-  
120 frame therefor, consisting of the separable sectional hub, radial swinging arms, and standards, in combination with a bracket carrying said frame, said bracket being hinged horizontally, whereby it may move in a vertical  
125 arc to lower the receiver, and means to set said bracket in the position to which it is adjusted, substantially as herein described.

7. In a fruit-gatherer, the expansible and collapsible receiver having the side opening and discharge-spout, and the supporting-  
130 frame therefor, consisting of the separable sectional hub, radial swinging arms, and standards, in combination with a bracket supporting said frame and a vertically adjustable



standard carrying the bracket, substantially as herein described.

5 8. In a fruit-gatherer, the expansible and collapsible receiver having the side opening and discharge-spout, and the supporting-frame therefor, consisting of the separable sectional hub, radial swinging arms, and standards, in combination with the jointed bracket carrying said frame, substantially as herein  
10 described.

15 9. In a fruit-gatherer, the expansible and collapsible receiver having the side opening and discharge-spout, and the supporting-frame therefor, consisting of the separable sectional hub, radial swinging arms, and standards, in combination with a bracket supporting said frame, and a controllable ball-and-socket connection between said bracket and frame to keep the receiver level independent

of the position of the bracket, substantially 20 as herein described.

10. A fruit-gatherer consisting of the expansible and collapsible funnel-shaped receiver having the side opening and discharge-spout, the separable sectional hub, swinging 25 radial arms and standards forming a frame for supporting the receiver, the vertically-adjustable standard, the pivoted jointed bracket, and the rod I of the bracket connected with the supporting-frame of the receiver by 30 a controllable ball-and-socket joint, substantially as herein described.

In witness whereof I have hereunto set my hand.

SAMUEL E. BALL.

Witnesses:

S. H. NOURSE,  
J. A. BAYLESS.