

No. 864,639.

PATENTED AUG. 27, 1907.

E. GIER.
FRUIT PICKER.

APPLICATION FILED JAN. 3, 1907.

3 SHEETS—SHEET 1.

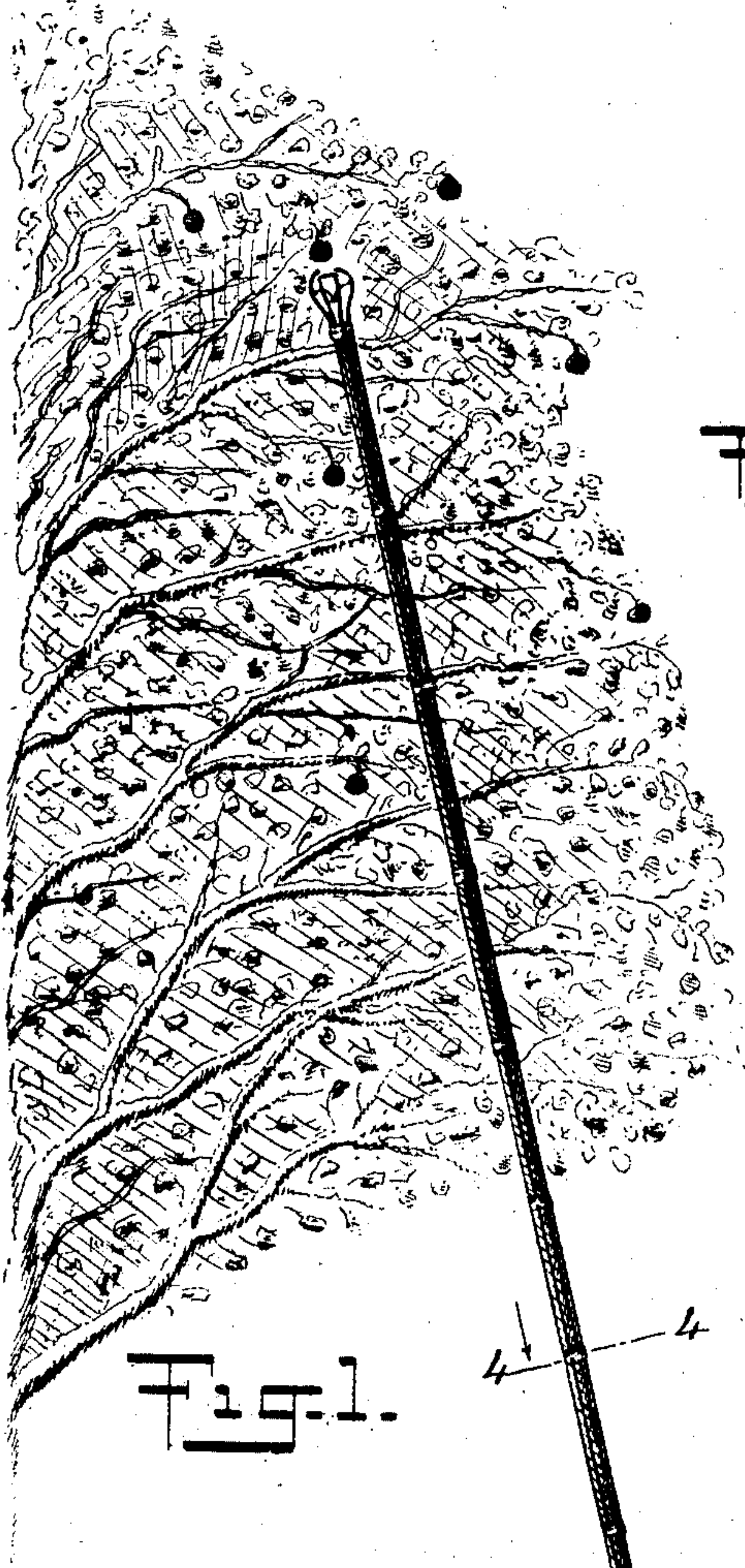
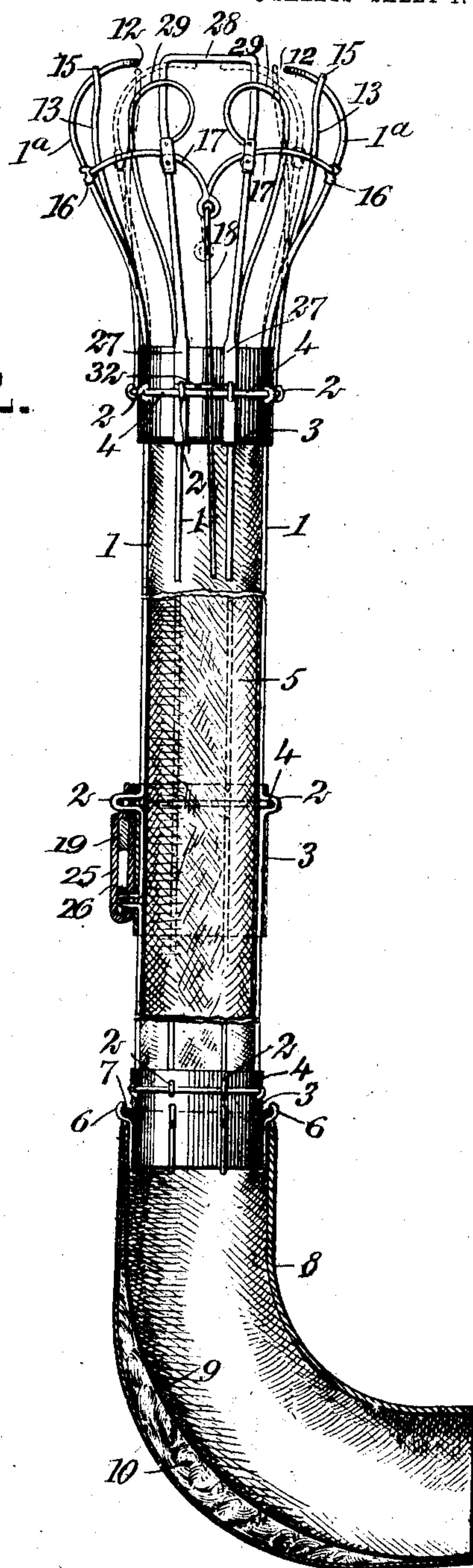
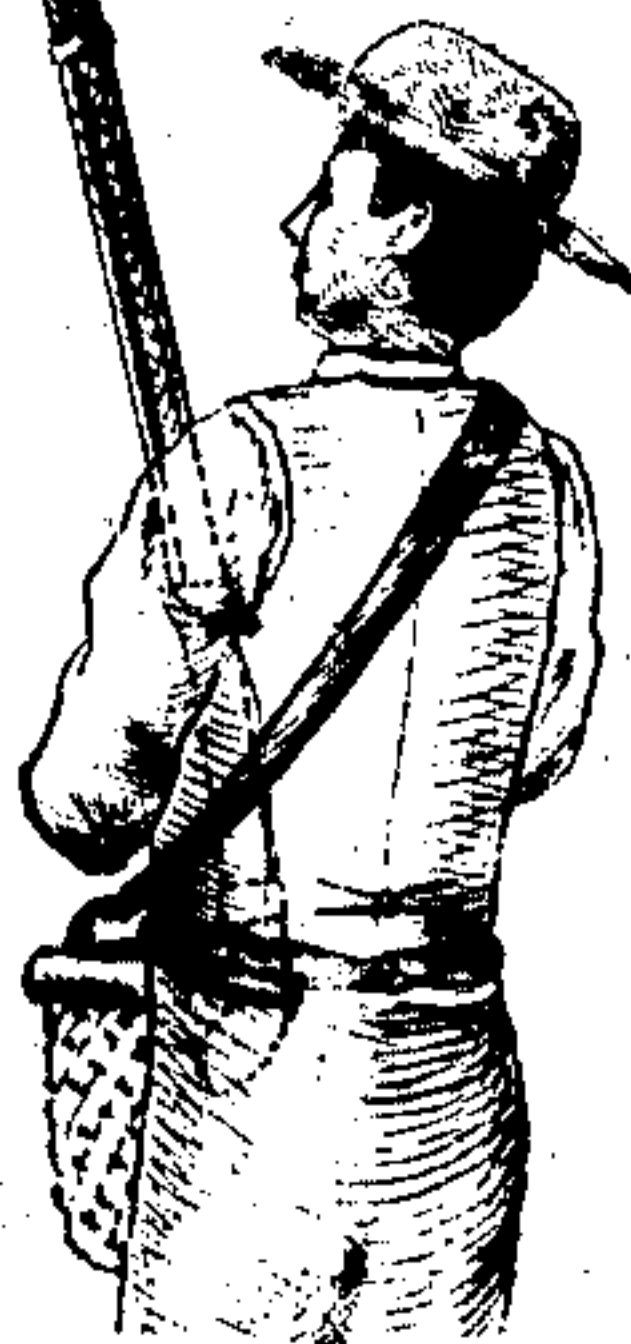


Fig. 2.



WITNESSES

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Fig. 3.

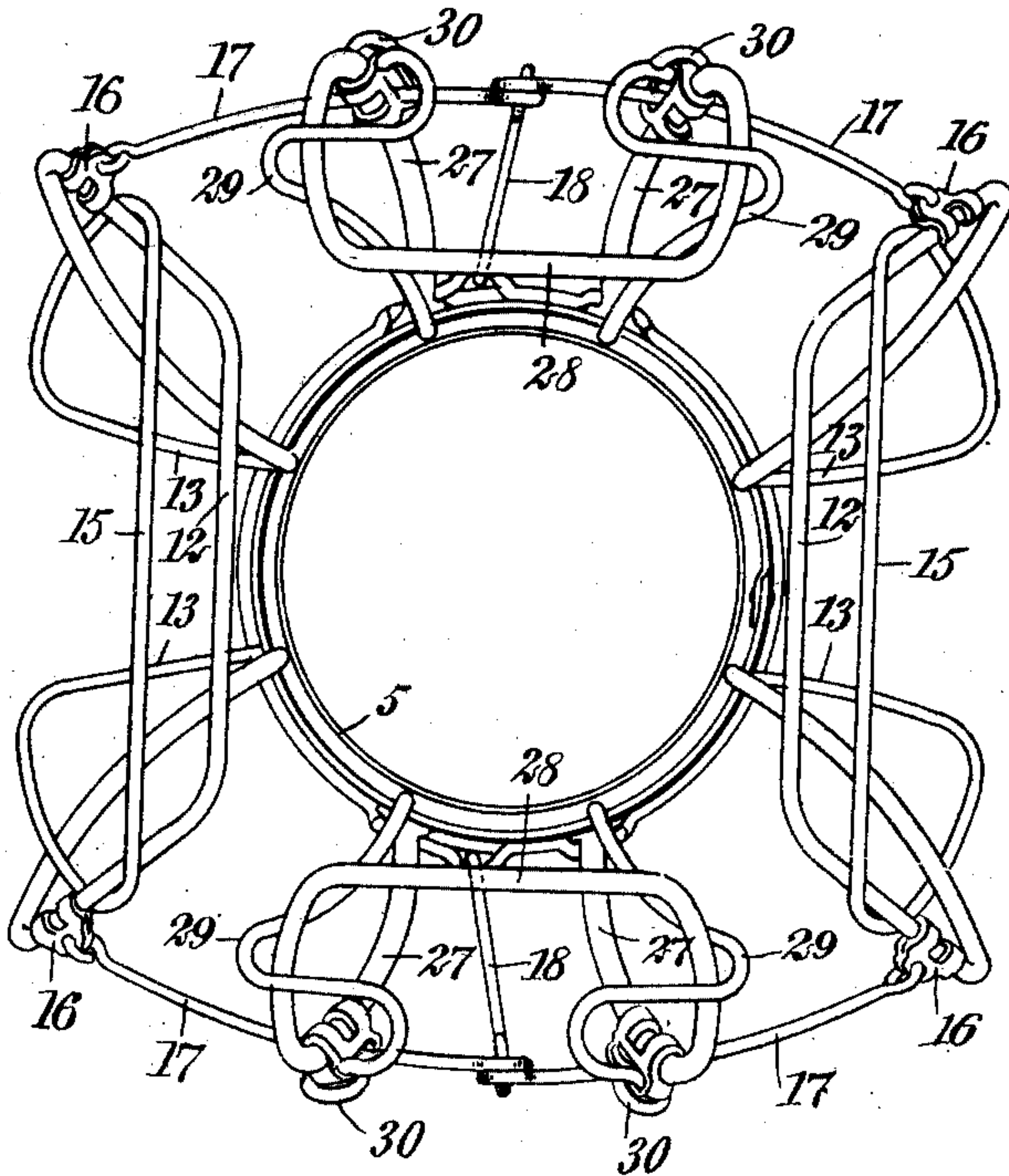


Fig. 4.

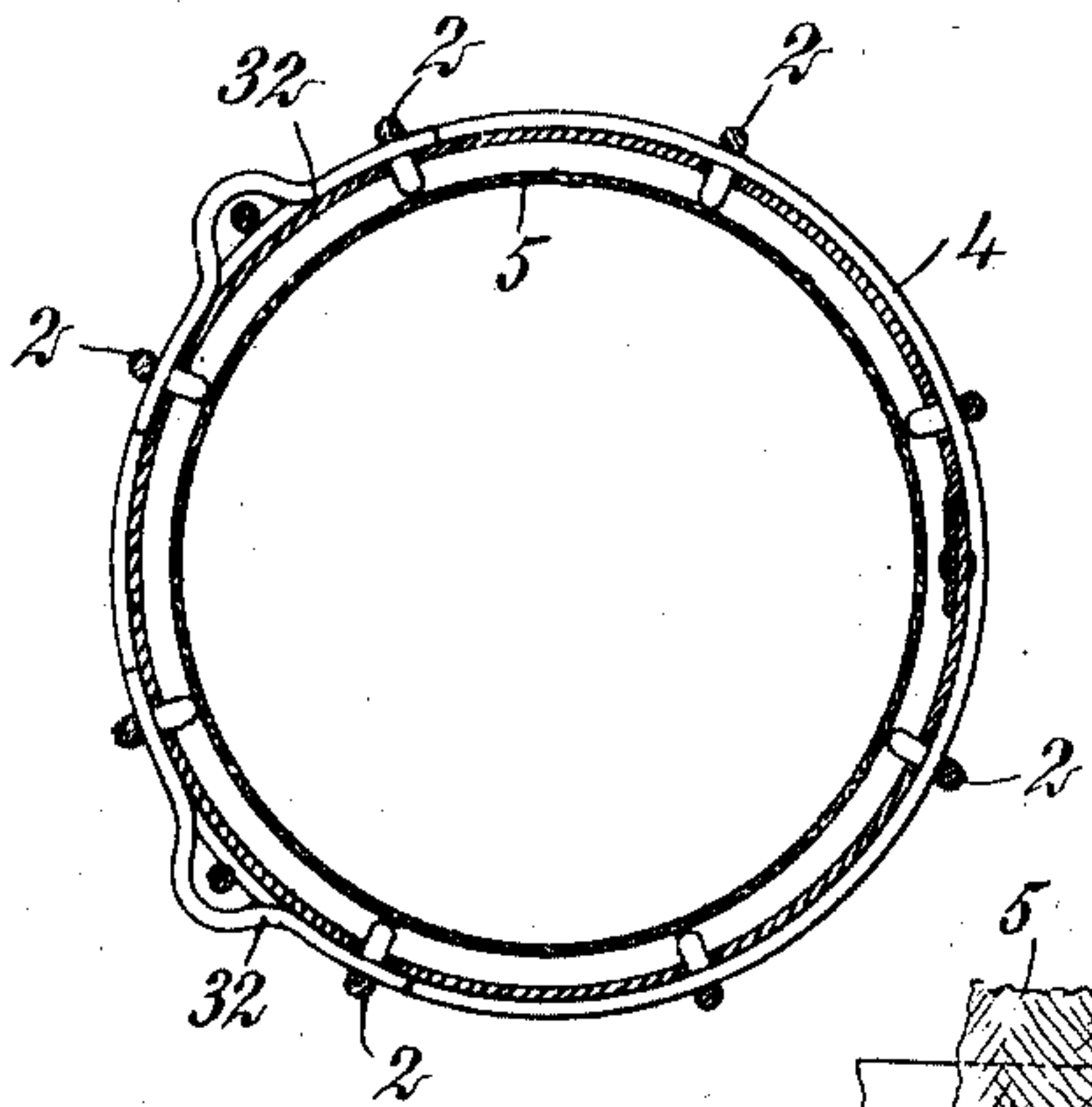
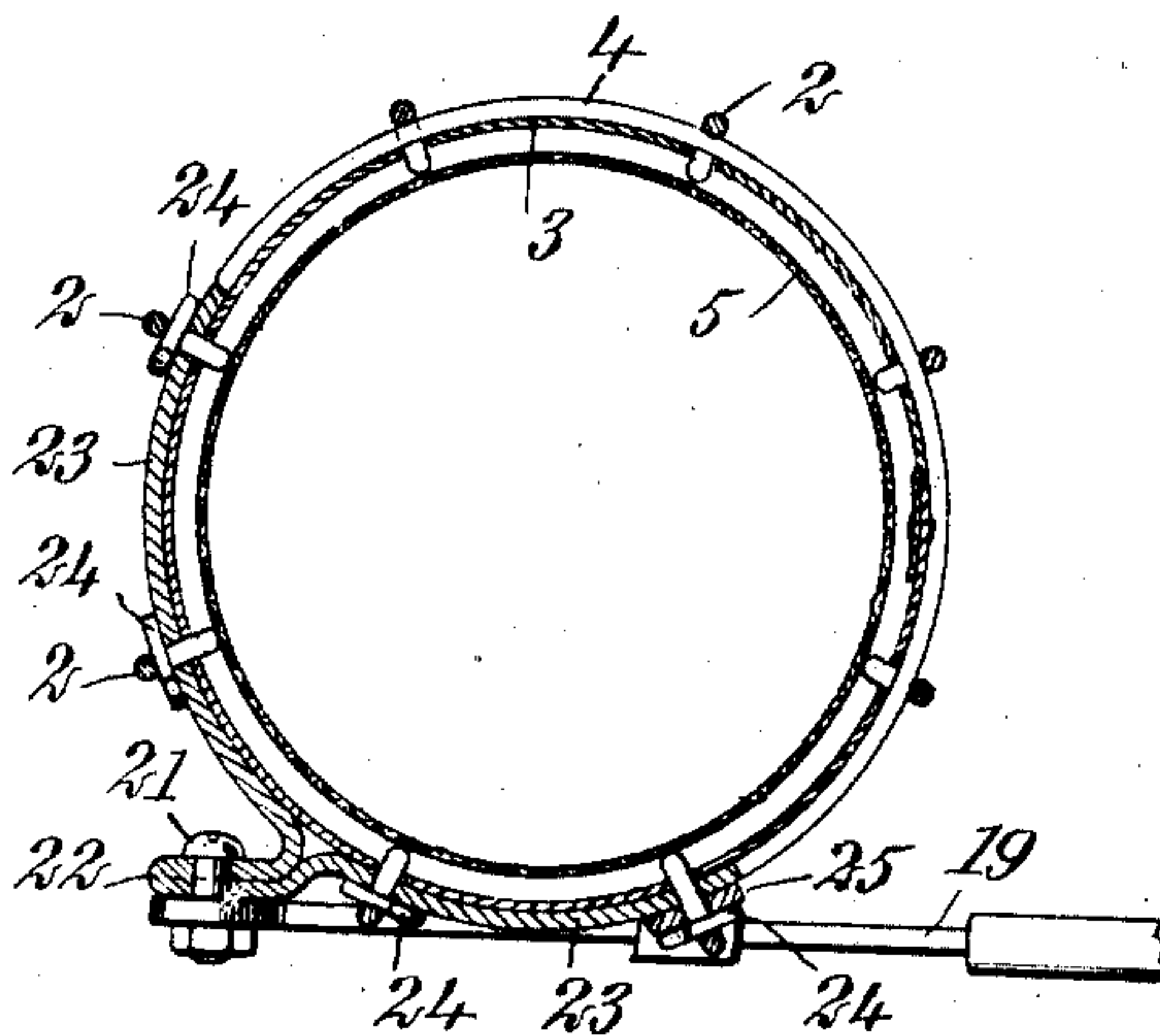


Fig. 5.



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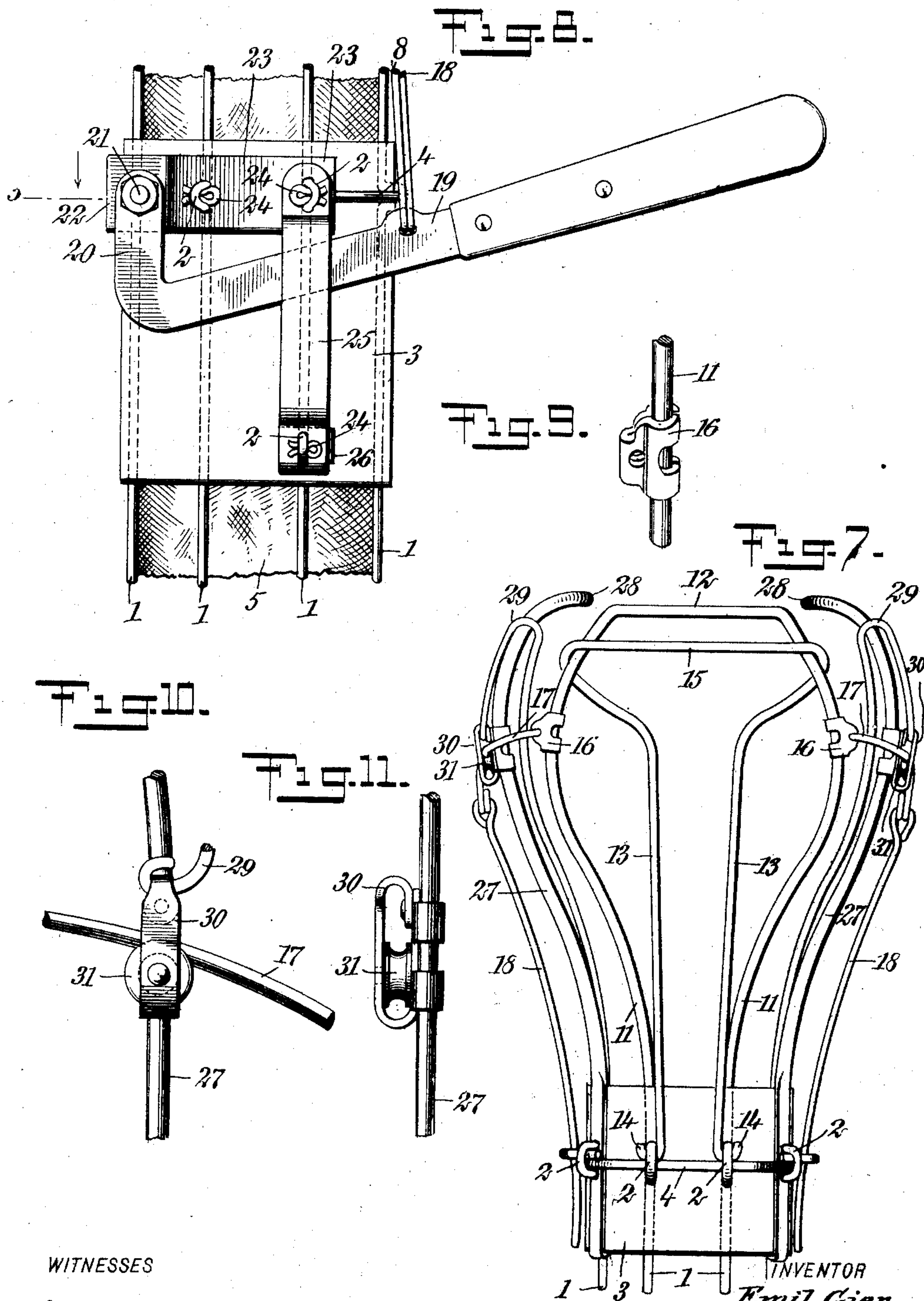
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3 SHEETS—SHEET 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

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FRUIT-PICKER.

No. 864,639.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed January 3, 1907. Serial No. 350,699.

To all whom it may concern:

Be it known that I, EMIL GIER, a citizen of the United States, and a resident of Rhineland, in the county of Knox and State of Texas, have invented a new and Improved Fruit-Picker, of which the following is a full, clear, and exact description.

This invention has for its object to provide means adapted to enable a person standing on the ground to readily remove fruit from a tree without injuring the fruit.

Other objects relating to the specific construction and special arrangement of the parts will be understood from the following description and accompanying drawings, in which drawings like characters of reference indicate like parts throughout the views, and in which

Figure 1 is a view illustrative of the application of my device; Fig. 2 is a side elevation partly in section and partly broken away, of a device embodying my invention; Fig. 3 is a plan of a receptacle used in carrying out my invention; Fig. 4 is a horizontal transverse section, taken on the line 4—4 of Fig. 1; Fig. 5 is a horizontal section, taken on the line 5—5 of Fig. 8; Fig. 6 is a fragmentary view in vertical section of a conductor lining and collar and a conductor rod shown in side elevation; Fig. 7 is a side elevation of the receptacle shown in Fig. 3; Fig. 8 is a side elevation of a section of a conducting tube and an operating lever attached thereto; Fig. 9 is a perspective view of an ear attached to a receiver wire; Fig. 10 is a front elevation of a frictional bearing and connecting mechanism; and Fig. 11 is a side elevation of the bearing shown in Fig. 10.

As illustrated in the drawings, my device consists of a receptacle mounted upon a conducting tube comprising longitudinal rods 1, which are provided with off-set loops 2 and adapted thereby to engage apertures formed in conductor collars 3, and project through said collars so as to receive fastening wires 4 by means of which the conductor rods are securely fastened to said collars so as to form a conducting tube light and strong in structure. A lining 5 of any suitable textile fabric is inserted within the conductor and may be secured to the collars 3 and conductor rods 1 in any suitable manner.

In the construction illustrated in Fig. 2 of the drawings, the lower ends of the conductor rods 1 are doubled over on themselves and provided with hooks 6 which support eyes 7 attached to a discharge elbow 8 and adapted to permit said elbow to be detached from the end of the conductor when desired. The discharge elbow is of yielding material of any suitable character, preferably of a loose woven texture, and is provided with a false back 9 which is separated from the back of the elbow, and cushioned by means of an intermediate layer 10 of cotton, or other material having similar capabilities. The purpose of providing the discharge

elbow 8 with a cushioned false back is to protect the fruit from injury as it falls down the conductor and strikes the interior surface of the discharge elbow. A receptacle attached to the upper end of the conductor is provided with picking arms comprising rods 11 preferably formed integral with the tube rods 1, as shown in Fig. 7, wherein said rods are shown as diverging laterally after extending beyond the top collar 3 and converging at their upper ends into cross bars 12. The picking arms are also curved longitudinally at 1^a, thereby forming oppositely disposed broad re-entrant upper ends. The picking arms are preferably provided with auxiliary rods 13 having hooked ends 14 which engage the loops 2 of the conductor rods 1 and form a pivotal connection with the upper collar 3. The rods 13 after extending upward preferably in parallel lines, diverge and come together in a transverse central rod 15, thereby forming a yoke adapted to reduce the aperture formed by the diverging upper ends of the rods 11 so as to prevent the fruit from passing through the picker arms.

Perforated ears 16 are attached to the side rods of the picking arms, and are connected with links 17, which links are pivotally connected at their inner ends to operating rods 18, as shown in Figs. 2 and 3. The rods 18 are attached at their lower ends to a lever 19 having an off-set end 20 which is pivotally attached by means of a bolt 21 to one of the conductor collars, as shown in Fig. 8, by means of which the lever is pivotally mounted upon a bracket 22 having curved end portions 23 corresponding with the outer contour of the collar 3, and secured to said collar by means of the projecting loops 2 of the conductor wires 1, which project through said collar, and the curved ends of said bracket and are secured in place by means of split keys 24, or by any other suitable means. A yoke 25 is preferably formed integral with one of the ends of the bracket 22 at a right angle to the end of the bracket, by doubling the plate forming the yoke over onto itself and securing the upper end of said plate to the end of the bracket arms 23 by means of the split key 24, as shown in Fig. 8. The lower portion of the yoke 25 is also secured to the collar upon which it is mounted by means of a similar split key 24 which engages a projecting loop 2 formed on the conductor rods, as hereinbefore described.

By means of such construction of the yoke, a guide way is formed adapted to hold the shank of the lever 19 in place. The lower end of the yoke may, if desired, be provided with a block 26 against which the lower edge of the lever 19 strikes when operated, thereby sustaining the force of the movement of the lever. The lever 19 when operated is adapted to move inward toward each other the picking arms hereinbefore described, which are made sufficiently resilient to be moved inward by the operation of the

lever and to spring outward when the lever is released. Oppositely disposed guards are formed on the receptacle of the picker between the picking arms, and consist of vertical yokes comprising parallel arms 27 preferably having flattened ends secured to the upper conductor collar in any suitable manner, and forming a broad upper end 28, as shown in Fig. 2. Auxiliary guards may also be used in connection therewith, consisting of scroll rods 29 secured at their lower ends to the upper conductor collar 3, and at their upper ends to the rods 27, or to yokes 30 attached to the rods 27, which yokes are provided with friction pulleys 31 over which pass the links 17 which connect the picking arms with the operating rods 18. The operating rods 18 as they extend over the conductor collar are preferably held in place on said collar by means of loops or guide rods 32 attached to the conductor collars in any suitable manner.

The device may be used by placing the receptacle on the upper end of the conductor tube around the fruit to be picked, and the upper end of the picker moved slightly laterally so as to bring the fruit under the upper ends of the picking arms or guards, with the stem of the fruit between the picking arms and guards. When in such position the fruit is readily detached from the tree by a downward or lateral movement of the picker when the device is so used the picking arms are not operated by the lever 19. In most instances, however, the fruit is detached from the tree by drawing the picking arms inward into the position indicated by dotted lines in Fig. 2, by means of the operating lever 19, and when in such position the picker is moved laterally or downwardly in the manner described.

The device herein shown and described embodies many elements which, if desired, may be used independently of the other elements, and all of the elements may be modified without departing from my invention.

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

1. A fruit picker comprising a receptacle for receiving the fruit to be picked, guards disposed upon opposite sides of said receptacle and provided with portions projecting inwardly toward each other for the purpose of overhanging said fruit, jaws disposed upon opposite sides of said receptacle intermediate said guards, and provided with inwardly extending portions separated at their upper ends from said guards, a lever, and means connected therewith adapted to control said jaws at will, substantially as shown and described.

2. A fruit picker comprising a conducting tube, a receptacle for receiving the fruit to be picked, guards disposed upon opposite sides of said receptacle and provided with portions projecting inwardly toward each other for the purpose of overhanging said fruit, jaws of resilient material secured to said tube and arranged alternately with said guards, and provided with portions projecting inwardly toward each other, a lever mounted on said tube, and means connected therewith adapted to draw said jaws inward against the spring tension thereof and enable said jaws to return to their normal position when pressure is released from said lever.

3. A fruit picker comprising a conducting tube, a receptacle for receiving the fruit to be picked, guards disposed upon opposite sides of said receptacle and provided with portions projecting inwardly for the purpose of overhanging said fruit, jaws of resilient material arranged alternately with said guards and provided with inwardly extending portions, links connected with said jaws and supported on said guards, a lever mounted on said tube, and

a connection between said lever and links, substantially as shown and described.

4. A fruit picker comprising a conducting tube, a receptacle for receiving the fruit to be picked, guards disposed upon opposite sides of said receptacle and provided with inwardly projecting portions for overhanging said fruit, jaws of resilient material arranged between said guards provided with inwardly projecting portions separated from said guards at their upper end, and means controlled at will connected with said jaws for pressing them inward toward each other, substantially as shown and described.

5. A fruit picker having a conducting tube, a receptacle provided with picking arms having broad inwardly projecting ends, oppositely disposed guards arranged alternately with said picking arms, spaced therefrom and provided with inwardly projecting ends, a collar secured to the conducting tube, a bracket secured to said collar, a yoke connected with said bracket, and an operating lever pivoted to said bracket, engaging said yoke, and connected with said picking arms, substantially as shown and described.

6. A fruit picker comprising a conducting tube, oppositely disposed picking arms having broad inwardly projecting portions, auxiliary yokes extending centrally of said picking arms and connected with the upper portion thereof, oppositely disposed guards arranged alternately with said picking arms, spaced therefrom and provided with inwardly projecting portions disconnected at their ends from said picking arms, and means for drawing the upper ends of the picking arms toward each other, substantially as shown and described.

7. A fruit picker comprising oppositely disposed picking arms having broad inwardly projecting upper portions, guards arranged alternately with said picking arms, and provided with inwardly projecting portions disconnected from said picking arms at their outer ends, and means for drawing the upper ends of said picking arms toward each other, substantially as shown and described.

8. A fruit picker comprising a conducting tube, oppositely disposed guards having inwardly projecting upper portions, oppositely disposed picking arms having inwardly extending portions disconnected at their outer ends from said guards, links pivotally connecting said picking arms, and an operating lever connected with said links, substantially as shown and described.

9. The combination with a conducting tube, of a receptacle having oppositely disposed picking arms, oppositely disposed guards arranged alternately with said picking arms and provided with link bearings, links connected with said picking arms and bearings, and operating mechanism connected with said links, substantially as shown and described.

10. The combination with a receptacle having oppositely disposed picking arms and oppositely disposed guards arranged alternately with said picking arms, of a conducting tube comprising longitudinal rods formed integral with said picking arms and provided with off-set loops, collars provided with apertures adapted to engage the loops of said rods, and means adapted to bind said loops, collars and rods securely together, substantially as shown and described.

11. A fruit picker having a conducting tube comprising longitudinal rods having overturned lower ends, collars secured to said rods, and a flexible discharge spout provided with eyes adapted to engage the overturned ends of said rods, substantially as shown and described.

12. A fruit picker having a receptacle comprising oppositely disposed picker arms and oppositely disposed guards spaced from said picking arms and provided with inwardly projecting upper ends, a conducting tube having longitudinal rods, collars secured thereto, a bracket secured to one of said collars, a yoke having one of its ends detachably secured to one of said collars, and a lever mounted on said bracket engaging said yoke and connected with said picking arms, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMIL GIER.

Witnesses:

MIKE BRUCKNER,
PETER BLAKE.