

L. C. STUKENBORG.
COTTON PICKER.

APPLICATION FILED NOV. 2, 1909.

Patented Dec. 13, 1910.

2 SHEETS—SHEET 1.

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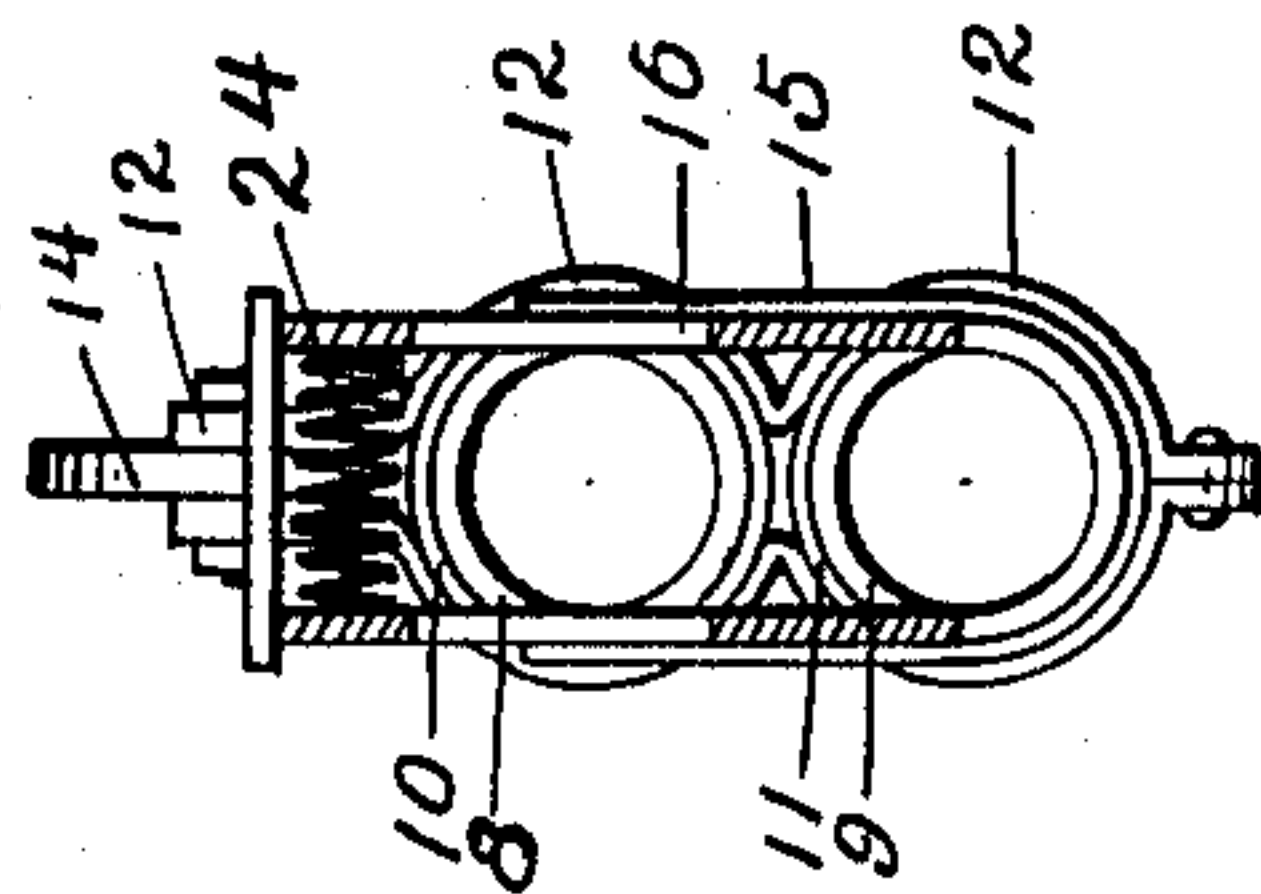
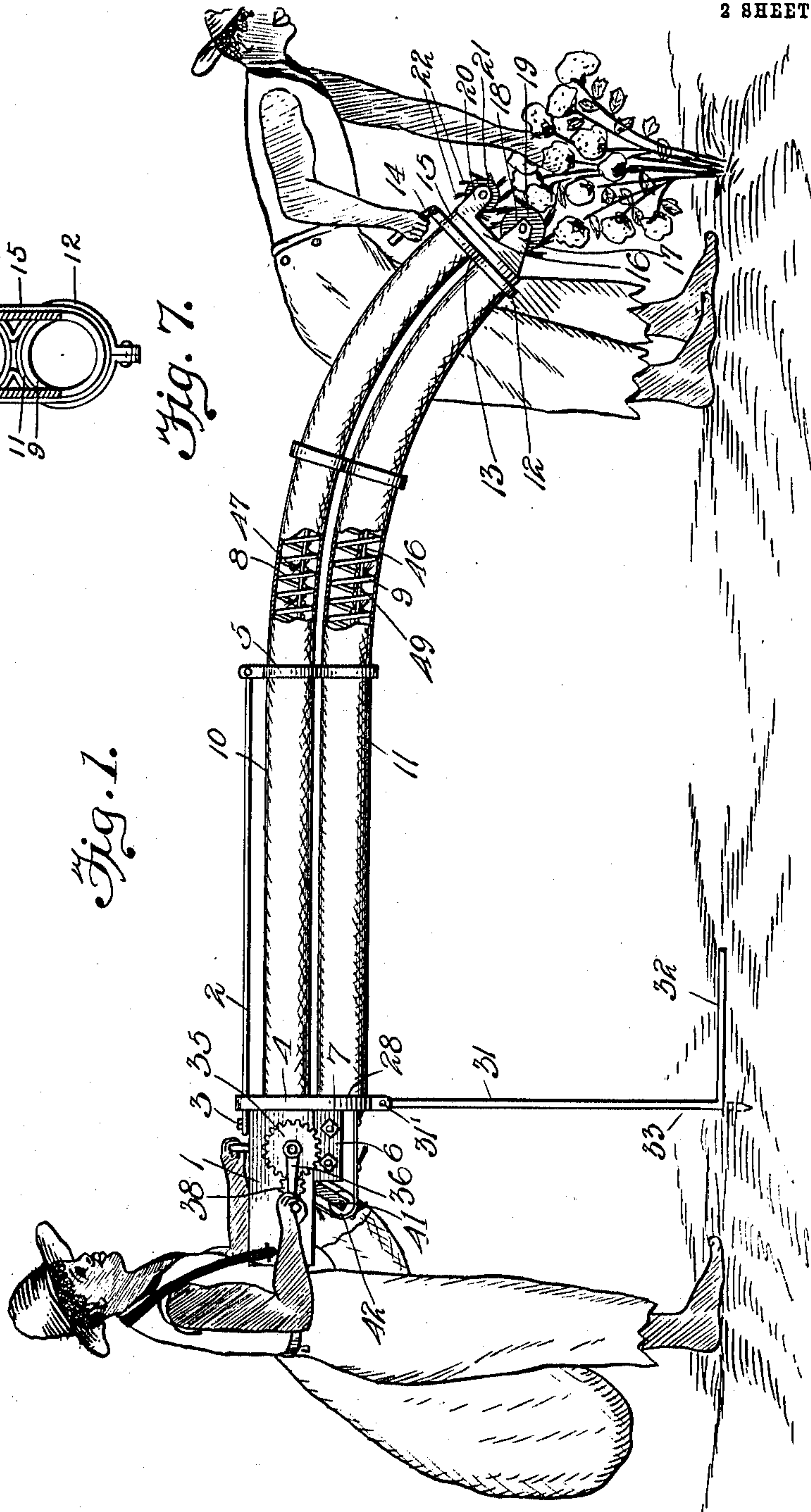


Fig. 7.

Fig. 1.



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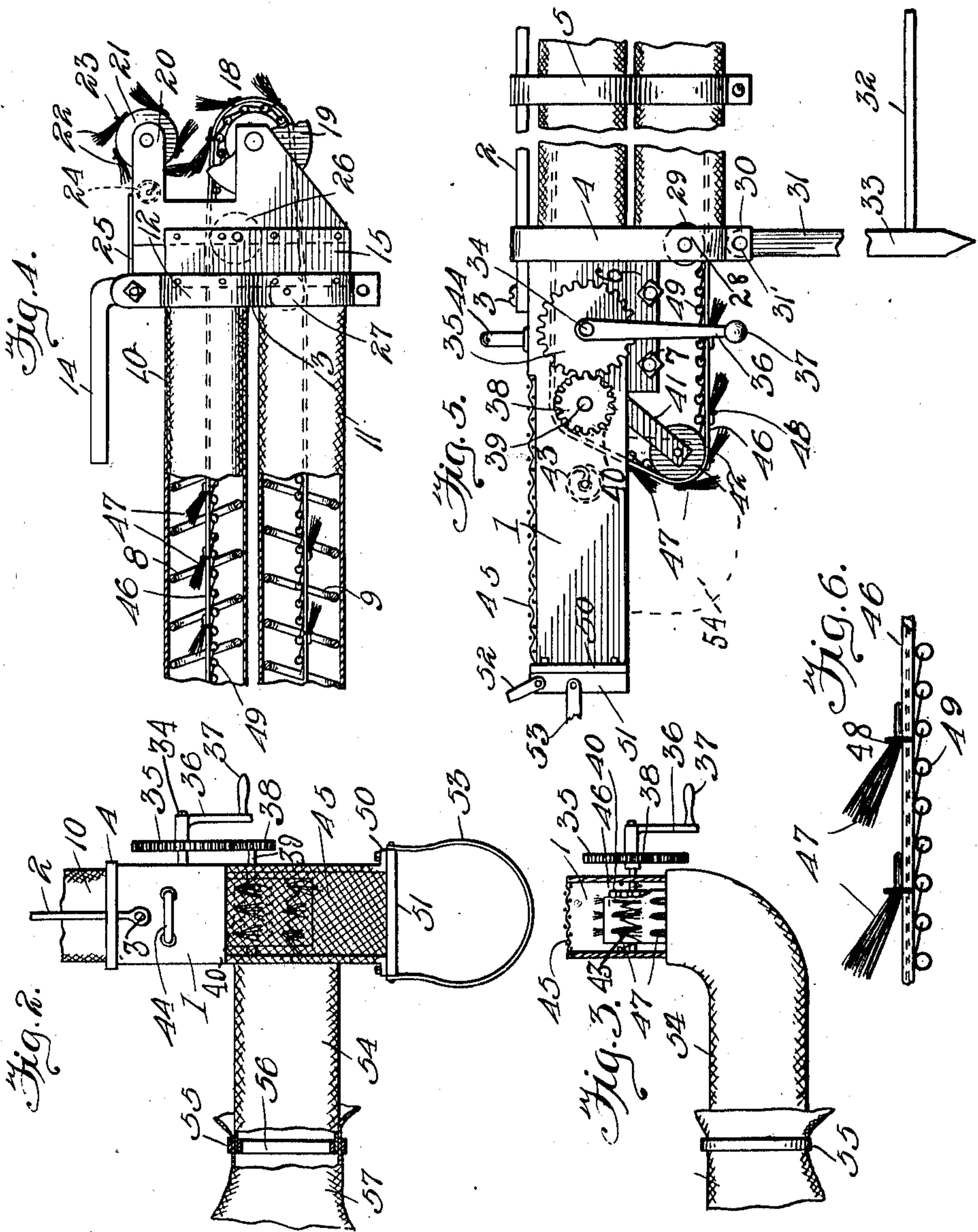
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UNITED STATES PATENT OFFICE.

LOUIS C. STUKENBORG, OF BIRMINGHAM, ALABAMA.

COTTON-PICKER.

978,341.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS C. STUKENBORG, a citizen of the United States of America, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Cotton-Pickers, of which the following is a specification.

My invention relates to cotton harvesters and more particularly to that class of cotton harvesters which has an endless belt provided with means for removing the cotton from the bolls of the growing plant.

Heretofore great difficulty has been experienced in producing a cotton picker which could be manufactured and placed on the market at a low cost, and at the same time be rapid and efficient in operation. The large majority of harvesters now in use are expensive, require a number of experienced men to operate them, and are adapted for use only on large plantations, upon which many hands are employed. For this reason, many of the smaller cotton growers still pick their cotton by hand.

It is the object of this invention to provide a picker, the initial cost of which is comparatively small and which may be advantageously used on the small farms where few hands are employed.

A further object is to provide a picking machine which is simple and easy to operate, but at the same time rapid and efficient and readily transportable to any part of the cotton field.

A still further object is to provide a picker which is adapted to convey the cotton from the bolls to a receptacle carried by the operator, which receptacle may be easily removed, emptied and returned or which may be replaced by another like receptacle.

With the foregoing and other objects in view, my invention consists in such details of construction and combination of parts as will be hereinafter more fully described and specifically pointed out in the claims.

In describing my invention, reference will be had to the accompanying drawings in which like reference characters denote like or corresponding parts and in which—

Figure 1 is a view in elevation, showing the complete machine in operative position. Fig. 2 is a plan view of the rear portion of the machine. Fig. 3 is a rear elevation of the same with the back board and supporting straps removed. Fig. 4 is a side elevation

of the pickers. Fig. 5 is a side elevation of the rear portion of the machine. Fig. 6 is a detail view in side elevation of the belt with the picker brushes and sprocket chain thereon. Fig. 7 is a detail in section on the line A—B of Fig. 4.

My machine consists of a box-like member 1, which of course may be constructed of any material adapted for such use and to the top of which is connected an arm 2 by means of the bolt 3 which allows the said arm to swing laterally. A bracket or clamping member 4 is suitably connected to the end of the box 1 and extends above the top thereof, embracing said arm 2 in such manner as to prevent the latter from swinging too far to one side or the other. Upon the outer end of the arm 2 is fixed a similar clamp 5, the function of which will be hereinafter more fully described.

Extending horizontally from the clamp 4 and located beneath the box 1, are two longitudinal plates 6, through which pass bolts carrying nuts 7. By adjusting these nuts, the clamp 4 may be tightened or loosened as occasion requires.

Suitably mounted in the end of the box 1 and held in place by the clamp 4, is one end of the helical spring 8, which extends to the end of the machine to form the inner part of one of the conveyer tubes, as will be readily seen upon reference to the drawings. A second similar spring coil 9 is held in place by a lower portion 28 of the bracket or clamp 4, said coil 9 extending beneath and parallel with the coil 8. The springs 8 and 9 are covered with canvas or other similar material 10 and 11 respectively, in such manner as to form two conveyer tubes. At the outer or picker end of these tubes is a third clamping member 12 which is contracted in the center at 13 so as to form two approximately circular collars through which the tubes 10 and 11 extend and by which they are held. The upper end of the member 12 is provided with a handle 14 by means of which the picking apparatus may be guided into contact with the bolls. Connected to the clamping member 12 is a collar 15, to which is in turn connected two plates 16, which have outwardly projecting ears 17, in which ears is journaled a pulley wheel 18 having outwardly projecting guard flanges 19. The upper ends of the plates 16 are formed with other outwardly projecting ears 20 in which is journaled another wheel 21, said wheel having a plu-

rality of brushes 22 connected to its outer
 periphery by suitable stitching or wiring
 23. Immediately in rear of the brush wheel
 21 and so situated as to come in contact with
 5 the brushes on said wheel, is a spring coil 24
 which serves the purpose of disengaging any
 cotton which may adhere to said brush wheel.
 In order to prevent the cotton from the bolls
 from finding its way out of the machine be-
 10 fore it enters the conveyer tubes, the upper
 parts of the plates 16 and the member 15 are
 covered by a screen 25. A spool pulley 26
 is journaled in the plates 16 in rear of the
 wheel 18, said pulley being adapted to con-
 15 tact with the conveyer belt as will be readily
 appreciated. A similar spool pulley 27 is
 journaled in the lower part of the clamp 12
 and serves a like purpose. A third such
 pulley 29 is journaled in the lower part 28 of
 20 the clamp 4 and also contacts with the inner
 surface of the conveyer belt.

The clamp 4 is contracted at 30 in order to
 hold in position a leg or support 31, which
 carries a laterally extending member 32 near
 25 its lower end 33, which is sharpened and
 adapted to be inserted in the ground; said
 leg 31 is pivotally held at 31' in order that
 it may be folded up out of the way while the
 machine is being transported from place to
 30 place.

Passing through the box 1 and journaled
 in the sides thereof is a shaft or axle 34 upon
 which is fixed a gear wheel 35 which gear
 wheel is rotated by a crank 36 terminating
 35 in a handle 37. The gear wheel 35 meshes
 with a spur gear 38, which is fixed to a shaft
 39 which shaft is also journaled in the sides
 of the box 1. Between the sides of said box
 and fixed upon the shaft 39 is a sprocket
 40 wheel 40. Extending downwardly from the
 sides of the box 1 are two bracket members
 41 in the lower ends of which is journaled a
 pulley wheel 42, in engagement with which
 the belt conveyer is adapted to pass. Imme-
 45 diately in rear of the shaft 39 and so situated
 as to contact with the brushes on the con-
 veyer belt, is another spring coil 43. This
 coil is so placed in order to remove the cot-
 ton adhering to the brushes and to drop the
 50 same into the receptacle provided therefor.
 Mounted upon the box 1 near its forward
 end and extending upwardly from the top
 thereof is a handle 44 by which the operator
 may support the rear part of the machine.
 55 A screen 45 is placed over the top of the box
 to keep the cotton from falling out.

An endless belt 46 is provided and has a
 series of brushes 47 fastened to said belt at
 48 in such manner that said brushes will be
 60 normally flat on the belt as shown, but when
 rounding the pulley wheels said brushes
 "open up" or extend at an angle to said
 belt. In this way the brushes are enabled to
 grasp the base of the boll and remove the
 65 cotton therefrom, which could not be done

by the old style solid brush. Upon the lower
 side of the belt is a sprocket chain 49 adapted
 to be engaged by the sprocket wheel 40 as
 the same is rotated. This conveyer belt ex-
 tends around the wheel 18, contacts with the
 70 brushes on the wheel 21 thus rotating the
 same, passes over the pulley 26, is engaged
 and driven by the sprocket wheel 40, passes
 around the pulley 42 and contacts with the
 spool pulley 29.

The sides of the box have outwardly
 turned flanges 50 at the rear end of said box
 and a head board 51, is fastened to said box
 by means of screws or other suitable fasten-
 ers passing through this flange. Connected
 80 to the ends of the board 51 is a strap 52
 adapted to pass around the operator's
 shoulders and a similar strap 53 is provided
 to pass around his waist. Below the spring
 coil 43 and so situated as to catch all cotton
 85 dropped from the picking and conveying
 mechanism is a sack or other receptacle 54
 which is provided at its free end with hoops 55
 and 56, a second sack 57 being passed around
 the first sack and fastened between the hoops
 90 so that the cotton contained in the sack 54
 may be easily pushed into the sack 57. This
 latter sack may then be removed and stored
 or the cotton therein may be emptied into
 another receptacle and the sack replaced.

It will be seen that by turning the crank
 the belt with the brushes thereon is caused to
 pass through the tube 11 and around the
 wheel 18, where the brushes are brought
 into contact with the bolls of cotton on the
 100 growing plants. The cotton is caught be-
 tween the brushes 47 and the brushes 22 on
 the wheel 21, which wheel is rotated by the
 engagement of the said brushes as before
 pointed out. The cotton is thus picked from
 105 the plant and conveyed through the tube 10
 to the spring coil 43 which removes it from
 the brushes and drops it into the sack 54
 from whence it may be pushed into the re-
 movable sack 57. Whatever cotton adheres
 110 to the wheel 21 is removed by the spring coil
 24 and dropped upon the belt.

From the foregoing it will be seen that I
 have provided a cotton picking machine
 which may be readily transported from
 115 place to place and easily operated by two
 people. At the same time the initial cost of
 the machine is low, and as the parts are few
 and simple the cost of repairs would be prac-
 tically nothing.

I desire it to be understood that the fore-
 going description is for my preferred form
 of invention and that I may make slight
 changes in the construction and arrangement
 of parts without deviating from the spirit
 125 and scope of my invention.

I claim:

1. In a cotton picker, a box, flexible con-
 veyer tubes connected thereto, pulleys at the
 ends of said tubes, a belt on said pulleys;

means for operating said belt, brushes on said belt, the fibers of said brushes being parallel with said belt at their respective points of conjunction, the free ends of said fibers being slightly raised from said belt and extending in the direction of motion of the belt and adapted to engage the cotton, and a receptacle on said box for receiving the cotton.

2. In a cotton picker, a box, flexible conveyer tubes connected thereto, pulleys at the ends of said tubes; a belt on said pulleys, means for operating said belt, brushes on said belt, one end of the brush fibers being secured to said belt and in parallel relation thereto, the free ends of said fibers being slightly removed from said belt and extending in the direction of motion of the belt, and adapted to engage the cotton, a receptacle on said box for receiving the cotton, and means above said receptacle to remove the cotton from said belt.

3. In a cotton picker, a box, flexible conveyer tubes connected thereto, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt adapted to engage and remove the cotton bolls from the plant, a receptacle on said box for receiving the cotton and a helical spring above said receptacle, adapted to engage said brushes and remove the cotton therefrom.

4. In a cotton picker, a box, an arm pivotally mounted upon said box, flexible conveyer tubes connected to said box and supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt adapted to engage the cotton, said brushes being inclined in the direction of motion of

the belt, and a receptacle on said box for receiving the cotton.

5. In a cotton picker, a box, an arm on said box, flexible conveyer tubes connected to said box and supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, brushes on said belt adapted to engage and remove the cotton from the plant, a wheel on the picker end of the conveyer tubes, brushes on said wheel, said brushes adapted to be engaged by the brushes on said belt, whereby said wheel is rotated, means for removing the cotton from the first said brushes, and a receptacle on said box to receive the cotton.

6. In a cotton picker, a box, an arm on said box, flexible conveyer tubes connected to said box supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt, said brushes positioned with the free ends slightly raised from the belt and pointing in the direction of travel, and disengaging means adjacent the brushes.

7. In a cotton picker, a box, an arm on said box, flexible conveyer tubes connected to said box and supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, means on said belt adapted to engage the cotton, a receptacle on said box for receiving the cotton, a pivoted leg on said box, said leg having a foot and adapted to support the box.

In testimony whereof, I affix my signature in the presence of two witnesses.

LOUIS C. STUKENBORG.

Witnesses:

W. P. McCrossin,
Jim McK. Long.