

No. 830,443.

PATENTED SEPT. 4, 1906.

W. H. LE VIN.

COTTON PICKING AND HARVESTING MACHINE.

APPLICATION FILED SEPT. 3, 1904.

3 SHEETS—SHEET 1.

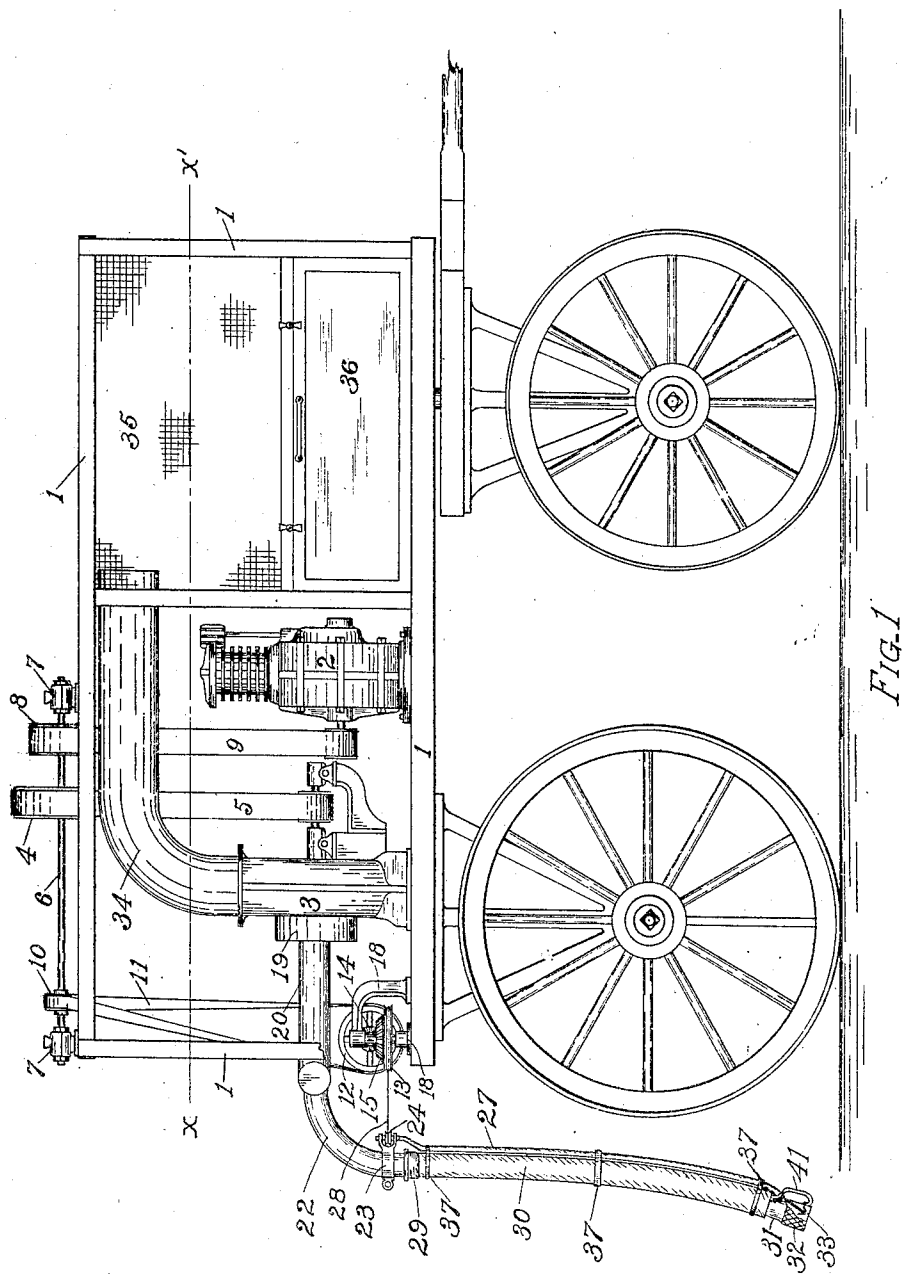


FIG. 1

Witnesses.

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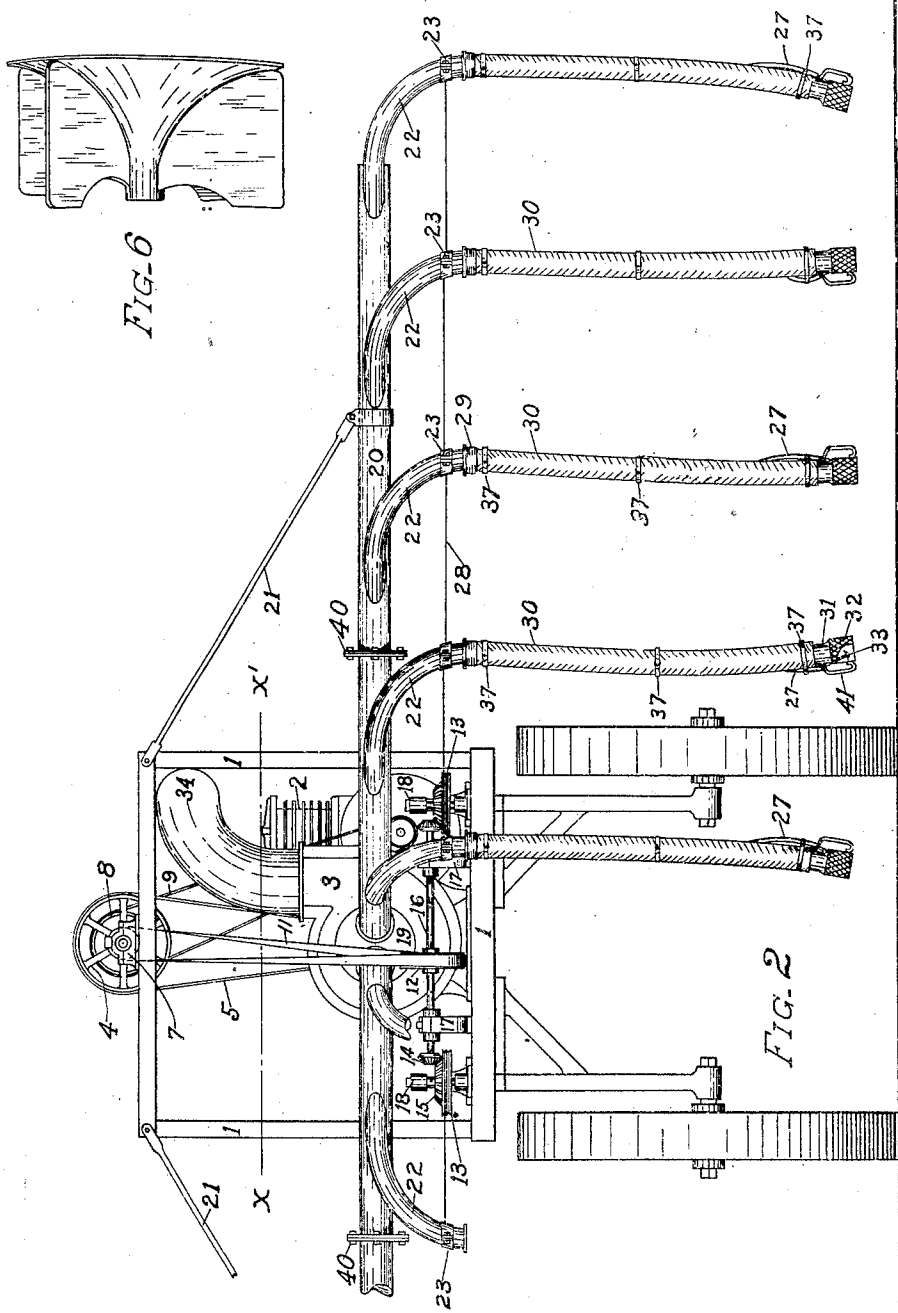
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3 SHEETS—SHEET 2.



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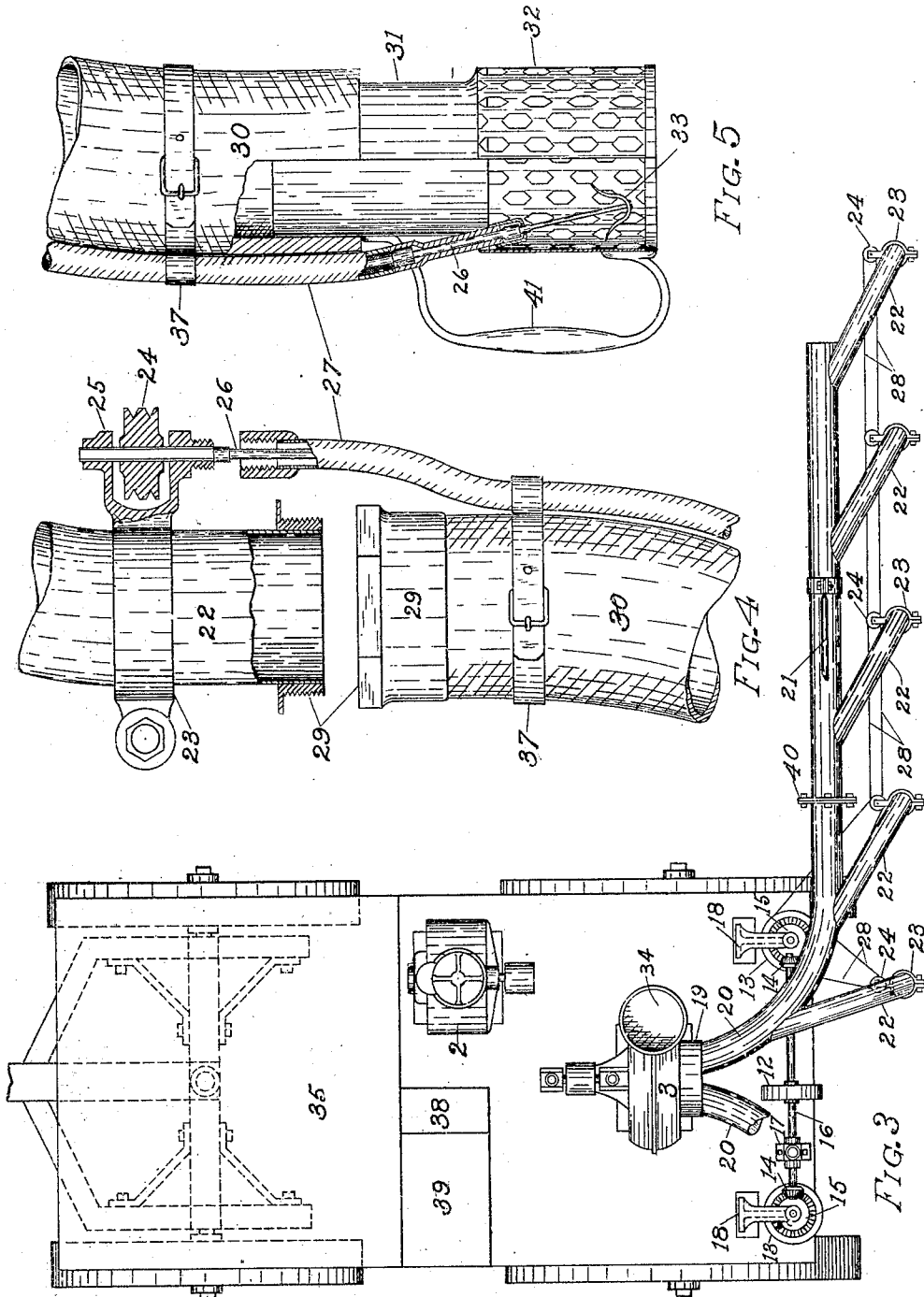
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3 SHEETS—SHEET 3.



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WILLIAM H. LE VIN, OF NEW ORLEANS, LOUISIANA.

COTTON PICKING AND HARVESTING MACHINE.

No. 830,443.

Specification of Letters Patent.

Patented Sept. 4, 1906.

Application filed September 3, 1904. Serial No. 223,276.

To all whom it may concern:

Be it known that I, WILLIAM H. LE VIN, a resident of the city of New Orleans, in the State of Louisiana, have invented a new and useful Improvement in Cotton Pickers and Harvesters, of which the following is a specification.

This invention relates to the class of cotton pickers and harvesters in which pneumatic force and suction-hose are used.

The objects of my improvements are to provide a means for the easy application of suction-hose to the ripe cotton-boll at all stages of development of the maturing plants and by means of an automatic picker detach the matured cotton. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the harvester. Fig. 2 is an end elevation from the rear, showing the right-hand half complete. The left-hand half is similar in construction. Fig. 3 is a plan view of wagon-bed and the attached mechanism, taken below line $x x'$. Figs. 1 and 2. Fig. 4 is a detail of the head of the flexible shaft and its attachment to the metal pneumatic tube and the suction-hose and attachment of same to the metal tube. Fig. 5 is a detail of the lower end of the flexible shaft and sheath, the picking mechanism, the lower end of the suction-hose, and the perforated cup attached thereto. Fig. 6 is the special wheel used in the exhaust-fan.

Similar numerals refer to similar parts throughout the several views.

The mechanism is properly secured upon a flat wagon-bed mounted upon four wheels of sufficient height to permit of the cotton-plants passing under the wagon-bed between the wheels without injury. The bed and wheels are, as indicated in Figs. 1, 2, and 3 and may be of any construction suitable for the purpose.

The framework 1, surrounding the wagon-bed and supporting parts of the mechanism, is preferably made of steel. The motor 2, secured to the wagon-bed, may be of any style capable of generating the speed and power required for the movement of the machinery, preferably a gasoline or oil engine of the automobile type.

To the wagon-bed is secured the exhaust-fan 3 of suitable size, provided with a wheel of the type shown in Fig. 6. This wheel is rotated at a proper speed by the motor 2 by means of the belt 5, driven by the pulley 4,

keyed to the shaft 6, journaled in bearings 7, which are secured to the framework 1. The shaft 6 is rotated by the pulley 8, driven by the belt 9 from the motor 2. Also keyed to the shaft 6 is the pulley 10, which by means of the belt 11 rotates the pulley 12, keyed to the horizontal shaft 16, journaled in the bearings 17, which are secured to the bed-plate. The shaft 16 drives the horizontal pulleys 13 by means of the bevel-gears 14 15. The pulleys 13 and bevel-gears 15 are keyed to vertical shafts journaled in suitable bearings 18, secured to the wagon-bed. Entering the fan-chasing at 19 are two metal tubes 20 of suitable size, properly secured to the fan and supported by suitable braces attached to the steel frame, as at 21. Attached to the tube 20 at a proper angle, preferably thirty degrees, are the metal branch tubes 22, which extend outwardly and curve downward until their projecting end is parallel to the wagon-bed. Attached to the branch tubes 22 by suitable collars 23 and properly sustained in bearings 25 are the pulleys 24, in which are keyed the heads of the flexible shafts 26, sheathed in suitable flexible cases 27. These flexible shafts 26 are rotated at a proper speed by the belts 28 passing over and between the pulleys 24 from the driving-pulleys 13. Also attached to the metal branch tubes 22 by suitable couplings 29 are suitable lengths of flexible suction-hose 30, along which the flexible shafts 26 and sheaths 27 extend into the metal cups 31, perforated, as at 32, which cups are attached by suitable couplings to the ends of the suction-hose 30. The flexible shafts 26 and sheaths 27 are secured to the suction-hose 30 by straps 37 at suitable intervals. At the lower end of each flexible shaft 26 is the rotating picker 33, which is secured to and rotated by the flexible shaft within the metal cup 31, as shown in Fig. 5. Attached to each metal cup in a secure manner is a handle 41 for convenience in the application of the cup to the ripe cotton-bolls.

The cotton detached by the rotating picker 33 is drawn up through the suction-hose 30, into and through the metal tubes 22 and 20, into the fan 3 at the inlet 19, and is carried by the force of the fan-blade (shown in Fig. 6) into the exit-pipe 34, whence it is discharged into the bin 35. This bin may be of any suitable size and form, with screened sides and top to permit the escape of the air, and is provided with a door 36 for the removal of the cotton. 38 and 39 are the stops

and platform provided for the motorman and driver.

The entire mechanism properly constructed and with motor of sufficient power could be propelled by means of the same motor or engine that operates the picking and harvesting mechanism. Provision is made for the detaching of the metal tubes, 20 by a flange-joint (shown at 40) when the harvester is not in use.

My improved cotton-pickers 33 comprise a shank having oppositely-arranged backwardly-projecting flukes secured to the shank, the pickers resembling somewhat in shape an anchor. With this arrangement the flukes offer no resistance to the passage of the cotton thereover when the air is exhausted from the nozzle, while at the same time affording sufficient resistance to the passage of the cotton toward the open end of the nozzle. In this arrangement the liability of clogging of the pickers from an oversupply of unremoved cotton is avoided.

I do not wish to limit myself to the precise detail and arrangement of parts, as some slight change may be found in actual construction to be more advantageous, and I wish to consider myself at liberty to make such changes and alter the general form, provided such changes are within the scope of my invention.

I am aware that prior to my invention pneumatic cotton-pickers have been made with exhaust-fans operated in conjunction with suction-hose. I therefore do not claim such combination broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination in a cotton picking and harvesting machine, of a carriage, a motor, a shaft arranged above the motor and longitudinally of the carriage, a shaft ar-

ranged transversely of the carriage at the front thereof, a connection between the motor and the longitudinal shaft, a connection between the longitudinal and the transverse shafts, a bin, a plurality of tubes depending from the carriage and communicating with the bin, cups on the ends of the tubes, cotton-pickers in the cups, a connection between the transverse shaft and the cotton-pickers, an exhaust-fan intermediate the tubes and the bin, and a connection between the fan and the longitudinal shaft.

2. The combination in a cotton picking and harvesting machine, of a carriage, an exhaust-fan supported thereon, a motor, a shaft journaled longitudinally of the carriage and above the motor, a belt connecting the longitudinal shaft and the motor, a belt connecting the longitudinal shaft to the fan, a shaft journaled transversely of the frame, a belt connecting the longitudinal and transverse shafts, rigid tubes extending forwardly from the fan and diverging laterally at their free ends, rigid branches extending outwardly at an acute angle from the main tubes, flexible tubes depending from the branches, flexible shafts supported by the flexible tubes, means whereby the transverse shaft may impart motion to the flexible shafts, perforated cups on the ends of the flexible tubes, cotton-pickers in the cups and driven by the shafts, handles for manipulating the cups, a bin on the carriage, and a communication between the fan and the bin.

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

WILLIAM H. LE VIN.

Witnesses:

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