(No Model.)

R. R. PACE.

COTTON CUPPER.

No. 439,176. Patented Oct. 28, 1890.

Fig. 1.

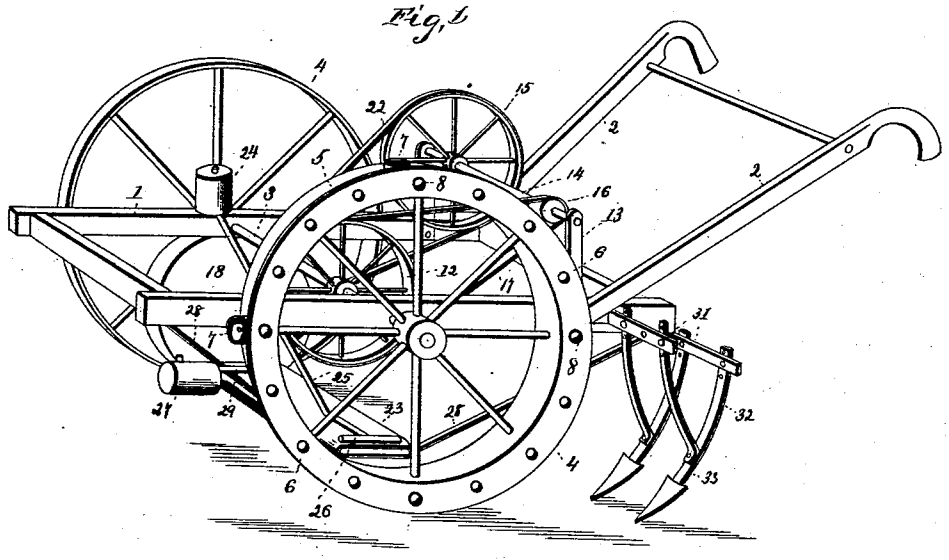


Fig. 2.

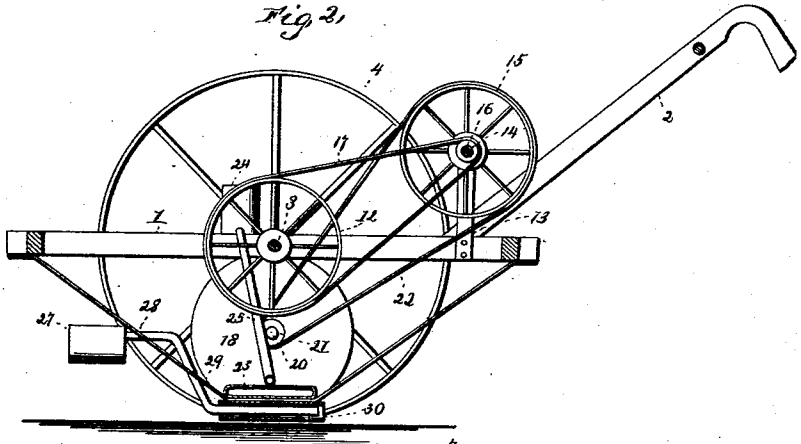


Fig. 3.

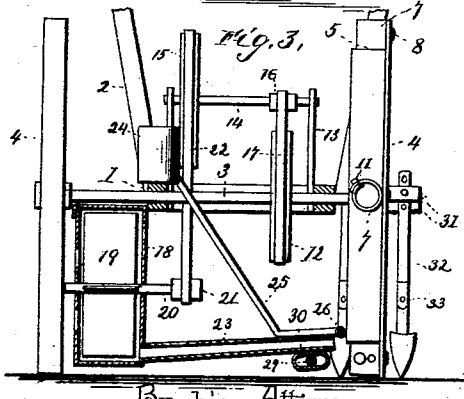
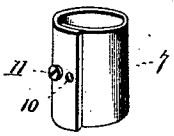


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

RICHARD R. PACE, OF IRONATON, ALABAMA.

COTTON-CUPPER.

SPECIFICATION forming part of Letters Patent No. 439,176, dated October 28, 1890.

Application filed July 12, 1890. Serial No. 358,579. (No model.)

To all whom it may concern:

Be it known that I, RICHARD R. PACE, a citizen of the United States, residing at Ironaton, in the county of Talladega and State of Alabama, have invented a new and useful Cotton-Cupper, of which the following is a specification.

This invention has relation to cotton-cuppers; and the object of the invention is to provide a machine of simple and convenient construction capable of cupping and destroying uncupped portions of the plant by means of fire in lieu of the usual chopping-knives.

Various objects of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a machine constructed in accordance with my invention. Fig. 2 is a longitudinal section. Fig. 3 is a transverse section. Fig. 4 is a detail in perspective of one of the cotton-cups.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the oblong (preferably metal) frame of my machine, which at its rear end is provided with suitable handles 2.

In the opposite side rails of the frame is journaled a transverse shaft 3, provided at its ends with ground-wheels 4. The ground-wheel at the left of the machine is provided with an L-shaped rim 5, which at intervals is provided with perforations 6, to which are secured cotton-cups 7, which cups are of metal and may be increased or decreased in number and located at various distances apart by means of bolts 8, passing through any of the perforations 6 and connecting with the cups. The cups are formed of blank pieces of sheet metal, the terminals of which are brought together and overlapped and provided with perforations 10, through which an adjusting-bolt 11 may be passed. (See Fig. 4.) By this means the diameter of the cup may be increased or diminished in accordance with the height of the cotton-plant. The shaft 3 within the frame 1 also carries a main belt-pulley 12.

13 designates a pair of standards rising from the rear end of the frame-work, and journaled therein is a counter-shaft 14, provided at its right-hand end with a large belt-pulley 15 and at its opposite end with a small pulley 16, which by a belt 17 is connected to the main pulley 12.

18 designates a blower-casing, in which is mounted a rotary blower 19, the same being mounted upon a shaft 20, which passes through the blower and extends into the frame 1, where it is provided with a small belt-pulley 21, which is connected to and driven by the pulley 15 by means of a belt 22. A blast-pipe 23 leads from the lower end of the blower-casing and extends across and under the frame 1 to the lower portion of the wheel 4 in such a position as to discharge a blast directly against the cuppers.

24 designates an oil-reservoir mounted upon the right-hand side of the frame-work 1, and leading from the reservoir is an oil-discharge pipe 25, the end of which is provided with a transverse burner 26, located immediately above the end of the blast-pipe and in the path of the blast.

27 designates a second oil-reservoir located under the front end of the frame-work 1 and supported in position by one of the blast-pipe supporting-straps 28. A pipe 29 leads from this reservoir and terminates in a burner located in a transversely-disposed blast-pipe section 30.

From the rear left-hand side of the frame project a pair of perforated brackets 31, to which are secured in an adjustable manner the upper bifurcated ends 32 of a pair of shovel-standards 33.

The operation of my invention is as follows: The machine being set in motion, the cups take successively over the plants of a row, and the oil is fed from the reservoirs to their burners, where it is converted into a vapor, the heat of which is intensified by the injection of air coming from a blast-pipe thereto and directing the flame of the intense heat directly against that plant covered by the lowest cup of the series upon the wheel. It takes but an instant of time for this intense heat to burn to a crisp all portions of the plant outside of the cup, and as the cupper moves on to take over the next plant the shovel in rear of the cupping-wheel turns the soil over the embers. In lieu of oil, gasoline

may be employed, and various changes may be made in the construction and arrangement of the reservoirs and the blower, and when gasoline is employed, the heat being so intense, the blower is unnecessary and may be omitted, together with the belt and pulley mechanism for operating the same.

Having described my invention, what I claim is—

1. In a machine of the class described, the combination, with a frame-work and its axle, of opposite ground-wheels, the flange of one of which is provided with a series of cups, an oil-reservoir located upon the same, and an oil-pipe leading from the reservoir and terminating in a burner adapted to discharge its flame against the cups as they are successively brought into line therewith, substantially as specified.

2. In a machine of the class described, the combination, with the frame and its axle, of a wheel mounted on the axle and having a series of cups mounted on the rim thereof, a rotary blower having a discharge-spout or blast-pipe leading therefrom to within a short distance of the path of the cups, an oil-reservoir provided with a discharge-pipe terminating in a burner located in advance of the blast-pipe, and mechanism for operating said blast, substantially as specified.

3. In a machine of the class described, a wheel having an L-shaped rim and a series of cotton-cups adjustably mounted on the rim, substantially as specified.

4. In a machine of the class described, a wheel having an L-shaped perforated rim, a series of cups mounted on the rim, and bolts passing through the perforations into the cups, substantially as described.

5. In a machine of the class described, the combination, with a wheel, of a series of cups, each of said cups being formed of sheet metal, an oblong blank having its terminals overlapping and provided with perforations, and adjusting-bolts passing through the perforations, substantially as specified.

6. In a machine of the class described, the combination, with the frame, the shaft passing therethrough, the ground-wheels on the shaft, one of which has its rim provided with a series of cups, and a pulley mounted on the shaft within the frame, of a counter-shaft journaled in rear of the main shaft and carrying a large and small pulley, a belt connecting the main pulley with the small pulley of the counter-shaft, a rotary blower, its casing and its shaft located in the frame-work, said shaft being provided with a small pulley, a belt connecting the same with the large pulley of the counter-shaft, a blast-pipe leading from the casing to the wheel and the path of the cups, and a front and rear oil-reservoir provided with oil-pipes terminating in burners arranged in the path of the blast, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

RICHARD R. PACE.

Witnesses:
M. D. IVEY,
E. L. GULLEY.