

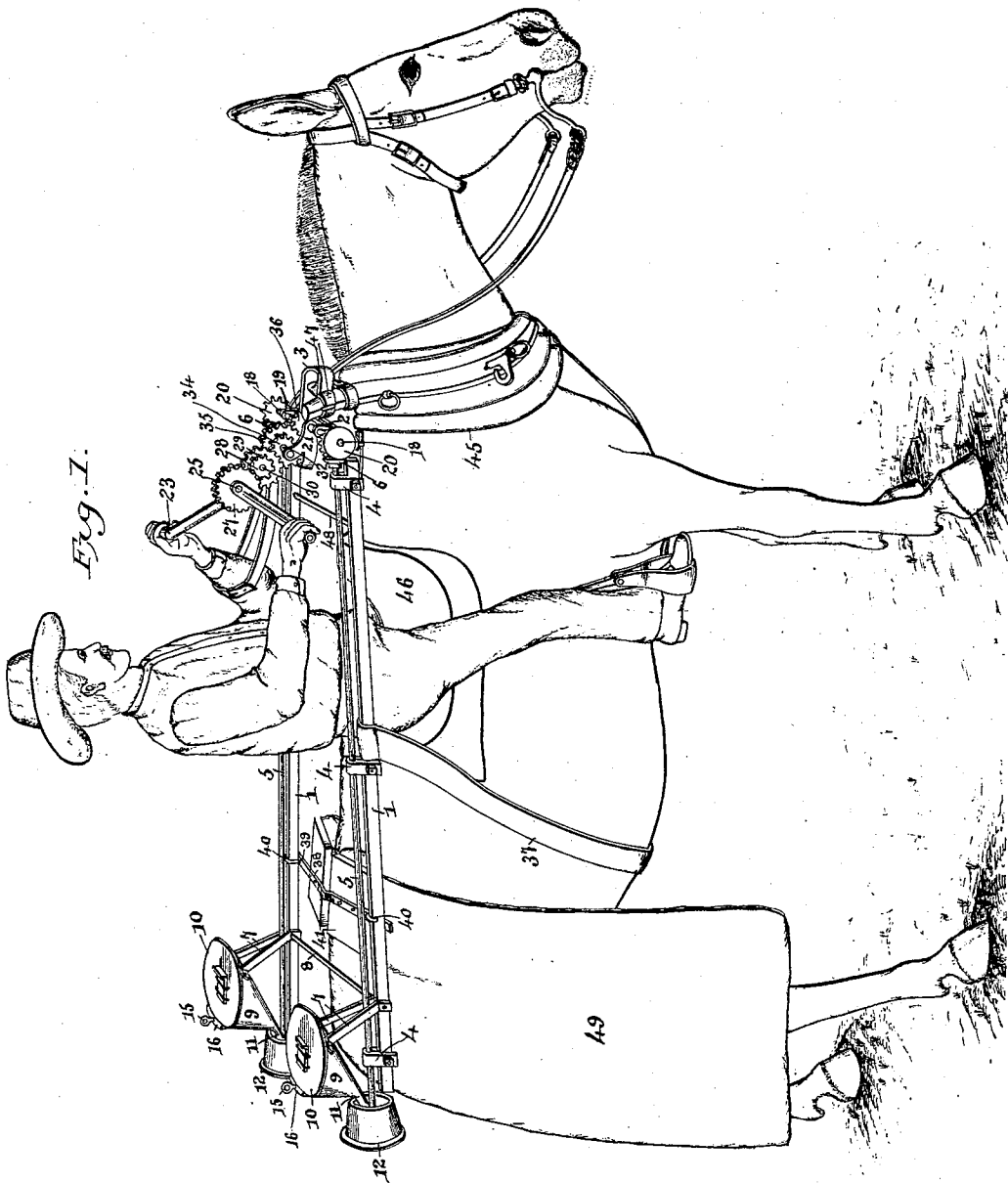
(No Model.)

2 Sheets—Sheet 1.

S. M. COULSON.
POISON DISTRIBUTER.

No. 471,633.

Patented Mar. 29, 1892.



Witnesses:

Jas. K. McCathran

W. F. Duval.

Inventor

Samuel M. Coulson

By his Attorneys,

Cash & Co.

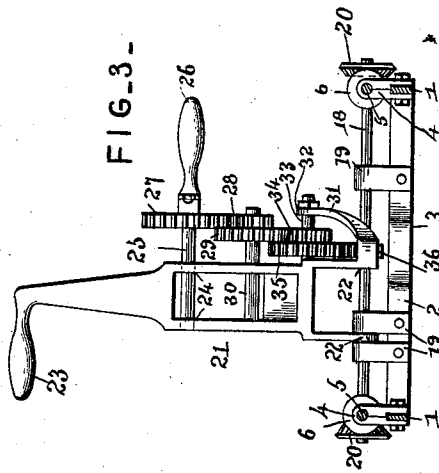
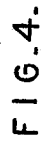
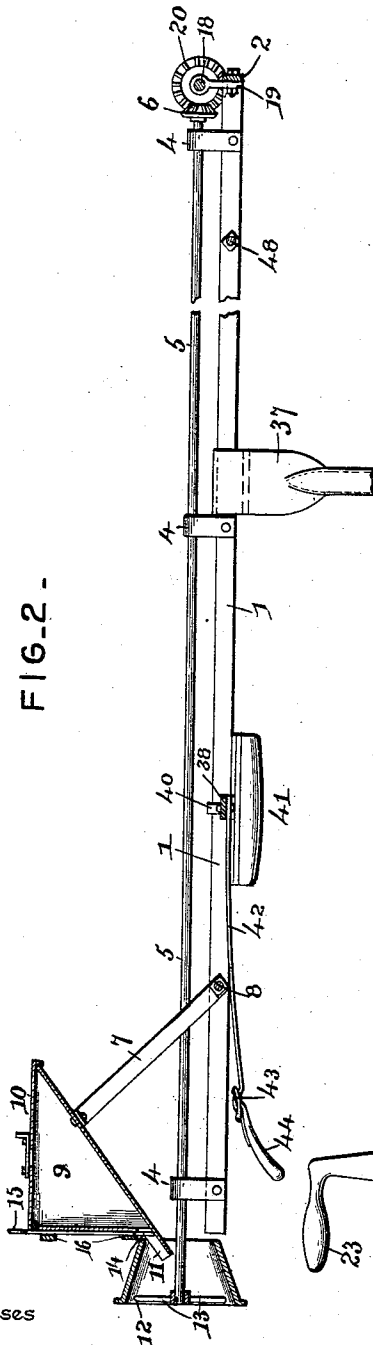
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UNITED STATES PATENT OFFICE.

SAMUEL M. COULSON, OF BULLITT'S BAYOU, LOUISIANA.

POISON-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 471,633, dated March 29, 1892.

Application filed November 24, 1891. Serial No. 412,905. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. COULSON, a citizen of the United States, residing at Bullitt's Bayou, in the parish of Concordia and State of Louisiana, have invented a new and useful Poison-Distributor, of which the following is a specification.

This invention relates to poison-distributors, the objects in view being to provide a distributor of cheap and simple construction adapted to be carried on horseback and to sprinkle in an efficient manner powdered poison—for instance, paris-green—upon cotton and other plants.

With the above objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a general view of the machine in position. Fig. 2 is a longitudinal section. Fig. 3 is a transverse section looking toward the front. Fig. 4 is a detail in perspective of one of the discharge-nozzles.

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

1 designates the opposite side bars composing the frame of the planter, and the same are formed integral with or bolted to a connecting-bar 2, located at the front end of the frame, which bar at its center is bent outwardly to form a loop 3, for a purpose hereinafter described. Upon each of the side bars 1 there is located at intervals pairs of opposite bearing-boxes 4, and in the bearing-boxes of each side bar there is journaled a rotatable longitudinally-disposed shaft 5, said shafts being provided at their front ends with small pinions 6, through the medium of which, as will be hereinafter described, the said shafts may be rotated in a rapid manner.

In pairs of standards 7, secured by a tie-bolt 8, there is supported at the rear end of each of the side bars a hopper 9 of inverted-cone shape, each hopper having a tight-fitting cover 10, having a covered opening through which powdered poison may be introduced into the hopper. The lower end of each hopper is provided with a discharge-tube 11, and the same terminates in flared discharge-nozzles 12, in which also terminate the rear ends of the rotatable shafts 5, to which rear ends

the discharge-nozzles are connected by spokes 13, which radiate from the shafts. Each of the tubes is provided with a cut-off or valve 14, which may be manipulated by a rod 15, mounted for vertical reciprocation in keepers 16, located at the rear side of the hopper.

In bearing-openings formed in the front ends of the side bars 1 a transverse shaft 18 is journaled, said shaft being supported by bearing-boxes 19, located upon the cross-bar 2. The ends of the shaft carry beveled gears 20, which gears engage with and operate the pinions 6 of the rotatable shafts 5.

21 designates a casting the lower end of which is bifurcated and provided with bearing-openings 22, through which the shaft 18 passes. The upper end of the casting is provided with a laterally-disposed handle 23, while some distance below the same in bearings 24 a crank-shaft 25, having a handle 26, is journaled. This crank-shaft carries a master-gear 27, which engages with and drives a small gear 28, mounted upon a shaft 30, journaled in the casting below the crank-shaft and in turn carrying a larger gear 29. The lower end of the casting 25 has an outwardly and upwardly disposed branch 31, and in bearings 32, formed therein, and in the casting a shaft 33 is journaled, said shaft carrying a small gear 34 and a large gear 35, the former being driven by the small gear 28 and the large gear 35 in turn driving a small gear 36, which is mounted upon the shaft 18, and thus said shaft 18 is driven through the medium of the crank-shaft journaled in the casting. The transverse shaft is by reason of the difference in proportion to the gears driven rapidly and in turn drives more rapidly the shafts 5.

To the opposite side bars 1 is connected a pair of opposite girth-sections 37, adapted to buckle around the body of a mule or horse. A metal strap 38 has perforations 39 formed therein, and staples 40 embrace the side bars 1, pass loosely through the perforations, and are nutted under the same, so that the metal strap 38 is clamped at any proper point along the side bars 1. To the center of the metal strap there is bolted a pack-saddle 41, the sections composing the saddle being located at opposite sides of the center of the strap, which latter is slightly arched. Between the

sections of the saddle a crupper-strap 42 is secured, and adjustably mounted upon the same by a buckle 43 is a crupper 44.

In operation a collar 45 is first placed upon the animal and a saddle 46 adapted to accommodate the operator. The apparatus is now placed in position upon the animal, the side bars 1 of said apparatus being at opposite sides of and embracing the operator. The girth 37 is tightened around the body of the animal, the pack-saddle serving to support the rear end of the machine and resting on the hind quarters of the animal. The offset or bend 3 of the frame of the apparatus takes between the hames of the collar and over the hame-connecting strap and is connected by a short strap 47 to the hames. By lengthening or adjusting the crupper upon the crupper-strap and the pack-saddle upon the side bars the apparatus may be made to fit animals of various lengths. A tie-bolt 48 connects the side bars 1 near their front ends and serves as a support for the casting 21 when the same is not in use. The hoppers being filled, and the cut-offs opened, the animal is started between two rows of cotton or other plants, said animal traveling in a fast walk or slow jog-trot. The operator grasps the handle 23 with his left hand and the crank 26 with his right hand and revolves the said crank-shaft, by which motion is imparted and increased through the train of gears to the longitudinal shafts 5, and the flared discharge-nozzles at the rear ends of the same are rapidly rotated, and the powdered poison discharged into the nozzles is by the conical shape given the same directed toward the rear ends of the nozzles, where it is spread, scattered, or discharged by centrifugal force. In this manner the powder is scattered broadcast over the plants at each side of the row and with considerable force blown into the same. In practice the hind quarters of the mule are protected from the poisonous effects of the powder by means of an apron 49, with which he is enveloped.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a machine of great simplicity and effective in its operation, that is designed to be located upon a pack-animal, and to be operated upon opposite rows of plants simultaneously.

Having described my invention, what I claim is—

1. A machine of the class described, having an oblong frame-work adapted at its front end for connection with the collar of the animal and provided at its rear end with a supporting-saddle, combined with poison-distributing mechanism mounted on the frame, substantially as specified.

2. A machine of the class described, having an oblong frame-work adapted at its front end for connection with the collar of a harness and poison-distributing mechanism mounted on the frame, combined with a pack-saddle at the rear end of the frame-work and

adapted to support the same upon the back of the animal, and a strap leading from the saddle rearwardly and terminating in a crupper, substantially as specified.

3. In a machine of the class described, the combination, with the oblong frame-work adapted at its front end for connection with the collar of a harness and poison-distributing mechanism mounted thereon, of a metal strap having perforations located under the sides of the frame, U-shaped staples embracing the opposite bars of the frame and passing through the perforations of the strap-nuts for the staples, pack-saddle sections secured to the strap, a crupper-strap connected to the metal strap, and a crupper provided with a buckle, substantially as specified.

4. In a machine of the class described, the combination, with the frame the front cross-bar of which is offset, of poison-distributing mechanism supported on the frame, a collar the hame-strap of which is received by the cross-bar, a strap connecting the cross-bar with the collar, a rear pack-saddle supporting the rear end of the frame, and girth-straps connected to the opposite side bars between the front and rear ends of the frame, substantially as specified.

5. In a machine of the class described, the combination, with the frame-work and the hoppers mounted on the rear end of the same and terminating in discharge-pipes, of rotatable shafts journaled in the frame-work and terminating in rear of the hoppers, means for rotating the shafts, and flared discharge-nozzles secured to the shafts and receiving the discharge-pipes of the hopper, substantially as specified.

6. In a machine of the class described, the combination, with the opposite side bars of the frame, the conical hoppers terminating in discharge-pipes, braces secured to the side bars and supporting the hoppers, and sliding cut-offs mounted in the pipes, of journal-boxes located upon the side bars, rotatable rods journaled in the boxes and terminating in rear of the hoppers, flared nozzles supported on the rods, pinions located at the front ends of the rods, a transverse shaft journaled in the side bars, gears mounted on the ends of the shaft and engaging the pinions, a casting loosely mounted on the shaft, and a train of gears journaled in the casting and adapted to operate the transverse shaft, substantially as specified.

7. In a machine of the class described, the frame-work, the hoppers in the rear ends of the same terminating in discharges, the spreaders, the rotatable shafts for operating the same, the pinions at the front ends of the shafts, the transverse shaft, the gears thereon for operating the pinions, the bifurcated casting having perforations for the reception of the transverse shaft and having one of its bifurcations laterally and upwardly bent and provided with bearings, while the upper end of the casting terminates in a handle, the

crank-shaft journaled in the casting, a shaft journaled in the bifurcation and provided with large and small gears, the former engaging with a gear on the transverse shaft, and speed-increasing gears located between the gear of the crank-shaft and the small gear, substantially as specified.

8. A machine of the class described, having an oblong frame-work adapted at its front end for connection with the collar of a harness, combined with a pack-saddle at the rear end of the frame-work and adapted to support the same upon the back of the animal, and the hoppers mounted on the rear end of

the same and terminating in discharge-pipes, 15 rotatable shafts journaled in the frame-work and terminating in rear of the hoppers, means for rotating the shafts, and flared discharge-nozzles secured to the shafts and receiving the discharge-pipes of the hopper, substantially as specified. 20

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

SAMUEL M. COULSON.

Witnesses:

C. C. CAMPBELL,
A. J. CHAZA.