

(No Model.)

3 Sheets—Sheet 1.

T. C. D'SPAIN.

PULVERIZER.

No. 312,338.

Patented Feb. 17, 1885.

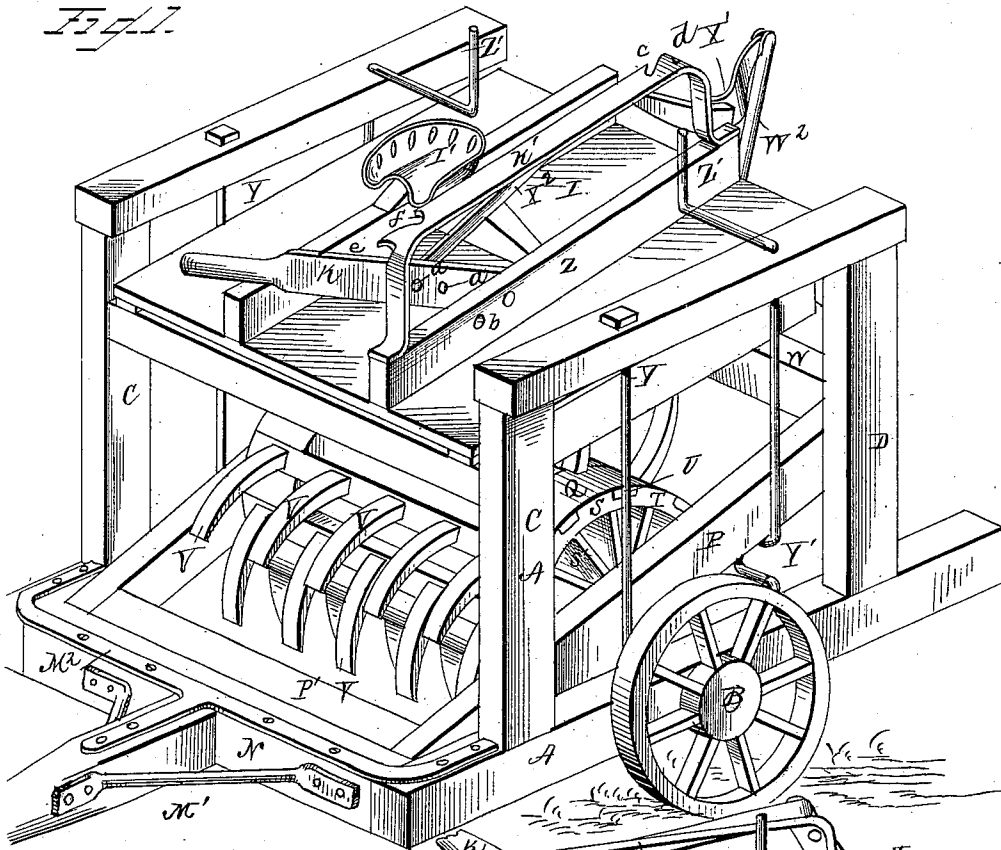
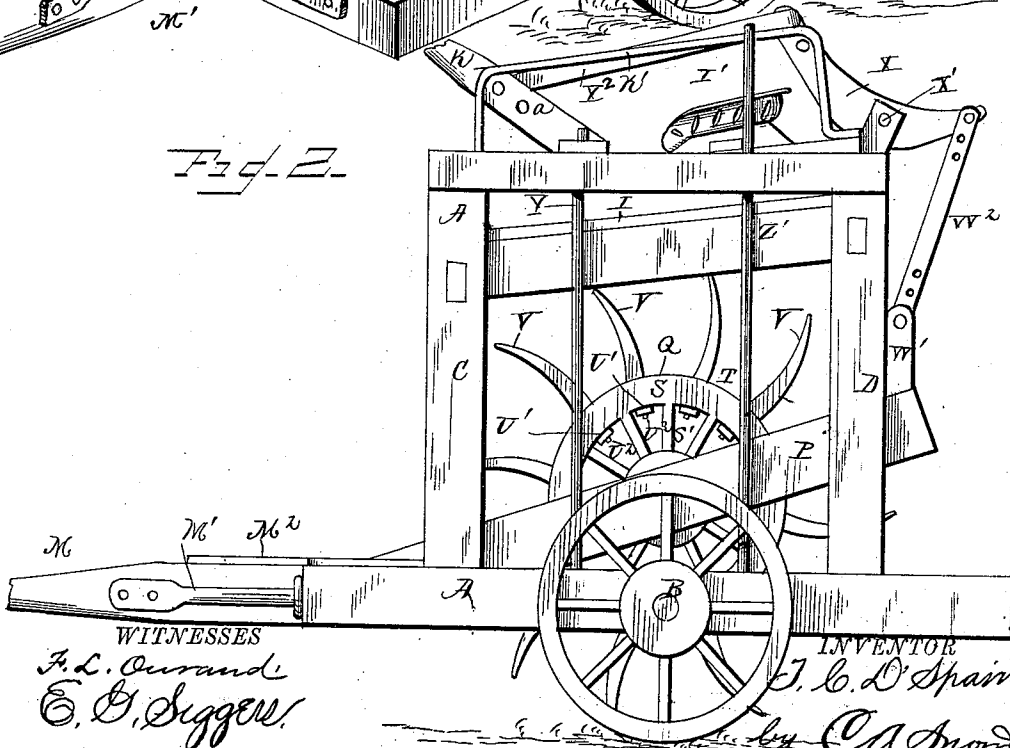


Fig 2.



WITNESSES

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(No Model.)

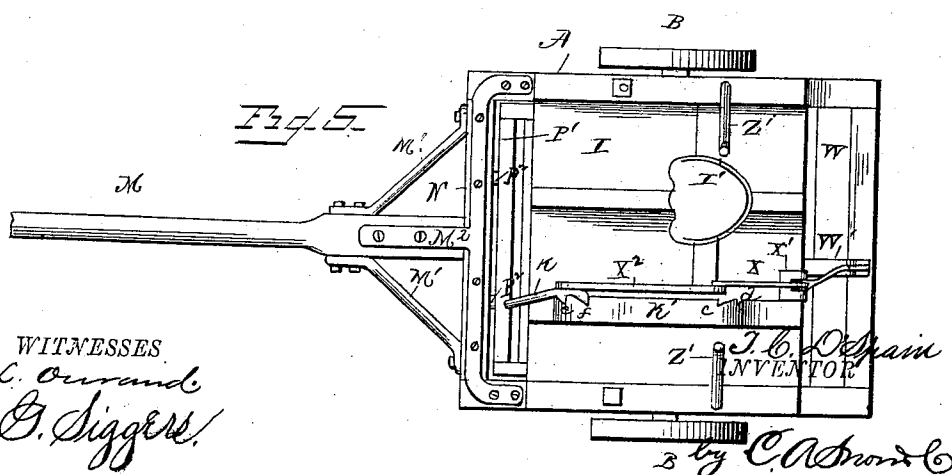
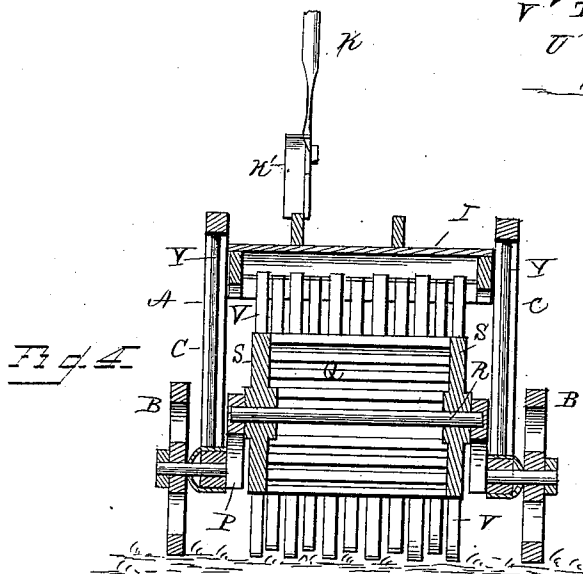
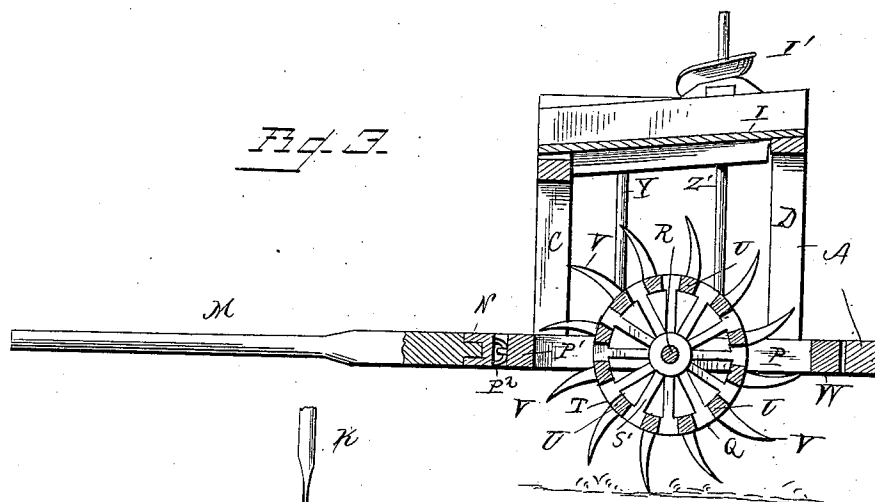
3 Sheets—Sheet 2.

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(No Model.)

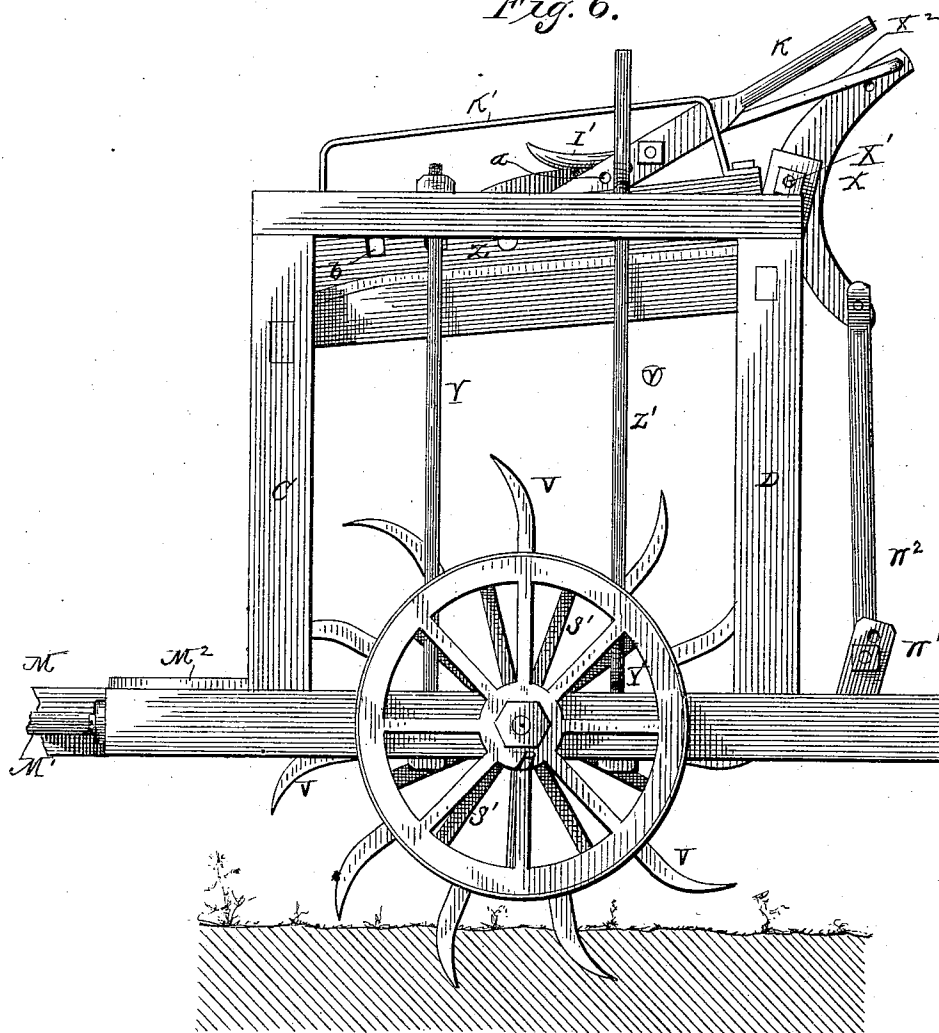
T. C. D'SPAIN,
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3 Sheets—Sheet 3.

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Fig. 6.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS C. D'SPAIN, OF SHERMAN, TEXAS.

PULVERIZER.

SPECIFICATION forming part of Letters Patent No. 312,338, dated February 17, 1885.

Application filed May 8, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. D'SPAIN, a citizen of the United States, residing at Sherman, in the county of Grayson and State of Texas, have invented a new and useful Pulverizer, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to pulverizers designed to take the place of the ordinary turning-plow to dig up hard unbroken land; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a view in perspective of a pulverizer embodying my improvements. Fig. 2 is a side elevation with the pulverizer elevated above the ground. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a transverse vertical sectional view, and Fig. 5 is a plan view. Fig. 6 is a side elevation showing the wheels B B elevated above the ground.

Referring by letter to the accompanying drawings, A designates the main frame, which is mounted on the wheels B B, having their spindles secured to the side rails of the main frame.

C C designate the front uprights, and D D the rear uprights, of the framing that supports the platform I, on which the driver's seat I' and the operating-lever K, for raising and lowering the main frame, and the engaging-rack K' for said lever K are located.

M designates the tongue, which is mortised to the front rail of the main frame, and is strengthened by brace-irons M' and a top iron, M'', extending along the front rail, N, and along the side rails to the front uprights.

The auxiliary frame P has its front rail, P', hinged to the front rail, N, of the main frame by eyebolts P'', and is located inside of the main frame, as shown. This auxiliary frame carries the pulverizing-cylinder Q, which is journaled on a transverse shaft, R, having bearings in the side rails of the auxiliary frame P. This cylinder Q consists of two heads, S S, having radial arms S', extending from their hubs to their rims T, and the latter are recessed in their peripheries to receive the ends of the removable tooth-bars U, which are se-

cured in place by bolts U' on the ends of the shanks U² of the pulverizer-teeth V at each end of said tooth-bars. All of the pulverizer-teeth are secured in place by nuts on the ends of their threaded projections, so that if one should be broken it can be easily and quickly replaced by a new one. The rear rail, W, of the auxiliary frame P is provided at its middle with an upwardly-projecting bifurcated arm, W', in which the lower end of a rod, W², is pivoted, and may be adjusted to either of two sets of perforations in said arm. The upper end of the rod W² is bifurcated and pivoted to the lower end of a curved lever, X, pivoted in a fulcrum, X', on the rear rail of the platform I. The upper end of the curved lever is provided with two perforations, and is connected to an arm, X², connected with the operating-lever K. The operating-lever K is provided with a series of perforations, a, to render this last connection also adjustable, and the weight end of the lever K is pivoted in one of a series of holes, b, in the longitudinal beam Z on the platform I. The platform-frame is braced to the main frame by the two vertical rods Y, having nuts at both ends. Two vertical crank-rods, Z' Z', are journaled in the main frame, and in the side rails of the framing that supports the platform I, and are designed to lock the main frame and the auxiliary frame together when the wheels are elevated, as shown in Fig. 6, by turning the bends Y' of said crank-rods in over the side rails of the auxiliary frame. This is to keep the transporting-wheels off of the ground when it is desired to have the pulverizer-teeth to enter and dig up the ground. When the wheels and cylinder are in this position, the operating-lever K occupies either one or the other of the notches c or d at the rear end of the rack K'. When the wheels are down, as in Fig. 1, the lever occupies either one or the other of the notches e or f at the front end of the rack K'. It may be adjusted to operate either notch by adjusting the several connections of the operating-lever, and thus the depth to which the pulverizer-teeth shall enter the ground may be regulated. These teeth are in the shape of a curved wedge, the curve being downward and to the rear as the teeth enter the ground. Each adjustable tooth-bar is pro-

vided with preferably six pulverizer-teeth, and there are ten to twelve bars. The cylinder is thirty-two inches long by twenty-four inches in diameter. The teeth are six to ten inches long, according to size of cylinder, and one and one-fourth inch wide. The wheels are of cast-iron, and are two feet in diameter. The driver's seat is just to the right of the lever K on the platform I.

- o With this machine I am able to perform the same amount of work that can be performed by four ordinary eight-inch plows.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the main frame provided with transporting-wheels of a diameter less than the diameter of the circle described by the points of the pulverizer-teeth, and a platform, I, of the auxiliary frame hinged within the main frame and provided with the toothed cylinder Q, the lever K, arm

X², curved lever X, pivoted in the fulcrum X' on the platform I, rod W², pivoted to the rear end of curved lever X at its upper end, and in the bifurcated arm W' on the frame P at its lower end, and the notched rack K', secured to the beam Z on the platform I, substantially as specified.

2. The combination, with the main frame and the auxiliary frame hinged within the same, as described, and provided with the toothed cylinder, of the crank-rods provided with bends near their lower ends, and having bearings in the side rails of the main frame and in the side rails of the platform-framing, substantially as specified.

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

THOMAS C. D'SPAIN.

Witnesses:

M. J. CHAPIN,

J. H. L. DICKERMAN.