

DITCHING-MACHINE.

No. 175,692.

Patented April 4, 1876.



WITNESSES:

Fig: 4.

**INVENTOR:**

BY

ATTORNEYS

UNITED STATES PATENT OFFICE.

HYACINTHE GONELLAZ, OF VERMILLIONVILLE, LOUISIANA.

IMPROVEMENT IN DITCHING-MACHINES.

Specification forming part of Letters Patent No. **175,692**, dated April 4, 1876; application filed February 5, 1876.

To all whom it may concern :

Be it known that I, HYACINTHE GONELLAZ, of Vermillionville, in the parish of Lafayette and State of Louisiana, have invented a new and useful Improvement in Ditching-Machine, of which the following is a specification:

Figure 1 is a longitudinal section of my improved machine taken through the line $x x$ $x x x x$, Fig. 2. Fig. 2 is a top view of the same, part being broken away to show the construction. Fig. 3 is a detail vertical section taken through the line $y y$, Fig. 2. Fig. 4 is a detail top view of the plow or shovel.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the ditching-machine for which Letters Patent No. 140,820 were granted to me July 15, 1873, so as to make it more effective in operation.

The invention consists in the combination of the plow and its standard with the frame and the ditching-wheel; in the combination of the rod, the block, the colters, the scrapers, and spring, and the crank-arm and its connecting-rod with the frame, the plow, the ditching-wheel, and the lever that drives said ditching-wheel; and in the combination of the shovel and its pivoted bars with the frame and with the pawl-bars that drive the ditching-wheel, as hereinafter fully described.

A is the frame of the machine, which is supported upon wheels B. The wheels B are pivoted to the lower ends of rack-bars C, which slide in guides or ways D attached to the frame A, and are secured in place by pins E passed through lugs formed upon the ways D, and through the notches of the rack-bars C, so that the machine can be readily lowered as the ditch increases in depth. The soil is raised from the ditch and deposited upon the ground at the side of the ditch by the ditching-wheel F and the discharging-pan G, which are constructed and operated in the manner described in Letters Patent No. 140,820, and about the construction of which there is nothing new. The slice to be raised is separated from the soil beneath it, so as to leave the bottom of the ditch smooth, by a plow, H, the side edges of which are turned up or flanged, and which is attached at its center to the

lower end of a standard, I. The standard I rests against and passes through a guide, J, attached to a cross-bar, a^1 , of the frame A, and its upper end passes up through a guide, J, attached to another cross-bar, a^2 , of the frame A. The standard I is secured to the upper guide J by a pin which passes through one or another of a number of notches or holes formed in the said standard, so that the plow may be readily adjusted to work deeper or shallower in the ground. Through the forward parts of the guides J is passed a rod, K, to which is hinged a wooden beam or block, L, to the forward side of which are attached forwardly-projecting colters M, which, as the block L is oscillated, loosen the soil above the plow H. To the edges of the forward side of the block L are hinged two scrapers, N, which are curved outward and backward so as to scrape off the soil from the forward end and sides of the ditch, and throw it back so that it will be taken up by the buckets of the ditching-wheel F. The scrapers N are supported when scraping the soil by a spring or springs, O, attached to the block L, and which bear against the outer side of the upper ends of the said scrapers. To the upper part of the block L is attached a crank, P, to which is pivoted one end of a connecting-bar, Q, the other end of which is pivoted to one of the levers R that drive the ditching-wheel F, so that the colters M and scrapers N may be oscillated by the mechanism that operates the said ditching-wheel F. The block L may be moved up and down upon the rod K as may be desired. S is a shovel, the rear edge of which is pivoted to the ends of two bars, T, the upper ends of which are pivoted to the rear cross-bar of the frame A. To the rear edge of the shovel S are also pivoted the rear ends of two bars, U, the forward ends of which are pivoted to the pawl-bars V that drive the ditching-wheel F. By this arrangement the shovel S will be drawn forward at each movement of the ditching-wheel F to scrape up any soil that may be missed by the buckets of said wheel F, or that may be dropped while being transferred from the ditching-wheel F to the discharging-pan G, and thus leave the bottom of the ditch smooth and clean. As the soil accumulates upon the

shovel S it will be taken off by the buckets of the ditching-wheel F.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the plow H and its standard I with the frame A and the ditching-wheel F, substantially as herein shown and described.

2. The combination of the rod K, the block L, the colters M, the scrapers and spring N O, and the crank-arm and connecting-rod P Q, with the frame A, the plow H I, the ditching-

wheel F, and the lever R that drives said ditching-wheel, substantially as herein shown and described.

3. The combination of the shovel S and its pivoted bars T U with the frame A and with the pawl-bars V that drive the ditching-wheel F, substantially as herein shown and described.

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Witnesses:

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