

(No Model.)

2 Sheets—Sheet 1.

T. P. CONCANNON.
DITCHING MACHINE.

No. 503,036.

Patented Aug. 8, 1893.

FIG. 1.

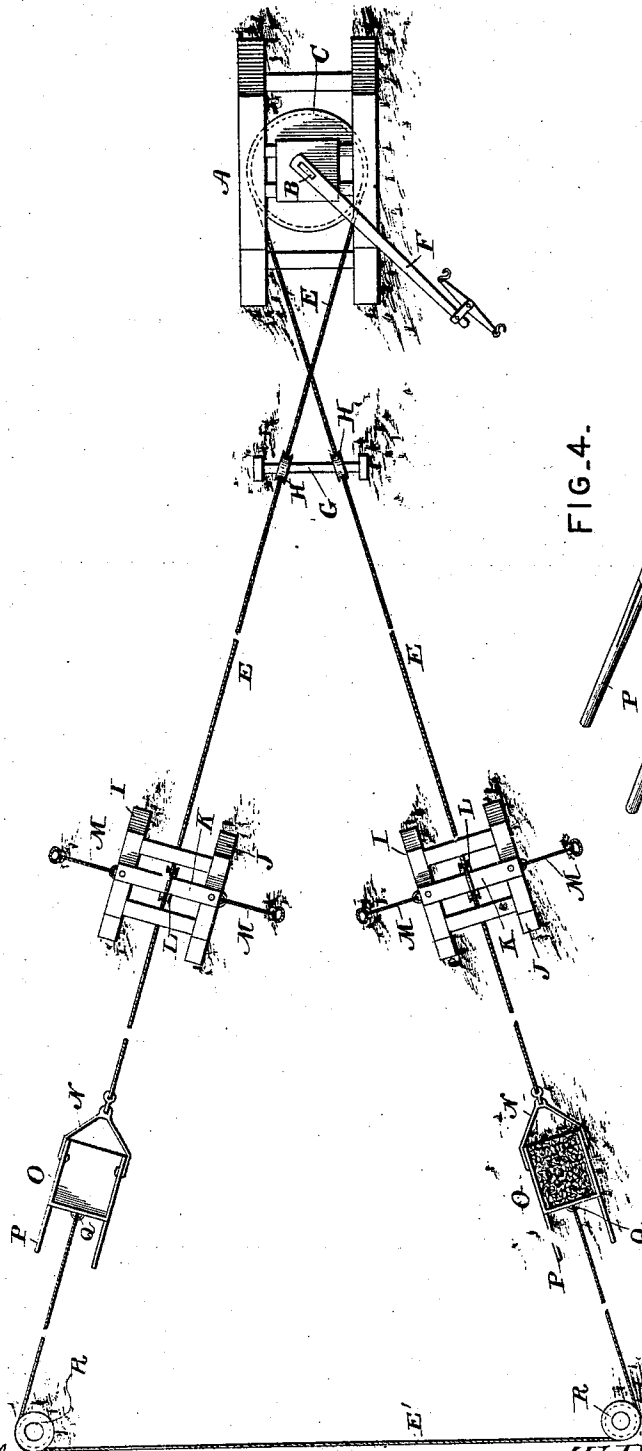
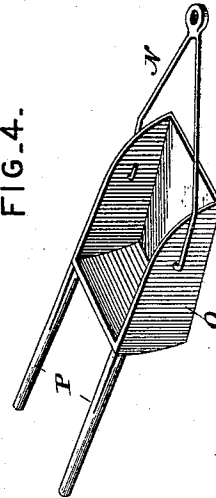


FIG. 4.



Witnesses

Jas. H. McCutchan
D. O. Volhaupt

By his Attorneys,

T. P. Concannon
C. A. Snow & Co.

Inventor

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T. P. CONCANNON.
DITCHING MACHINE.

2 Sheets—Sheet 2.

No. 503,036.

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FIG. 2.

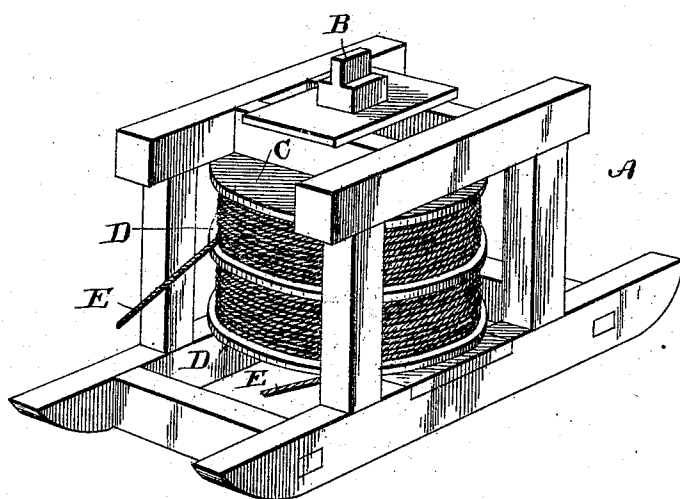
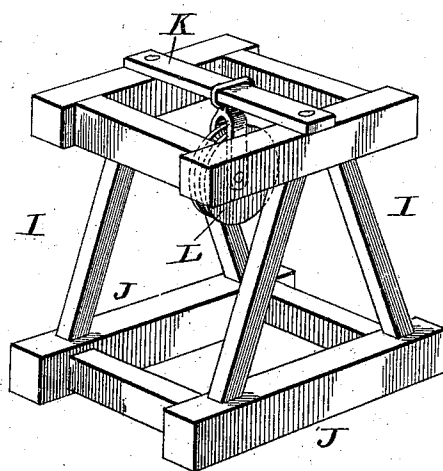


FIG. 3.



Witnesses

Jas. H. McLaughlin
A. V. Wolhaupter.

Inventor

T. P. Concannon

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

THANTUS P. CONCANNON, OF WINAMAC, INDIANA.

DITCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 503,036, dated August 8, 1893.

Application filed October 20, 1892. Serial No. 449,532. (No model.)

To all whom it may concern:

Be it known that I, THANTUS P. CONCANNON, a citizen of the United States, residing at Winamac, in the county of Pulaski and State of Indiana, have invented a new and useful Ditching-Machine, of which the following is a specification.

This invention relates to ditching machines; and it has for its object to provide an improved ditching machine simple in construction and easily operated.

To this end the primary object of the invention is to simplify the construction of these machines so as to render the same available for convenient handling and ready moving, while at the same time providing a machine which can also be used for grubbing purposes.

With these and many other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a top plan view of a ditching machine set up in operative position. Fig. 2 is a detail in perspective of the double winding drum, or windlass. Fig. 3 is a similar view of one of the rope derricks. Fig. 4 is a similar view of one of the ditching scoops.

Referring to the accompanying drawings:—A represents a sled frame capable of being slid from point to point and within which is journaled the vertical winding shaft B.

Securely mounted upon the winding shaft B within the sled frame A is the double winding drum or windlass C having a central flange separating the same into opposite drum portions D, around which are designed to be reversely wound the ropes or chains E, respectively. It will be observed that one of the ropes or chains E is wound in one direction around its respective drum portion, while the other rope or chain is wound in a reverse direction around the other drum portion, so that as the windlass is rotated, one of the ropes or chains is wound thereon, while the other rope or chain is unwound or paid therefrom. A suitable sweep F is connected to the upper squared end of said shaft and controlled by a draft animal for winding the drum in both directions as the ditching is proceeded with.

At a point adjacent to the sled frame A, is arranged the guide pulley jack G, to which is loosely secured the ground guide pulleys H, under which the ropes or chains E pass, after crossing each other at a point adjacent to said jack between the same and the drum so that the animal can easily pass thereover. The said ropes or chains H are led from the ground guide pulleys to the rope derricks I, located at points along the bank of the ditch or at points convenient to where the main ditching devices are working. The said derricks I are mounted upon suitable bases J, and are connected at their upper ends by the cross rods K, upon which are loosely swung the derrick guide rollers L over which the ditching ropes or chains E pass, while said derricks are firmly braced in their adjusted positions by means of suitable guide ropes M. The extreme ends of the ropes or chains E are connected to the bails N of the ditching scoops or shovels O. The said ditching scoops O are constructed of suitable material and in a pan or shovel shape, the same being provided with the extended handles P by means of which the same may be grasped by one or more men to hold the pan-shaped scoops into the earth like a plow, while the windlass drags the scoop to its point of dump. It will be apparent that while one scoop is being dragged through the ditch and up the bank to its point of dump, the other scoop is free to be carried back to its point of operation in the ditch. When the ditch has been dug out in the immediate vicinity of the separate derricks I the whole apparatus is moved along to take up the work from the last point.

The simplicity and easy manipulation of the herein described machine for ditching purposes will be readily apparent to those skilled in the art. It may also be noted that by dispensing with the derricks and the ditching scoops or shovels, the herein described machine can be advantageously employed for grubbing purposes, the operation of the windlass in both cases being the same.

In order to provide for automatically carrying or dragging the empty scoop back to its point of use in the ditch, as the filled scoop is being dragged up the bank to be dumped, I employ the auxiliary drag rope or chain E'. The said auxiliary drag rope or chain E' is

connected at its ends as at Q to the back ends of the scoops or shovels O, and passes continuously over the spaced ground-pulleys R, arranged on the opposite bank and holding the rope or chain in the proper position so as to provide for the simultaneous opposite movement of the scoops, as will be readily apparent.

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

In a ditching machine, the combination with a sliding sled frame capable of being moved from point to point; of a double drum or windlass journaled on the said sled frame, a movable ground pulley jack arranged adjacent to the double drum and having separate guide pulleys loosely secured thereto, separate rope derricks removably braced to the ground independent of each other and beyond the pulley jack, guide pulleys loosely suspended from the upper ends of said rope derricks, reversely

moving drag ropes or chains winding upon separate portions of said double drum or windlass and crossing each other between the same and said pulley jack, said drag ropes or chains passing under the separate guide pulleys of the ground pulley jack and over the loosely suspended pulleys of the derricks, ditching scoops or shovels attached to said drag ropes or chains beyond the rope derricks, opposite spaced ground pulleys arranged beyond each scoop, and an auxiliary rope or chain passing continuously over said ground pulleys and connected at its extremities to the handle ends of said scoops, substantially as set forth.

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

THANTUS P. CONCANNON.

Witnesses:

MOSES A. LETTS,
M. B. KNOUSE.