

(No Model.)

W. SKINNER.  
TILE DITCHING MACHINE.

No. 376,352.

Patented Jan. 10, 1888.

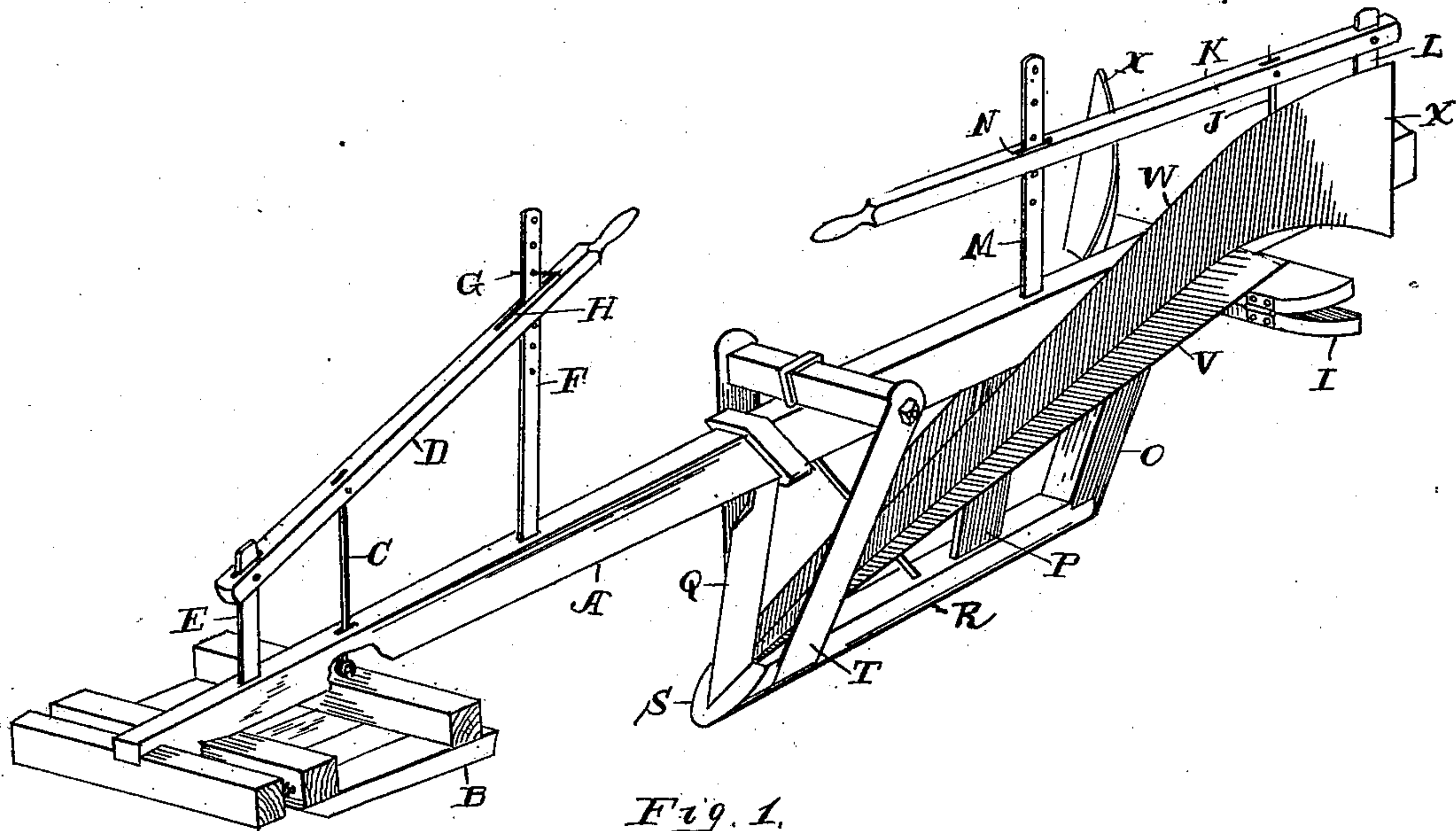


Fig. 1.

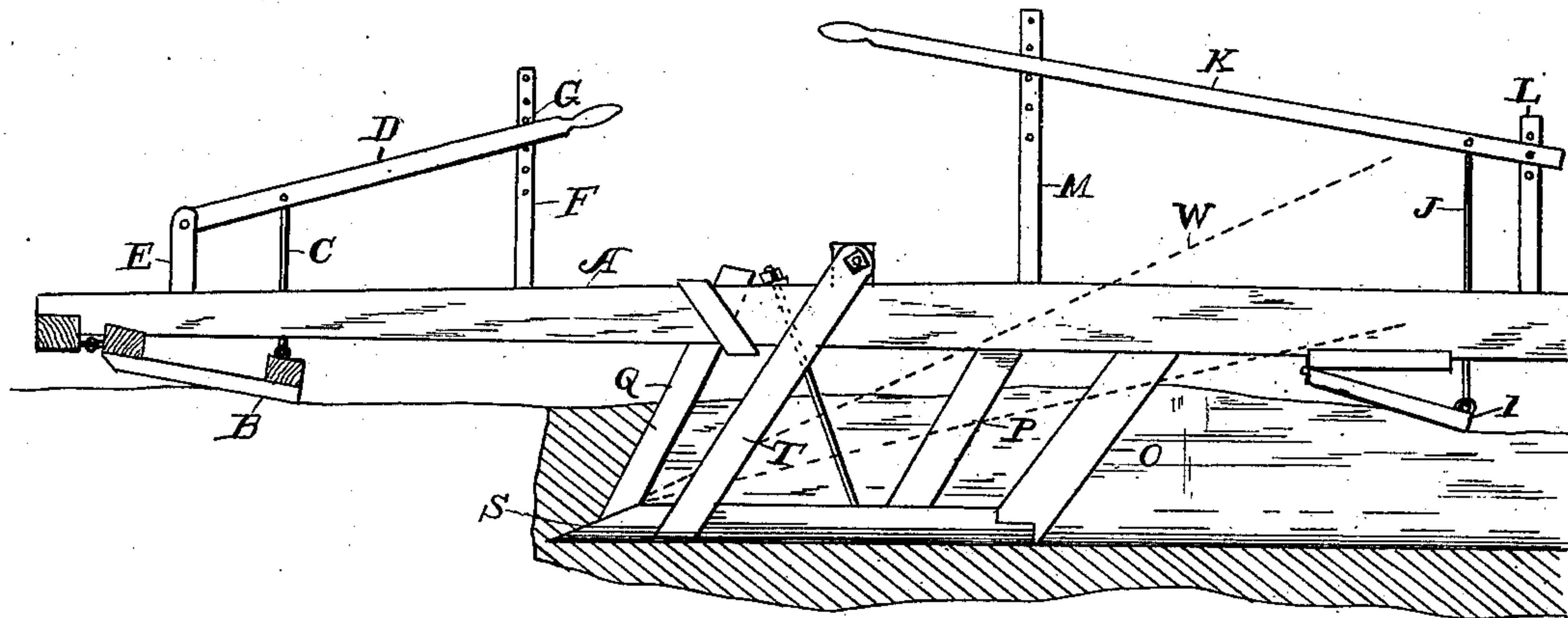


Fig. 2.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM SKINNER, OF WYMAN, IOWA.

## TILE-DITCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 376,352, dated January 10, 1888

Application filed June 9, 1887. Serial No. 240,786. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SKINNER, of Wyman, in the county of Louisa and State of Iowa, have invented a new and useful Improvement in Tile-Ditching Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a perspective view of my improved tile-ditching machine, and Fig. 2 is a side sectional view of the same.

My device relates to an improvement in tile-ditching machines for forming the ditches by elevating the soil by inclined planes and depositing it at either side of the ditch and preparing the said ditch for the reception of the tiling; and to this end I provide a horizontal shoe having an inclined face at the forward end and a vertical cutter bar, and lateral inclined cutter-bars for marking out the sides of the ditch, thence rearwardly-inclined planes which raise the soil as the device passes through the ground and deposits it at the side of the ditch, while at the front and rear ends of the device are suitable gage bars and shoes for regulating the depth of the ditch as the machine passes along, all of which will now be fully set forth in detail.

In the accompanying drawings, A represents the main beam of my device, having forwardly a shoe, B, secured at its forward end to the under side of the beam A, while rearwardly it is hinged to a vertical bar, C, extending up through the beam A and attached to a lever, D. The said lever D is hinged at its forward end to a short post, E, over the beam A, while rearwardly I provide another vertical post, F, having pins G within openings which extend up through a slot, H, within the vertical lever D. Thus the operator, standing over the central part of the device, by operating lever D, can regulate the depth of the ditch as the device moves along.

At the rear end of the beam A, I provide a shoe, I, vertical bar J, lever K, short vertical posts L and M, and slot N, corresponding in general with the shoe and lever device at the forward part of the machine, except that the ends of the lever are reversed, so that the op-

erator, standing centrally upon the beam A, can operate either lever at pleasure.

Beneath the beam A, I provide posts O and P, and forwardly therefrom a vertical cutter-bar, Q, provided at their lower ends with a horizontal shoe, R, formed convex on its lower face, and designed to be about the circumference of the tiling to be disposed within the ditches. The forward end of this shoe R has an inclined cutting-edge, S. Laterally from the forward end of this shoe R, I provide inclined cutting-shears T, attached at their upper ends to a horizontal yoke, U, secured on the upper face of the beam A.

From the rear part of the inclined face S of the shoe R, I provide inclined elevators disposed at a moderate angle. The forward ends of these conveyers rest upon the upper face of the shoe R immediately back of the central cutter, Q, and are each formed in two pieces consisting of a base-piece, V, and a vertical mold-board, W. These are extended upwardly to a sufficient height and are secured to the sides of the beam A, so as to elevate the soil taken from the ditches, and the mold-board W has an outward curve, X, at its extreme upper end, so that the soil at either side of the machine may be deposited away from the ditch.

As will readily be noticed, the vertical cutter Q passes centrally through the ditch, while the lateral cutter-bars T form the sides of the ditch. The soil within the ditch is divided into two cores or sections, and each core as the machine moves along is taken up by the inclined elevators and elevated to the surface of the ground, and then, by means of curve X and the mold-board W, deposited at the side of the ditch.

The operation of my device, as will readily be noticed, is very simple and merely consists in moving the machine along by animal or other motive power, while the operator, perched upon the central part of the beam A, operates the levers D and K, so as to regulate the depth of the ditch as the machine moves along.

What I claim is—

1. In a tile-ditching machine, the combina-

tion of the beam A, the forward shoe, B, and  
its lever D, the rear shoe, I, and its lever K,  
the shoe R, the central cutter-bar, Q, the side  
cutter-bars, T, the inclined conveyers V, and  
5 mold-board W, substantially as described.

2. In a tile-ditching machine, the horizontal  
shoe R, having the cutter-bars Q and T, and  
the elevator V, having the shoes B and I, ver-  
10 tically adjustable by means of levers forwardly  
and rearwardly for regulating the depth of

the ditch as the machine moves along, sub-  
stantially as herein set forth.

In testimony that I claim the foregoing I  
have hereunto set my hand, this 12th day of  
January, 1887, in the presence of witnesses.

WILLIAM SKINNER.

Witnesses:

J. B. CRAWFORD,

LOUIS L. VERNON.