

W. J. WAUCHOPE.
Ditching and Grading Machine.

No. 62,171.

Patented Feb. 19, 1867.

Fig. 1.

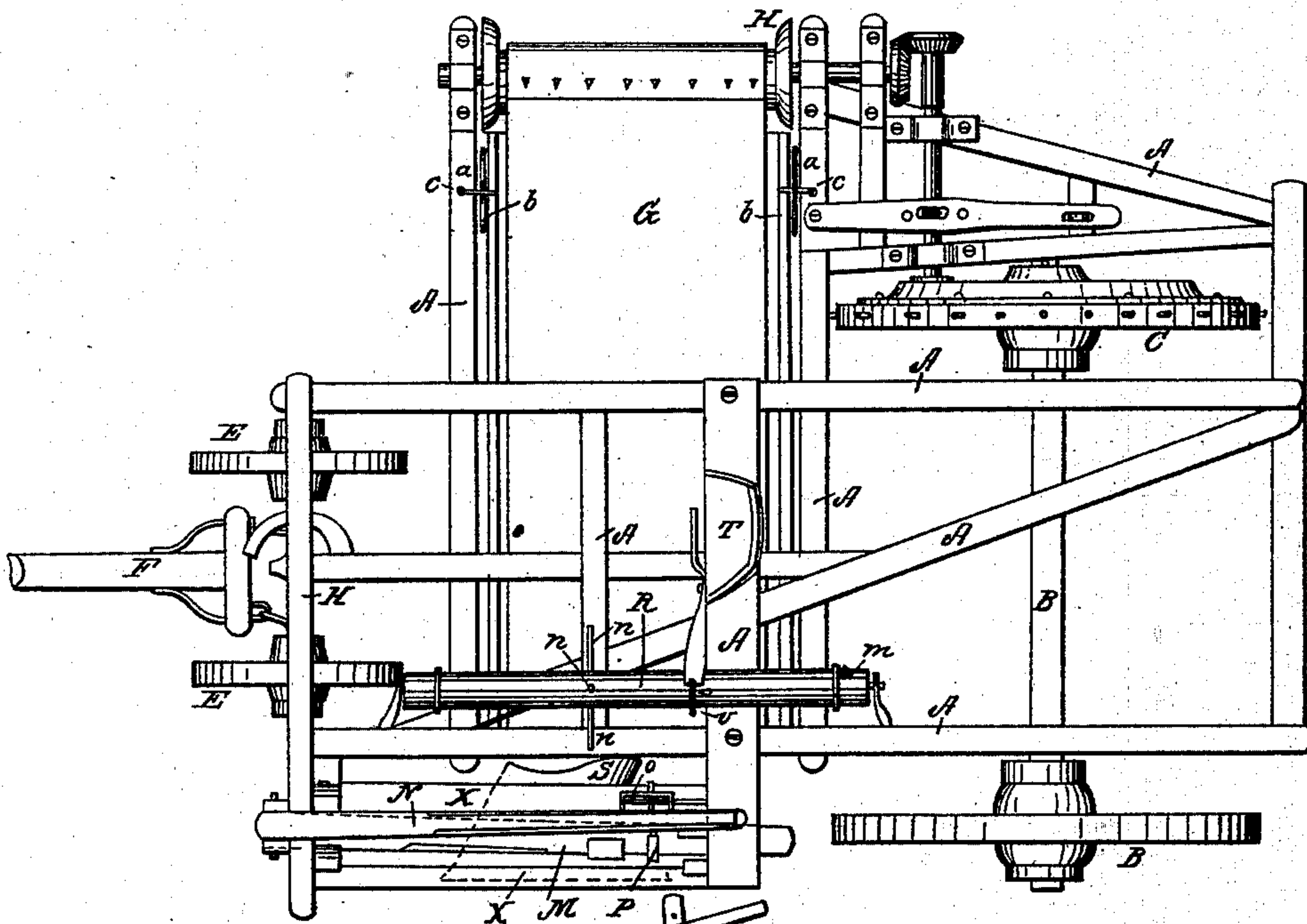


Fig. 2.

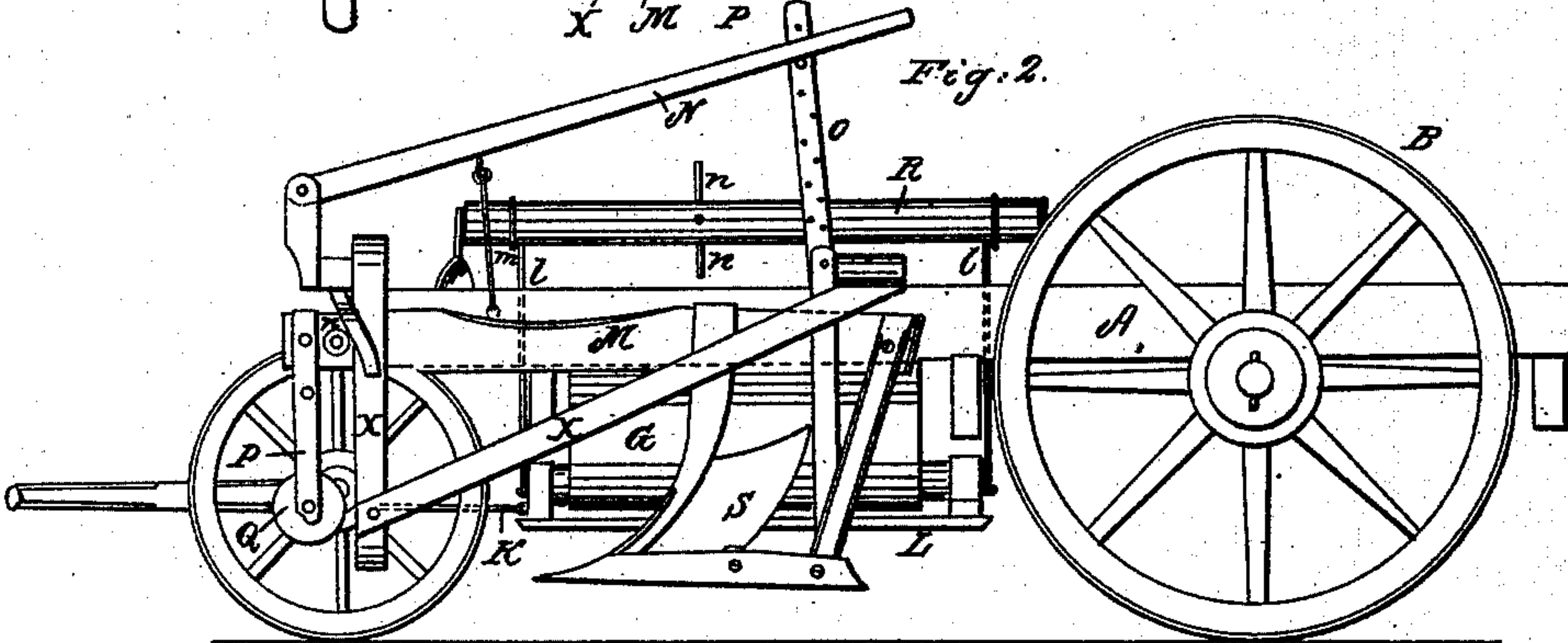


Fig. 3.

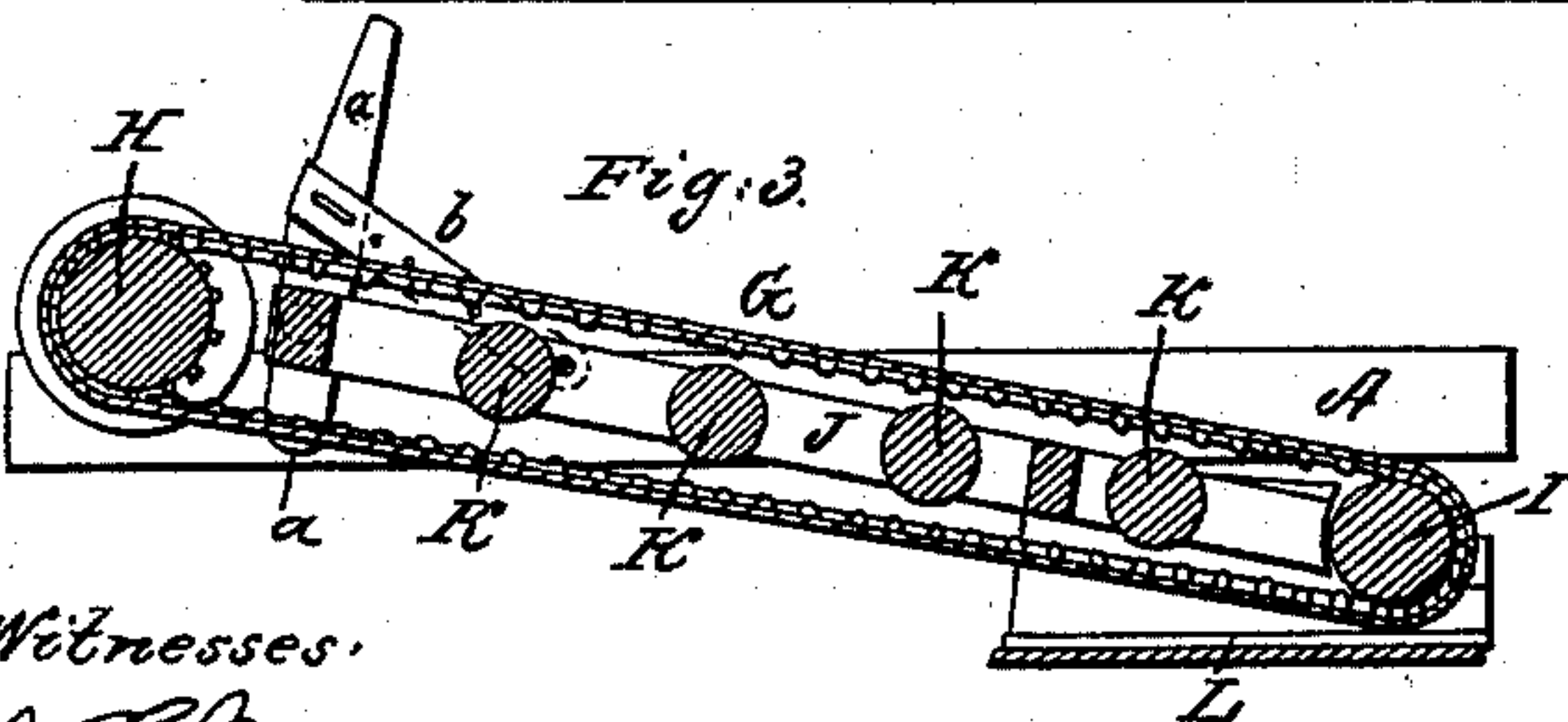
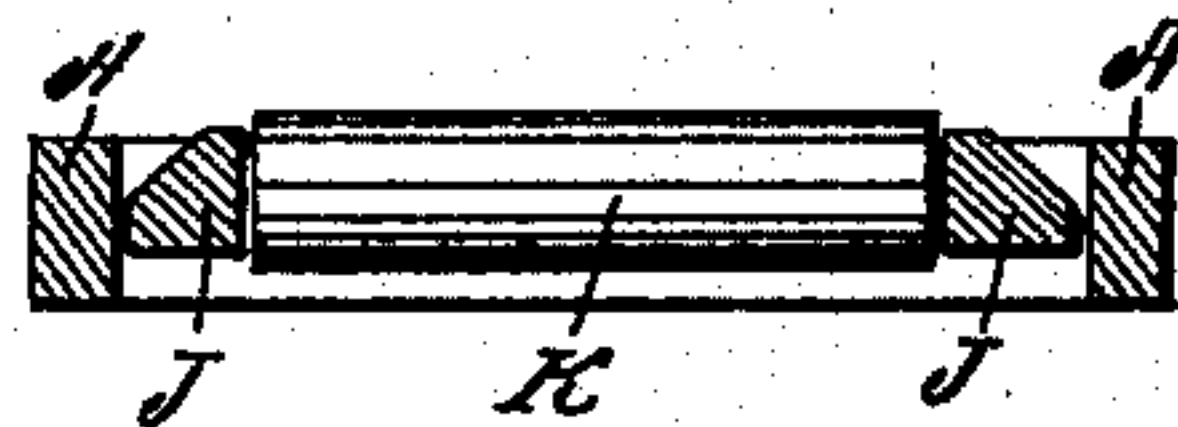


Fig. 4.



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WILLIAM J. WAUCHOPE, OF BROOKFIELD, ILLINOIS.

Letters Patent No. 62,171, dated February 19, 1867.

IMPROVED DITCHING AND GRADING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM J. WAUCHOPE, of Brookfield, in the county of La Salle, and State of Illinois, have invented a new and useful improvement in Ditching and Grading Machines; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My invention relates to machines for ditching, or forming the gutters of roads or highways, and depositing the earth removed therefrom upon the road between the said ditches or gutters, thus constructing and grading highways in a very rapid and economical manner. Said machine is intended to be moved or drawn along parallel with the road to be graded, and consists in so combining a plough for removing the earth from the sides of the road, with an endless conveyer revolving transversely with respect to the direction in which the machine is moved, that the earth is thrown upon the conveyer by the plough, and carried and deposited at the required place by the conveyer automatically, substantially as hereinafter more fully set forth and explained.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe its construction and operation with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a plan or top view of my invention.

Figure 2, a side elevation of the same.

Figure 3, a longitudinal section of the endless conveyer; and

Figure 4, a transverse sectional view of the same.

Similar letters of reference in the several figures denote the same parts of my invention.

A represents a suitable frame upon which the operating parts of the machine are supported, B C and E being the wheels upon which the machine is moved or drawn along; that marked C being provided with suitable gearing and shafting to connect it with the roller H, around which the transverse conveyer G passes, as shown, so that the said wheel C drives or propels the said conveyer G, as hereinafter described. M represents a plough-beam, having attached thereto a plough, S, arranged at one side of the machine, said beam M being provided with a vertical hanger, P, at its front end, to the lower end of which is attached a roller, Q. Said plough-beam is suspended between suitable lateral guides *x*, by means of a chain or cord, *m*, attached to a lever, N, which is pivoted at its front end, and moves up or down at its rear end, being adjusted and secured at the proper height by means of a pin, *p*, passing through the holes in the standard *o*, as shown, thus regulating the depth at which the plough is desired to run. The roller Q serves as a gauge at the front of the plough-beam, its hanger P being so attached to said beam that its length may be varied, as shown. Immediately in front of the vertical bars *x*, as seen in fig. 2, a friction-roller projects from the plough-beam upon a lateral bearing, so that when in operation the said rollers rest against said bars *x* and support the plough, preventing it from being pressed back out of place. G represents the endless conveyer, its upper end being supported upon the roller H, which has its bearings in the main frame A, as shown, while the lower end passes around a roller, I, which has its bearings in a movable runner of platform L wholly independent of the main frame, but suspended from the same by means of the cords or chains *l* which pass around a roller, R, which, by being revolved, raises or lowers said platform L, as may be desired, a ratchet upon the roller, marked U, and a pawl, V, retaining it in the position required. Upon said roller are arms *n*, whereby the driver from his seat T may operate the roller when required. The said platform is prevented from dragging behind by means of cords or chains *k* secured to the front of the main frame, or it may be kept in position in any other manner, the vertical movement of endless conveyer being all that is required, and hence a vertical movement of the platform L is all that is necessary. Within the endless apron G are arranged the bars J at each side, which are provided with auxiliary rollers K to sustain the weight of the earth upon the conveyer. These bars are bevelled down at their outer edges, as seen in fig. 4, to prevent the earth from getting inside the belt and impeding its operation. The lower end of said bars J rests against the roller I, while attached to its opposite end is a lever, *a*, pivoted at its lower end to the stationary frame A at *a' b*, representing an arm fixed upon the stationary frame, also provided with a series of holes, as shown. Thus by moving the upper end forward or back, that is, towards or from the plough, and adjusting it in the desired position by means of a pin, as shown, the conveyer may be tightened or loosened

as desired, the platform being so attached to the main frame as to allow it to yield laterally upon pressure being applied. F represents the tongue or draught-pole, whereby the team is attached to the machine. Thus the machine having been properly adjusted, as it moves along the plough S forms the gutter or ditch, and throws the earth taken therefrom upon the conveyer G, which carries it one side and deposits it, as desired, uniformly, and thus grades the highway; or if it is desired to use it for ditching purposes, it forms the ditch and removes the earth to a suitable distance therefrom, the devices being lowered as the excavation progresses. Instead of the gearing and shafting, herein shown, for propelling the conveyer, any other suitable arrangement may be used.

Having described the construction and operation of my invention, I will proceed to specify what I claim, and desire to secure by Letters Patent:

1. I claim supporting one end of the transversely arranged endless conveyer G upon a roller arranged in the main frame of the machine, and the other end upon a roller having a vertically adjustable supporting frame independent of the main frame, arranged and operating as and for the purposes specified.

2. I claim the arrangement of the longitudinally adjustable bevelled bars J within the endless apron G and with the roller I, operating as and for the purposes set forth.

3. I claim the combination and arrangement of the plough S, the transverse conveyer G, stationary roller H, adjustable roller I, bars J, and rollers K, operating as and for the purposes described.

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Witnesses:

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