

No. 788,249.

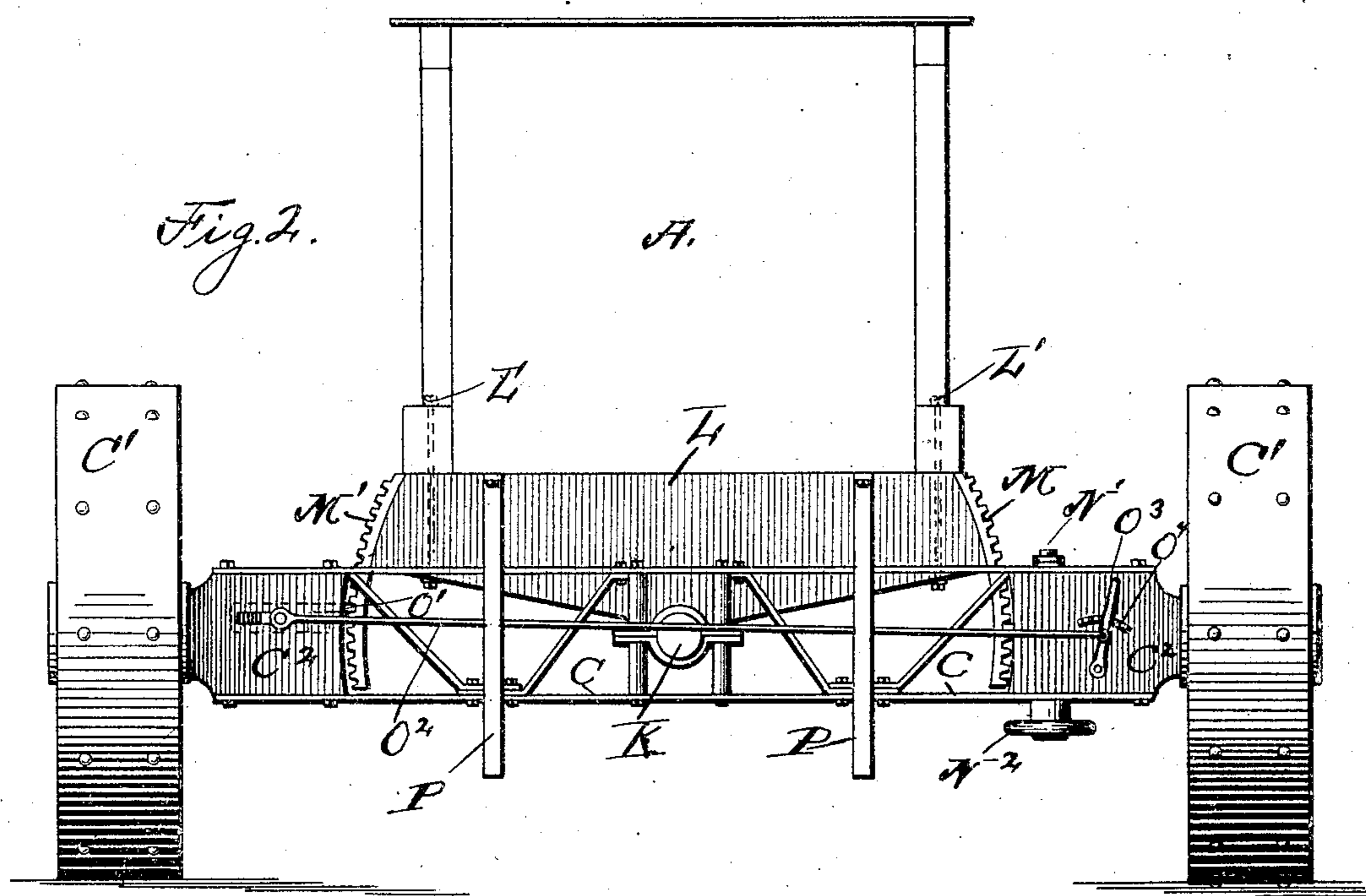
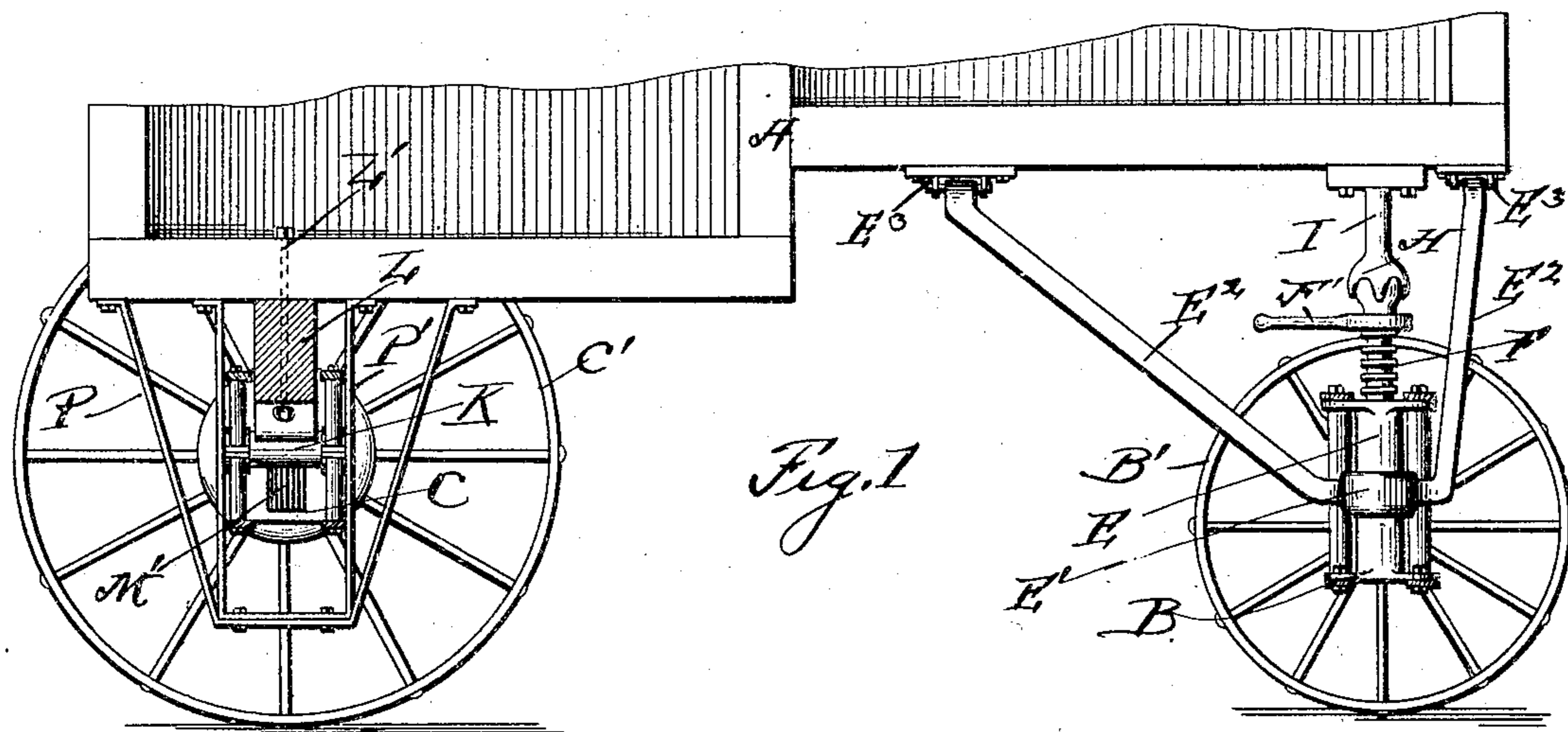
PATENTED APR. 25, 1905.

W. COLLINS.

LEVELING DEVICE FOR THRESHING OR SIMILAR MACHINES.

APPLICATION FILED JULY 6, 1904.

2 SHEETS—SHEET 1.



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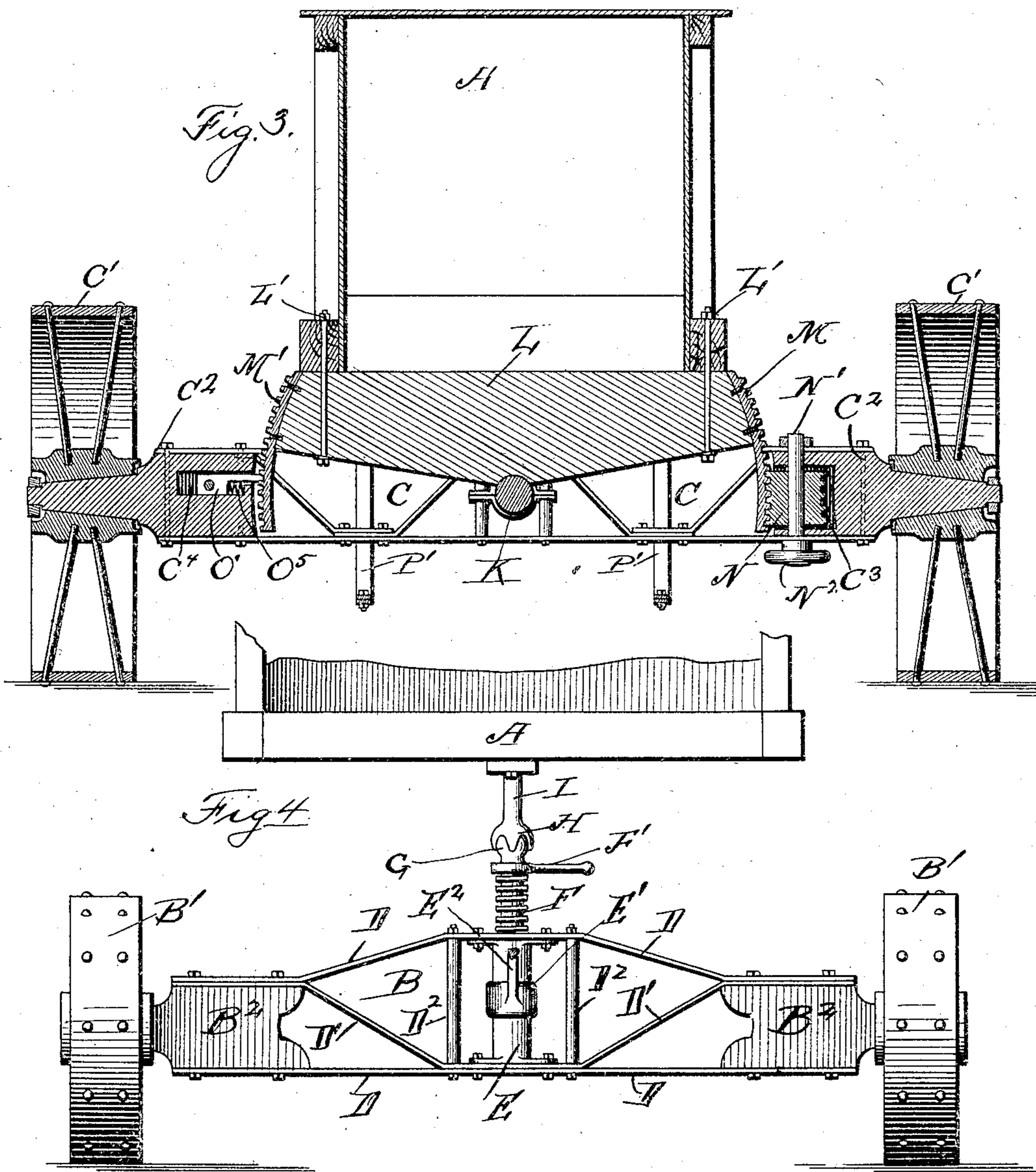
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# UNITED STATES PATENT OFFICE.

WILLIAM COLLINS, OF ROSECREEK, MINNESOTA.

## LEVELING DEVICE FOR THRESHING OR SIMILAR MACHINES.

SPECIFICATION forming part of Letters Patent No. 788,249, dated April 25, 1905.

Application filed July 6, 1904. Serial No. 215,524.

*To all whom it may concern:*

Be it known that I, WILLIAM COLLINS, a citizen of the United States, residing at Rosecreek, in the county of Mower and State of Minnesota, have invented a new and useful Improvement in Leveling Devices for Threshing or Similar Machines, of which the following is a specification.

This invention is a leveling device for threshing-machines, corn-shredders, clover-hullers, corn-shellers, and similar machines which require leveling upon uneven ground in order that the mechanism may operate properly.

The object of the invention is to provide a leveling device which can be used in connection with the machines now in use and which will not interfere in the least with the operative parts of said machines, and a still further object of the invention is to provide a leveling device which can be quickly and easily operated and then locked, so that all danger of a machine becoming uneven is entirely avoided.

With these various objects in view my invention consists in the novel features of construction, combination, and arrangement, all of which will be fully described hereinafter, and pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a side elevation of my leveling device, certain parts being shown in section. Fig. 2 is a face view of the axle, showing the leveling mechanism in elevation. Fig. 3 is a longitudinal sectional view taken through the rear axle and showing the leveling mechanism in section. Fig. 4 is a front view of the front axle.

Referring to the drawings, A indicates the case of the threshing-machine, clover-huller, or other device supported upon the front axle B, carrying the front wheels B', and the rear axle C, carrying the rear wheels C'. The front axle B is of skeleton formation, comprising the upper and lower parallel bars D and the truss-bars D', said bars being properly spaced by means of struts D<sup>2</sup>, and rigidly secured at the center of the axle is an internally-threaded sleeve E, in which works the screw F, having the ball G at its upper end fitting into the socket H of the standard I, rigidly secured to

the bottom of the case A. A wrench F' is connected to the screw F, by means of which said screw can be moved in either direction for the purpose of raising or lowering the same, which movement of the screw raises or lowers the forward end of the machine.

E' indicates a collar surrounding the sleeve E and to which are rigidly secured the brace-rods E<sup>2</sup>, pivotally connected at their upper ends to the brackets E<sup>3</sup>, secured to the bottom of the forward portion of the machine.

As before stated, the axle is of skeleton formation, and at each end thereof are the solid stub-axles B<sup>2</sup>, upon which the ground-wheels B' are journaled, as usual.

By means of the mechanism thus far described the forward end of the machine can be raised or lowered, as desired, thereby maintaining the longitudinal level of the machine.

I shall now describe the mechanism for leveling a machine transversely, and by referring to Figs. 1, 2, and 3 it will be noted that the rear axle C is of skeleton formation and has the stub-axles C<sup>2</sup> connected thereto, upon which the ground-wheels C' are journaled. A fulcrum-pin K is fixedly supported at the center of the rear axle C, and pivoted upon said fulcrum-pin is the bolster L, rigidly connected to the case A by means of bolts L', said bolster having toothed segments M and M' secured to the opposite ends thereof, said segments being arches of a circle of which the center of the fulcrum-pin K is the center, and these toothed segments work up and down between the parallel members of the skeleton axle close to the inner ends of the stub-axles C<sup>2</sup>. The inner end of the right-hand stub-axle C<sup>2</sup> is recessed, as shown at C<sup>3</sup>, and mounted in said recess is a worm N, which is mounted upon a shaft N', passing vertically through the stub-axle and provided with an operating hand-wheel N<sup>2</sup> at its lower end; but it will be understood that the operating means can be arranged upon the upper end, if so desired. The teeth of the segment M are worm-teeth adapted for engagement with the worm N; but the teeth of the segment M' are ordinary rack-teeth and are adapted to be engaged by

a locking-dog O', working in a recess C<sup>4</sup>, produced in the left-hand stub-axle C<sup>2</sup>. A rod O<sup>2</sup> is connected to the dog O', said rod extending across to a hand-lever O<sup>3</sup>, pivoted to the right-hand stub-axle C<sup>2</sup>, so that all the adjusting parts will be at one side of the axle. This hand-lever O<sup>3</sup> is adapted to engage a toothed rack O<sup>4</sup> for the purpose of locking the same. The lever and rod are intended to force the dog O' into engagement with the segment M' after the machine has been leveled by turning the worm and raising or lowering the segment M, and a spring O<sup>5</sup> will serve to throw said dog out of engagement with the segment the moment the lever O<sup>3</sup> is released. P and P' indicate the braces connected to the bottom of the skeleton axle C and the rear portion of the case A, the braces P' being arranged within the braces P and are adapted to bear closely upon the opposite sides of the skeleton axle for the purpose of steadying the case A during the leveling movement. Thus it will be seen that in order to level the machine transversely it is only necessary to release the hand-lever O<sup>3</sup> for the purpose of disengaging the dog O' from the segment M', and then by turning the hand-wheel N<sup>2</sup> the worm is operated so as to raise or lower the segment M, locking the bolster upon the fulcrum-pin, and after the case has been leveled transversely the hand-lever O<sup>3</sup> is thrown back and locked, bringing the dog O' into engagement with the segment M', and thereby securely locking the machine to the axle.

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

1. The combination with an axle, of a bolster pivotally supported thereon, a worm mounted upon the axle at one end and adapted to engage a worm-rack carried at the adjacent end of the bolster, and means for locking the bolster as set forth.

2. The combination with a skeleton axle, of a bolster pivotally mounted thereon, the toothed segments arranged at the ends of the bolster, the worm arranged at one end of the

axle, a locking-dog at the opposite end with means for operating said worm and dog.

3. The combination with the skeleton axle, having stubs at the ends, of a bolster pivotally mounted upon said axle, the toothed segments at each end of the bolster, a worm carried by one stub-axle and a dog carried by the other stub-axle, and means for moving said worm and dog.

4. The combination with the skeleton axle, of the fulcrum-pin, arranged therein, the bolster pivoted upon said pin, the segment arranged upon said bolster, the recessed stub-axes, the worm arranged in one stub-axle and the dog in the other stub-axle, and means for moving said worm and dog.

5. The combination with a skeleton axle of the recessed stub-axes, the fulcrum-pin arranged in the skeleton axle, the bolster pivoted upon said pin, the toothed segments arranged at the ends of said bolster, a worm arranged in one recessed stub-axle and a dog arranged in the other recessed stub-axle, means for moving the worm, the lever, the rod and spring for moving the dog, as set forth.

6. The combination with a skeleton axle, of a threaded sleeve arranged therein, a screw working in said sleeve, and having a ball at its end, a standard having a socket, the lever for working the screw, the collar sliding upon the sleeve, and the braces connected to the said collar and the brackets to which the braces are connected as described.

7. The combination with the case of the front and rear skeleton axles, the stub-axes, the threaded sleeve, attached to the front axle, the screw and lever, the standard, the ball-and-socket joint, and the braces, the fulcrum-pin, the bolster, the segments, the worm, mounted in one stub-axle and the dog in the other, the lever and rod for operating the dog and means for operating the worm substantially as described.

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Witnesses:

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