(No Model.)

# J. D. ADAMS.

## WHEEL ADJUSTMENT FOR ROAD GRADERS.

No. 462,679. Patented Nov. 10, 1891.

*Fig. 3.*

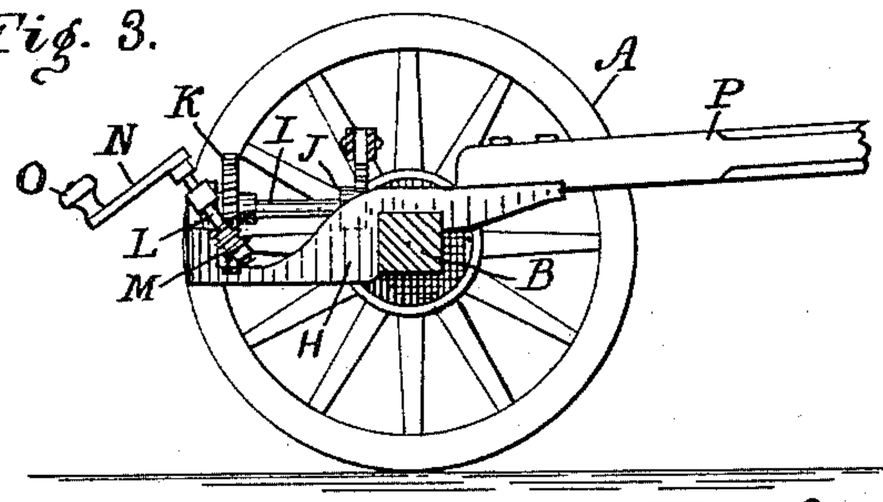



*Fig. 2.*

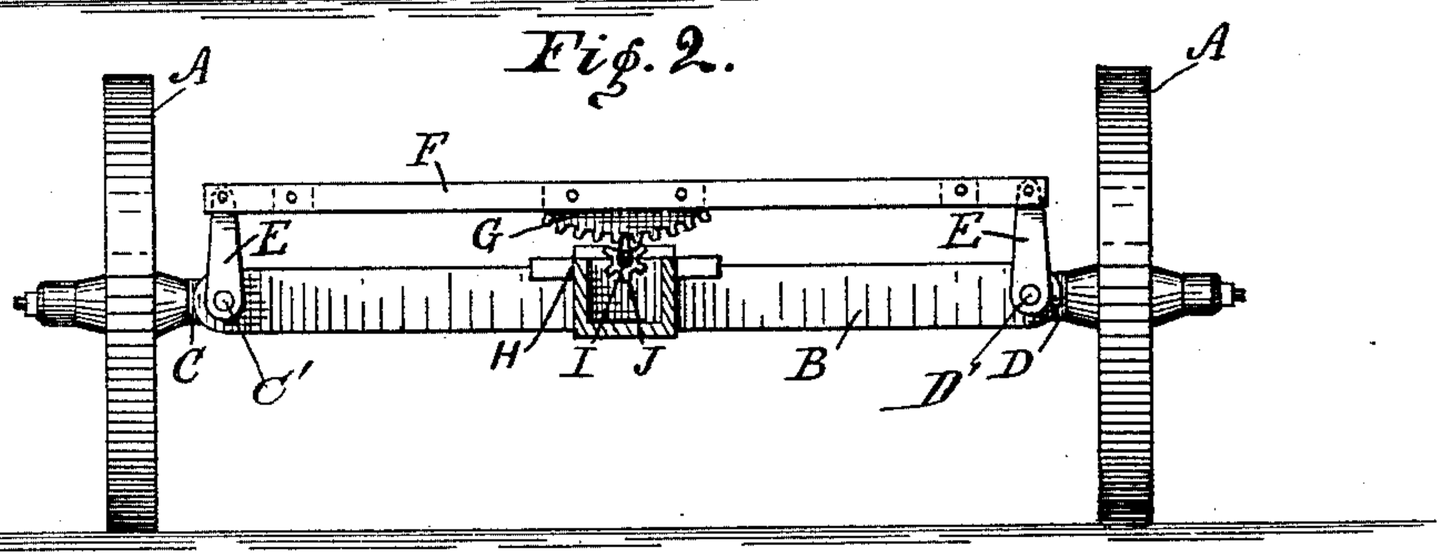
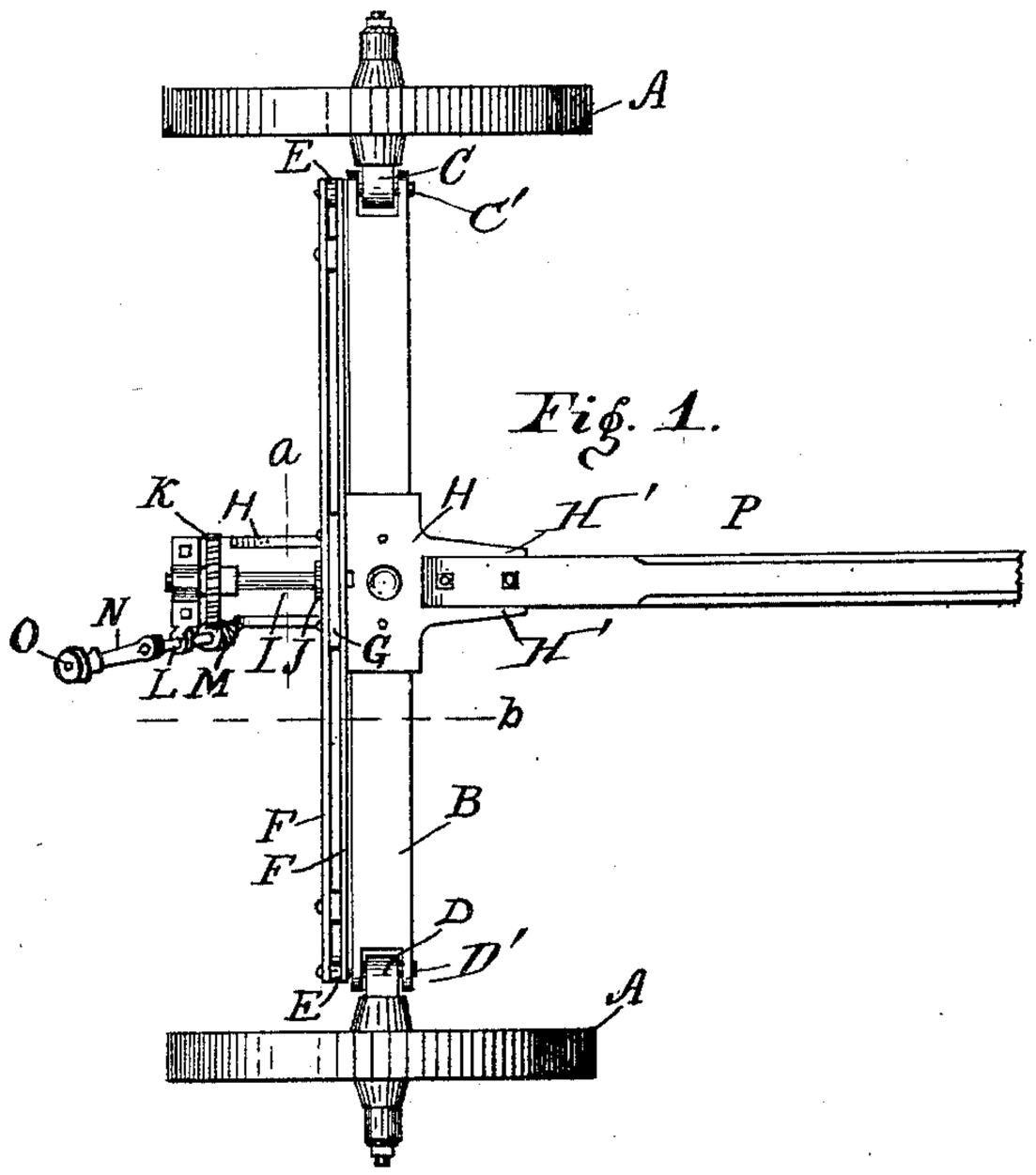



*Fig. 1.*




WITNESSES:

C. M. Hood.

Mabel Hood.

INVENTOR

Joseph D. Adams.

BY H. P. Hood.

ATTORNEY

# UNITED STATES PATENT OFFICE.

JOSEPH D. ADAMS, OF INDIANAPOLIS, INDIANA.

## WHEEL ADJUSTMENT FOR ROAD-GRADERS.

SPECIFICATION forming part of Letters Patent No. 462,679, dated November 10, 1891.

Application filed June 8, 1891. Serial No. 395,521. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH D. ADAMS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Wheel Adjustments for Road-Graders, of which the following is a specification.

My invention relates to that class of road-grading machines in which the carrying-wheels are mounted upon short axles which are pivoted to the ends of the main axle in such a manner that the wheels may be inclined vertically for the purpose of resisting the side-thrust of the scraper.

The object of my improvement is to provide improved means for adjustably supporting the wheels and securely holding them at any required degree of inclination.

The accompanying drawings illustrate my invention.

Figure 1 is a plan of the forward axle and wheels of a road-grading machine having my improvement. Fig. 2 represents a rear elevation at the line *a*, Fig. 1. Fig. 3 is a section at *b*, Fig. 1.

In the drawings, A A are the carrying-wheels.

B is the main axle.

C and D are short axles or spindles, which are pivoted at C′ D′, respectively, to the opposite ends of the main axle, so as to swing in a vertical plane thereon, and on which the carrying-wheels are mounted. Short vertical levers E E are secured to the spindles C and D, so as to move therewith. The upper ends of the levers E E are connected by a pair of bars F F, which are secured together so as to constitute, practically, one bar. Secured between the bars F rigidly at their center, so as to project below their lower edges, is a curved rack-bar G.

Mounted upon the main axle B at right angles thereto is a bracket H, in which are formed bearings for a shaft I, to which are secured a spur-pinion J and a screw gear-wheel K, the former of which intermeshes with the rack-bar G.

Mounted in suitable bearings on one side of the bracket H is a short inclined shaft L, carrying at one end a screw M, which intermeshes with the screw gear-wheel K. The opposite end of the shaft L is provided with a crank N, having at its free end a heavy knob or handle O. The shaft L is placed at an angle to the perpendicular, so that while the crank N and its knob O are in a convenient position for operation the weight of the knob O will tend to prevent the accidental rotation of the shaft L. The forward part H′ of the bracket H is extended to receive the draft-pole P.

In operation the bar F, connecting the levers E, is moved in the direction of its length by rotating the shaft L, this operating through the screw M, gear-wheel K, shaft I, and pinion J to swing the axles C and D in a vertical plane simultaneously upon the main axle and inclining the wheels A A in either direction, so as to resist the side-thrust common in this class of machines. By the peculiar construction and arrangement of the mechanism for adjusting the wheels they are held in any desired position without the use of special fastening mechanism. The bar F, as it is moved longitudinally, is also raised or lowered by the action of the levers E, and the curved form of the rack-bar G is substantially a segment of a circle whose radius is equal to that of a lever E, less that of the pinion J.

I claim as my invention—

The combination, with the main axle, the short axles pivoted to the opposite ends of the main axle and having carrying-wheels mounted thereon, the vertical levers attached to said short axles, and the bar connecting said levers, of the curved rack-bar rigidly secured to said connecting-bar, the bracket secured to the main axle, the shaft mounted in bearings in said bracket and carrying at one end a screw gear-wheel and carrying at the other end a spur-pinion which engages said curved rack-bar, the screw arranged to engage said screw gear-wheel, and the crank arranged to operate said screw, all arranged to co-operate substantially as and for the purpose set forth.

JOSEPH D. ADAMS.

Witnesses:
H. P. HOOD,
V. M. HOOD.