

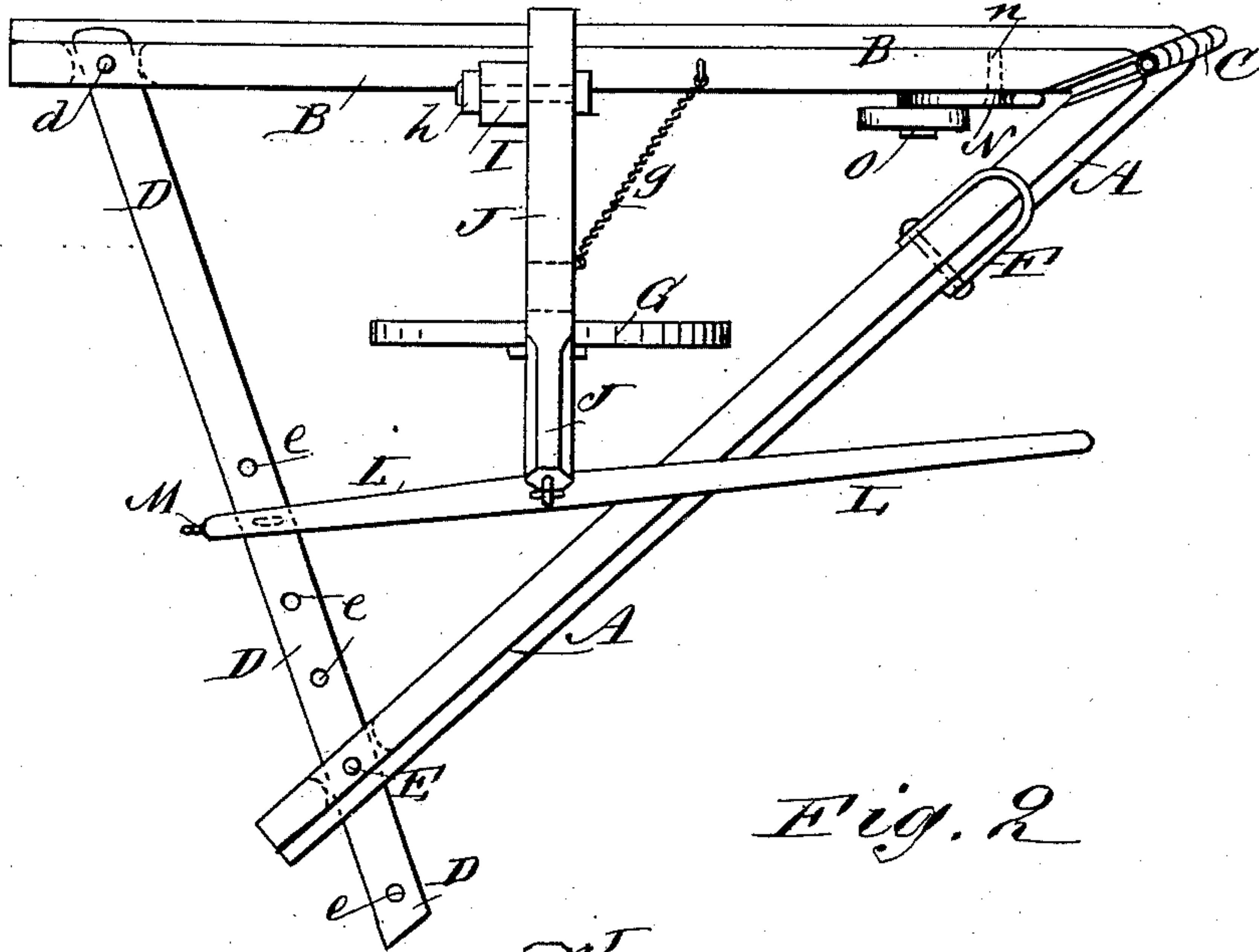
(No Model.)

J. E. BRANCH.  
ROAD GRADER.

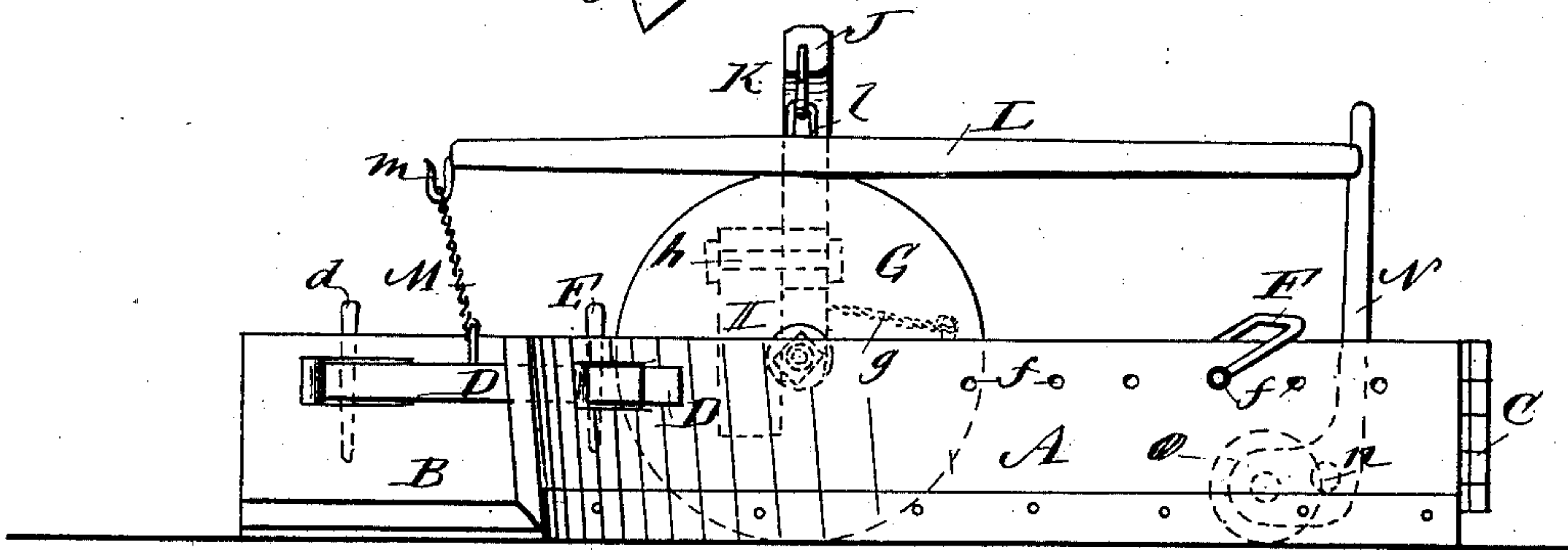
No. 375,797.

Patented Jan. 3, 1888.

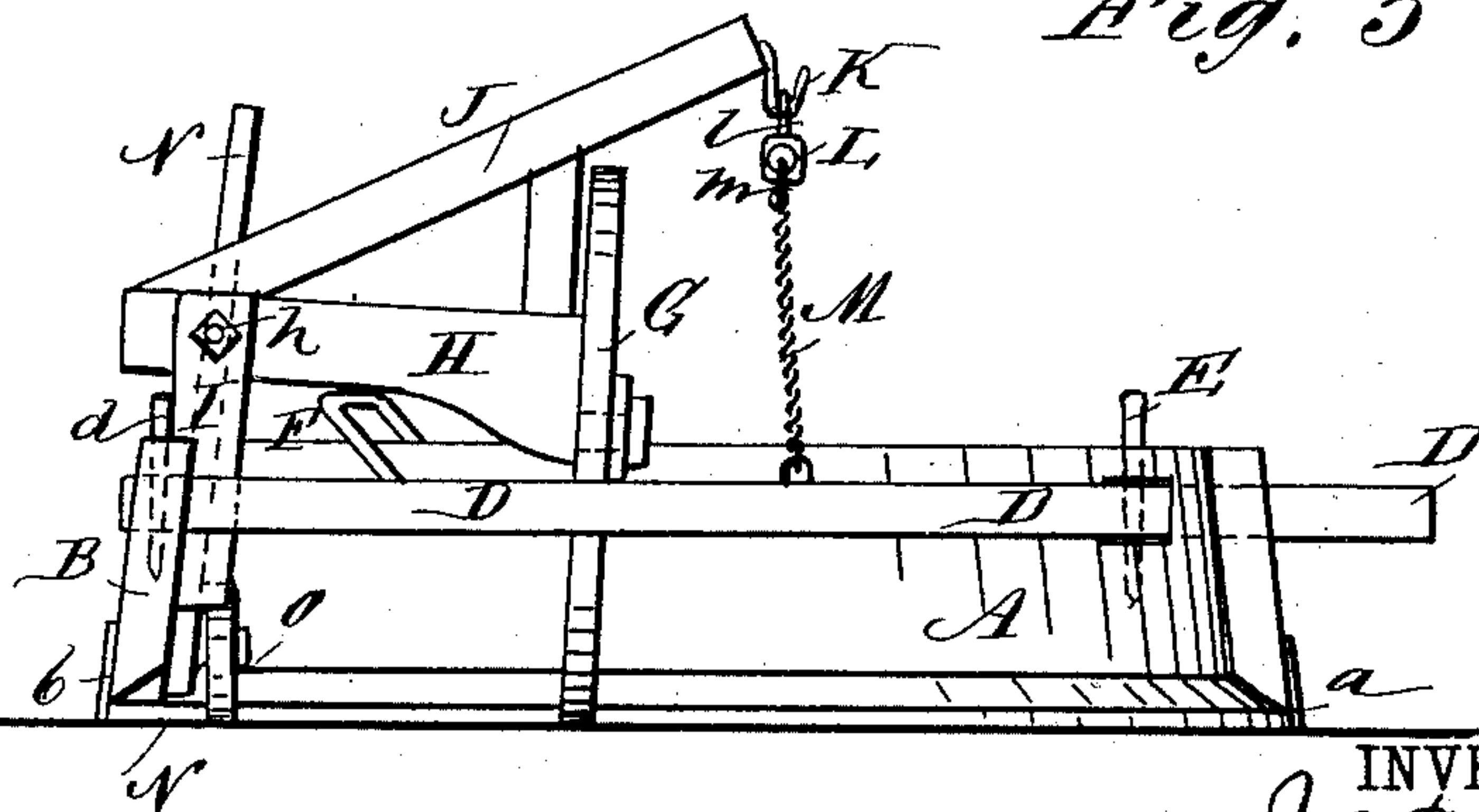
*Fig. 1*



*Fig. 2*



*Fig. 3*



WITNESSES:

*C. Neveux*  
*C. Sedgwick*

INVENTOR:

*J. E. Branch*  
BY *Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN E. BRANCH, OF SIOUX CITY, IOWA.

## ROAD-GRADER.

SPECIFICATION forming part of Letters Patent No. 375,797, dated January 3, 1888.

Application filed April 23, 1887. Serial No. 235,864. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. BRANCH, of Sioux City, in the county of Woodbury and State of Iowa, have invented a new and Improved Road-Grader, of which the following is a full, clear, and exact description.

My invention has for its object to provide a simple, inexpensive, and efficient machine for grading or leveling roads or for cutting or smoothing ditches or performing work of like general character in a superior manner and with economy of time and labor.

The invention consists in certain novel features of construction and combinations of parts of the road-grader, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improved grader. Fig. 2 is a side elevation thereof, and Fig. 3 is a rear view of the machine.

The mold-board A and landside B of the machine are hinged together at their forward ends by one or more hinges, C, of any approved construction, allowing the rear end of the mold-board to be set farther from or nearer to the back end of the landside, to cause the machine to scrape or grade a greater or less width of roadway or ditch at each passage.

A bar, D, held by a pin, *d*, to the landside, passes through a mortise in the mold-board, and a pin, E, may be passed through a hole in the mold-board into any one of a series of holes, *e*, made in the bar D for holding the mold-board at any desired lateral adjustment.

The mold-board and landside are armed with metal plates *a b*, respectively, said plates taking the wear incident to the use of the grader and forming effective cutting or scraping edges to enter and level or cut the earth easily.

A draft-clevis, F, may be held to the mold-board, its bolt or pin entering any one of a series of holes, *f*, in the mold-board, thus allowing the clevis to be set nearer to or farther from the nose or point of the scraper, to regulate the draft of the machine as circumstances shall require.

A wheel, G, of considerable size, is journaled on the inner end or arm of an axle, H, the outer end of which is pivoted by a bolt or pin, *h*, to an upright, I, fixed to the landside of the machine, and whereby the wheel G runs on the ground between the mold-board and landside. A tie-chain, *g*, connects the axle H with the landside B and assures steady draft on the axle and wheel from the landside. A bar, J, fixed and braced to the axle H, is provided at its inner end, which overhangs the wheel G, with a hook, K, with which an eye or staple, *l*, fixed to a lever, L, engages for fulcruming the lever, the rear end of which is connected by a hook, *m*, and chain M with the cross-bar D, while the forward end of the lever extends into position to be operated or pressed down by an attendant for raising the rear ends of the mold-board and landside on the wheel G to regulate the action of the machine or to drop the accumulated earth at any desired place or places along the road or ditch over or on which the machine is operated.

At the forward end of the landside an elbow-lever, N, is pivoted at *n*, and carries on its short arm a wheel or roller, O, onto which the forward end of the machine may be lifted at any time by operating or lowering the lever, for causing the machine to pass over stones, stumps, or other obstructions, and to allow easy turning of it on the road or to facilitate travel of the machine over the road on the wheels O G without effect when the mold-board and landside are lifted clear of the ground at their back ends by the lever L, as above described.

This grader is very simple and substantial in construction, and, aside from the readiness with which it may be handled by one man and adjusted in use, as above explained, the parts may be very quickly dismembered to allow packing the entire machine in small space for transportation or storage. Furthermore, the machine may be made very cheaply by any good blacksmith or wheelwright.

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

1. A grader constructed with a mold-board



and landside, A B, an axle, H, pivoted at the  
landside, a wheel, G, on the axle and travel-  
ing between the mold-board and landside, and  
a tie chain or brace, g, connecting the axle to  
5 the landside, substantially as shown and de-  
scribed.

2. In a grader, the combination, with a  
mold-board and landside, A B, and a cross-  
bar connecting them, an axle, H, pivoted to  
10 the landside, a wheel, G, on the axle, and a  
connection, J, to the axle, of a lever, L, ful-  
crumed to the axle-frame and connected to  
the cross-bar, substantially as described, for  
the purposes set forth.

15 3. A grader constructed substantially as

herein shown and described, and comprising  
a mold-board, A, and landside B, hinged to-  
gether at C, a cross-bar, D, allowing relative  
lateral adjustment of the parts A B, an axle,  
H, pivoted at the landside, a wheel, G, on the 20  
axle, a lever, L, fulcrumed to the axle-frame  
and connected to the cross-bar D, and a lever,  
N, fulcrumed to the forward end of the grader  
and provided with a roller or wheel, O, as  
herein set forth.

JOHN E. BRANCH.

Witnesses:

J. H. CULVER,

W. C. DAVENPORT.