

(No Model.)

2 Sheets—Sheet 1.

J. A. MILLHOLLAND.

BRAKE FOR COAL CARS.

No. 255,653.

Patented Mar. 28, 1882.

Fig. 1.

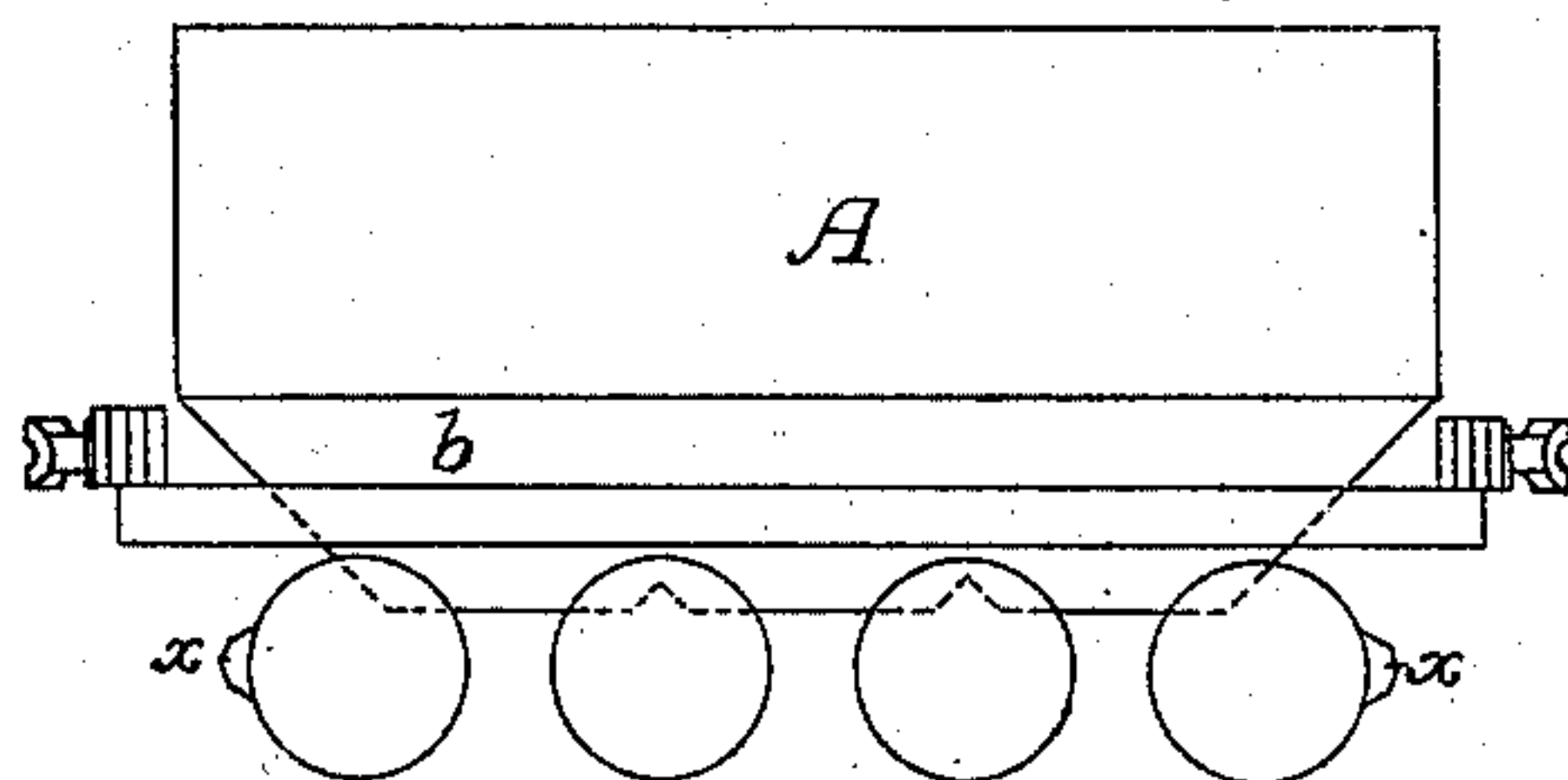


Fig. 2.

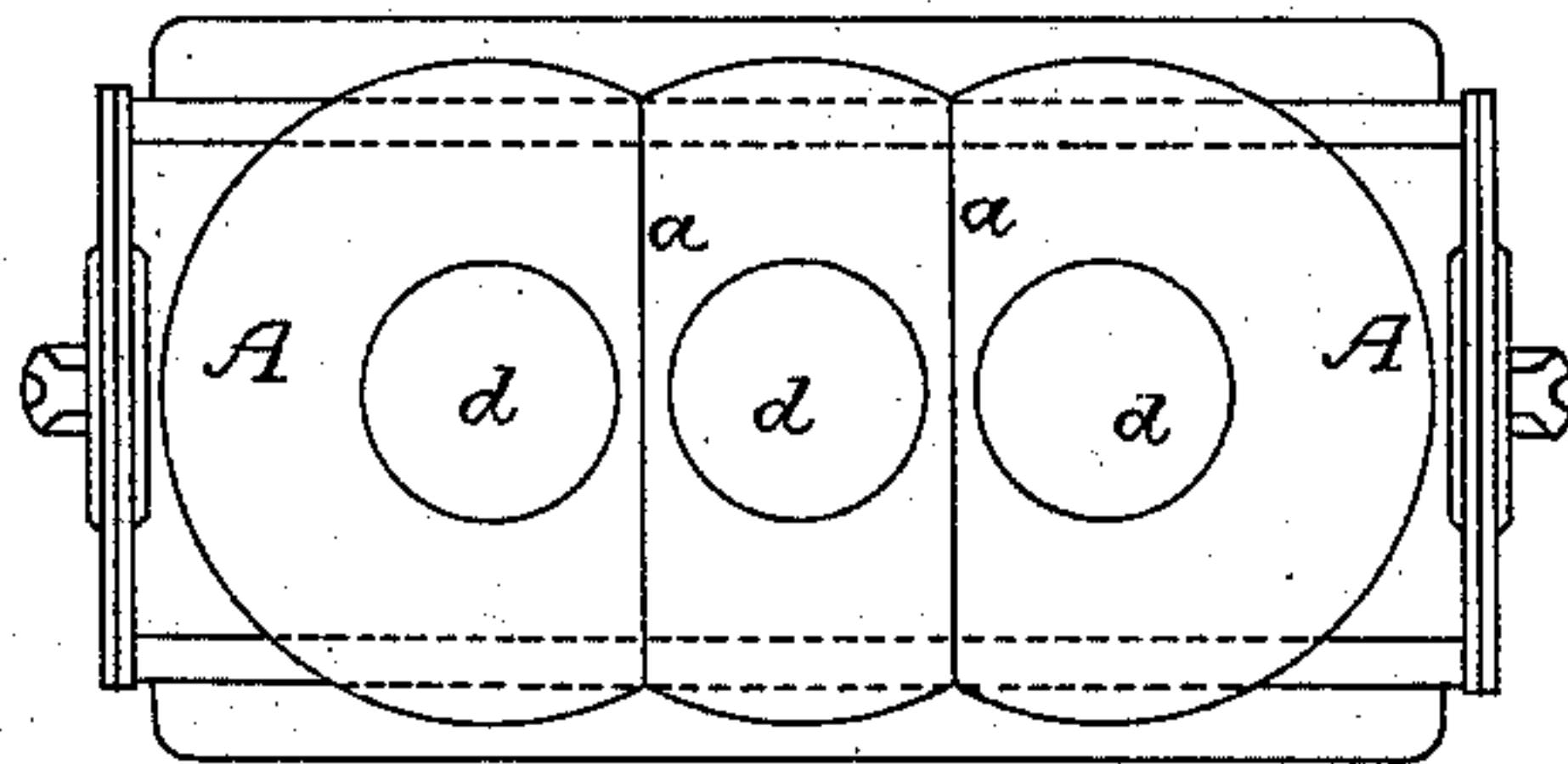


Fig. 3.

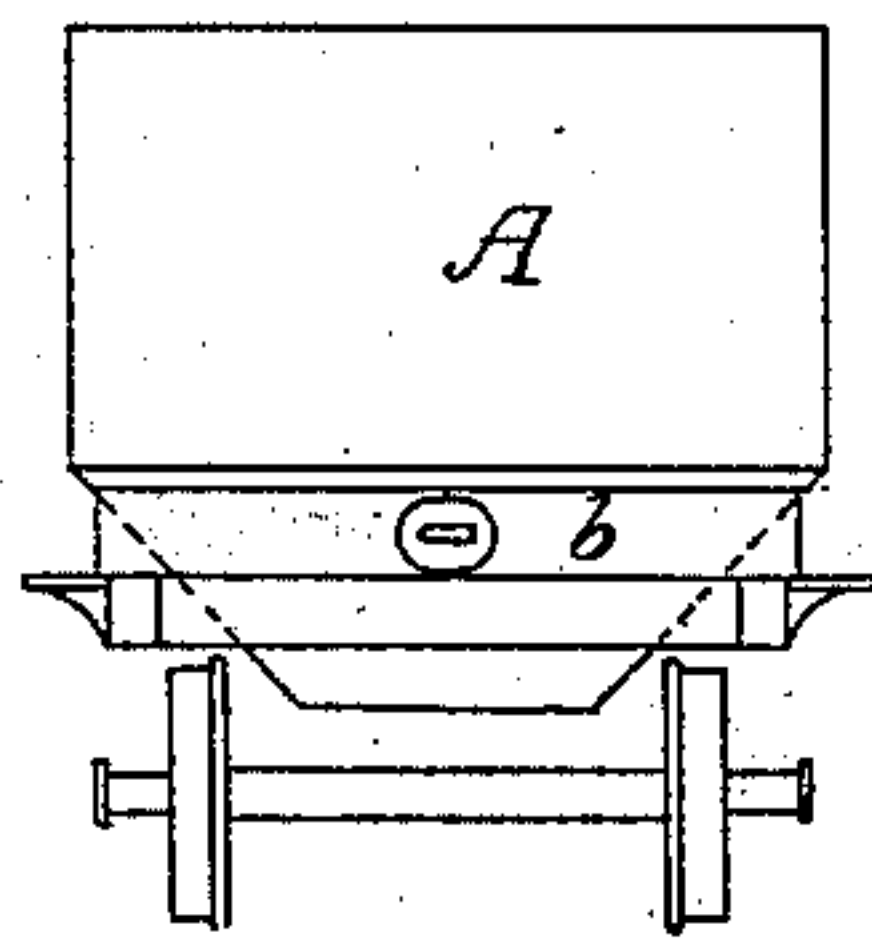
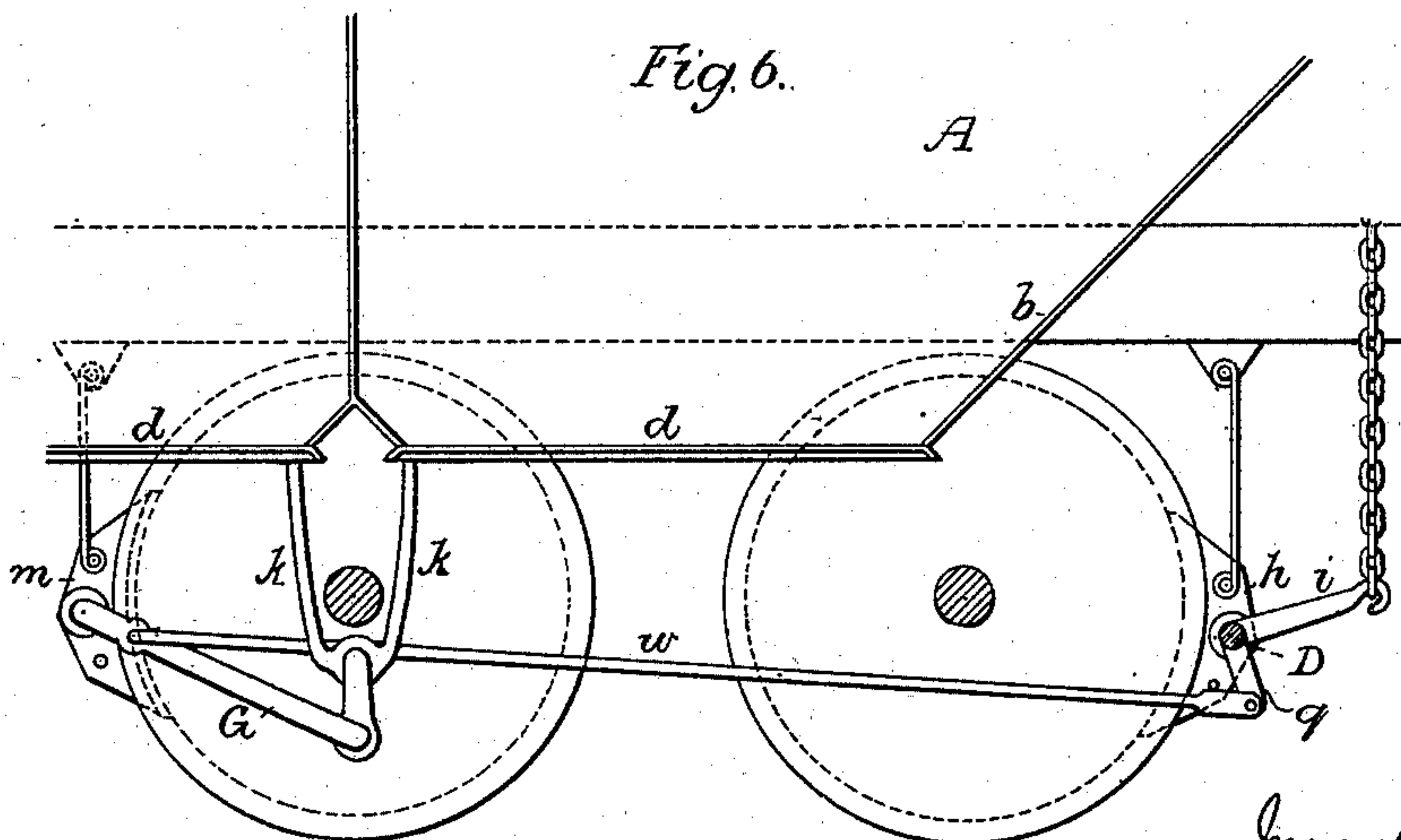


Fig. 6.



Witnesses  
Harry Drury  
Harry Smith

Inventor  
James A. Millholland  
by his Attorneys  
Howen and Jones

(No Model.)

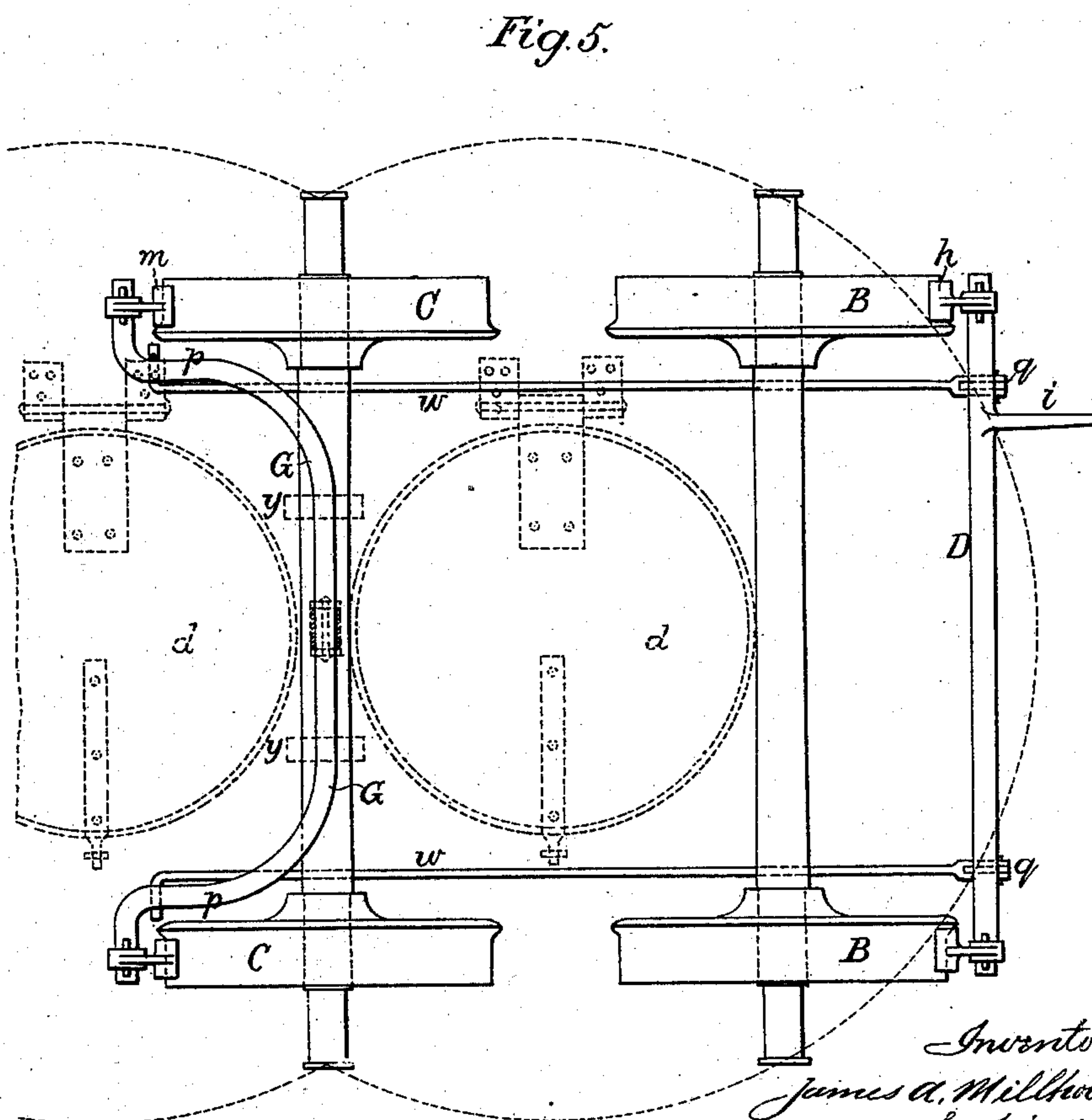
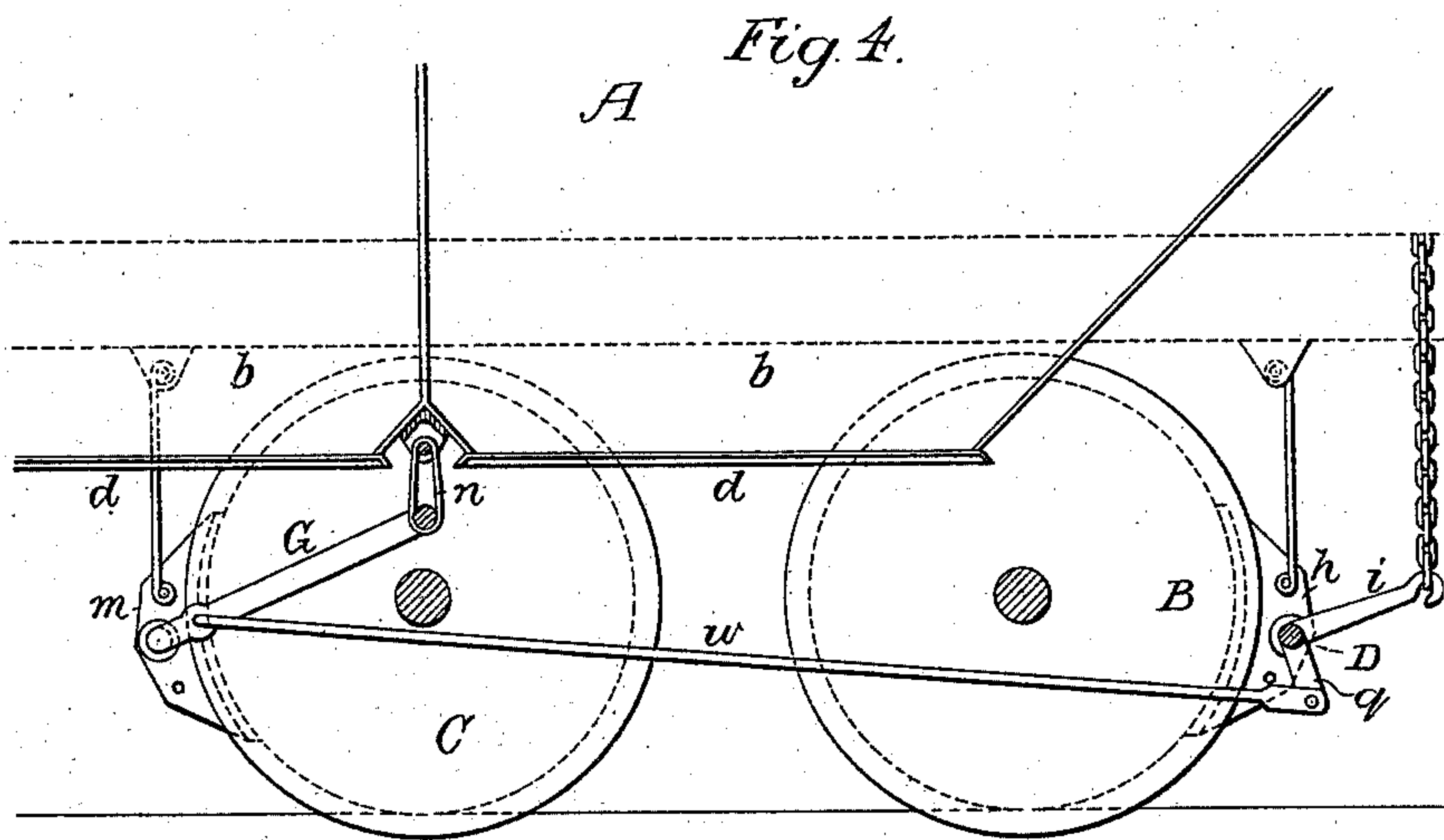
2 Sheets—Sheet 2.

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Inventor:  
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Howson and Ford



# UNITED STATES PATENT OFFICE.

JAMES A. MILLHOLLAND, OF CUMBERLAND, MARYLAND.

## BRAKE FOR COAL-CARS.

SPECIFICATION forming part of Letters Patent No. 255,653, dated March 28, 1882.

Application filed February 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. MILLHOLLAND, a citizen of the United States, and a resident of Cumberland, Alleghany county, Maryland, have invented an Improvement in Brakes for Coal-Cars, &c., of which the following is a specification.

My invention consists of improved braking mechanism for a coal-car in which a body separated into three compartments is combined with two pairs of axles and four pairs of wheels; and the object of my improvement, which is fully described hereinafter, is increased braking-power by applying brake-shoes to all the wheels instead of to the end wheels only, as in ordinary cars of the class to which my invention relates.

In the accompanying drawings, Figures 1, 2, and 3 are respectively a side view, plan, and end view of a coal-car of the style to which my invention is applied. Fig. 4 is a vertical section, drawn to a larger scale, of part of the car with my improved braking mechanism; Fig. 5, a plan view of Fig. 4, and Fig. 6 a modification of my invention.

The car to which my invention appertains, and which is illustrated on a reduced scale in Figs. 1, 2, and 3, has a body, A, made of sheet-iron in the form shown in Fig. 2, the said body being separated into three compartments by two partitions, *a a*, each compartment having a funnel-shaped bottom, *b*, terminating in a circular discharge-opening provided with a door or drop-bottom, *d*.

The car is provided with four axles and eight wheels, which occupy the position shown in Fig. 1 in relation to the body.

It has been the practice in constructing coal-cars of this class to apply brakes to the two end pairs of wheels only, as indicated at *x x*, Fig. 1, owing to the difficulty presented by the funnel-shaped bottoms and doors of the three compartments of applying braking mechanism to the inner wheels of the two trucks—a difficulty which I overcome in the following manner, reference being had to Figs. 4 and 5, which illustrate one-half only of the car.

Brake-shoes *h h* are adapted to the two end

wheels, B, as usual, these shoes being suspended in the ordinary manner from the sill of the car, and being connected to the brake-beam D, which has an arm, *i*, connected by a chain to the usual windlass or other brake-operating device. Suspended shoes *m m* are also adapted to the two pairs of intermediate wheels, C C, and these shoes are attached to the ends of the cranked brake-beam G, (best observed in Fig. 5,) which is suspended at its middle by a link, *n*, to the body of the car, midway between the discharge-openings (indicated by dotted lines in Fig. 5) of two compartments.

The arms *p p* of the cranked brake-beam are connected by rods *w w* to arms *q q* on the brake-beam D, so that on operating the windlass a brake-shoe will be applied to all of the wheels.

The part of the car not shown in Figs. 4 and 5 is provided with precisely similar braking appliances.

It will be seen that the cranked brake-beam G is out of the way of the funnel-shaped bottoms of the compartments of the car-body, and in no way interferes with the doors of the discharge-openings.

The cranked brake-beam may be suspended from two points, as at *y y*, (see dotted lines, Fig. 5,) in which case the beam may be below the axle and suspended from hangers *k k*, as shown in Fig. 6.

Although I have described my invention as applied to a coal-car, it will be evident that it can be used with equal advantage on cars for carrying ores or other minerals.

I claim as my invention—

The combination, in a compartment-car, of a cranked brake-beam having shoes adapted to the wheels C C, a brake-beam, D, having shoes adapted to the wheels B B, and connecting devices, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES A. MILLHOLLAND.

Witnesses:

ROBT. SHRIVER,  
J. L. GRIFFITH.