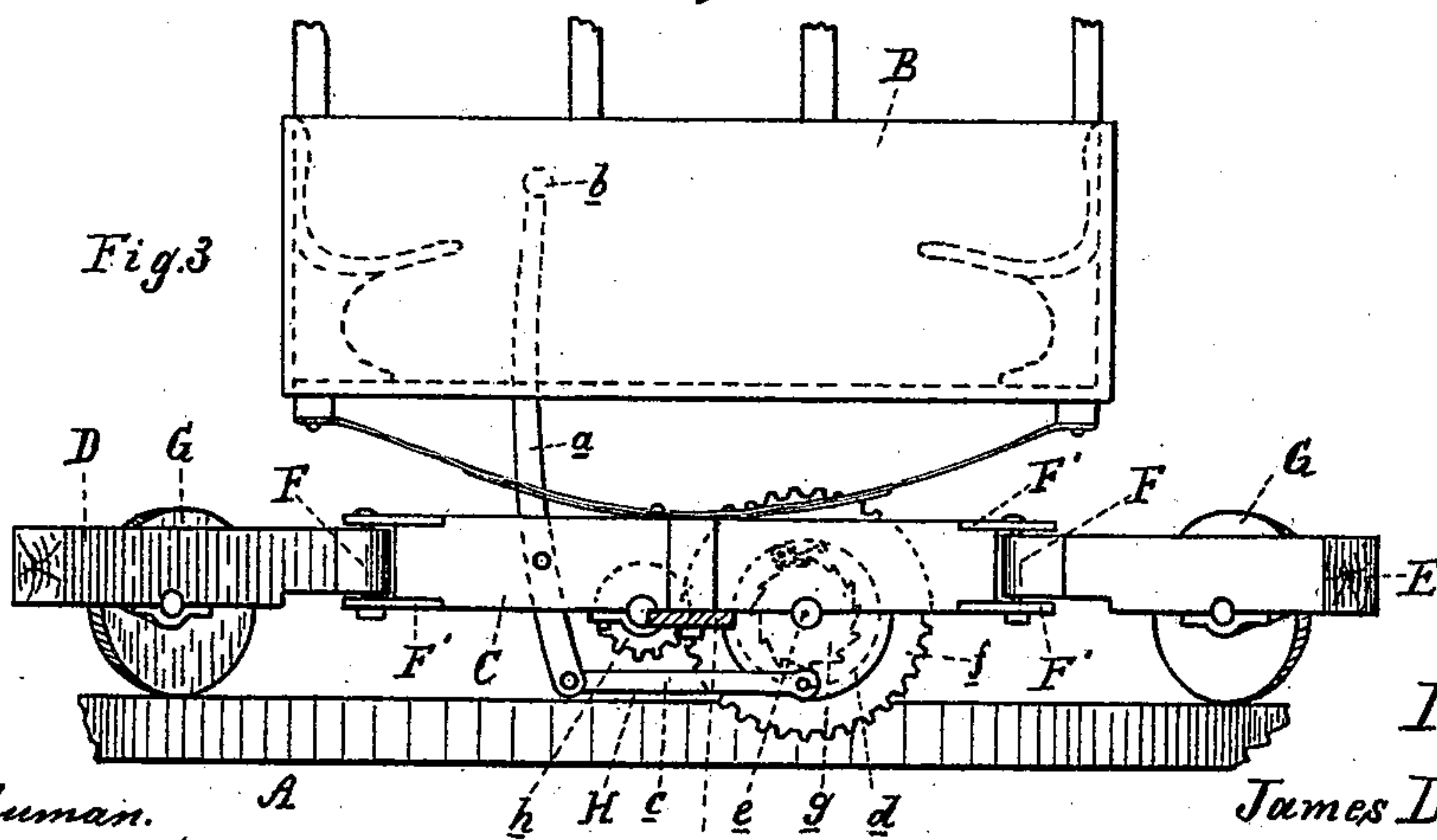
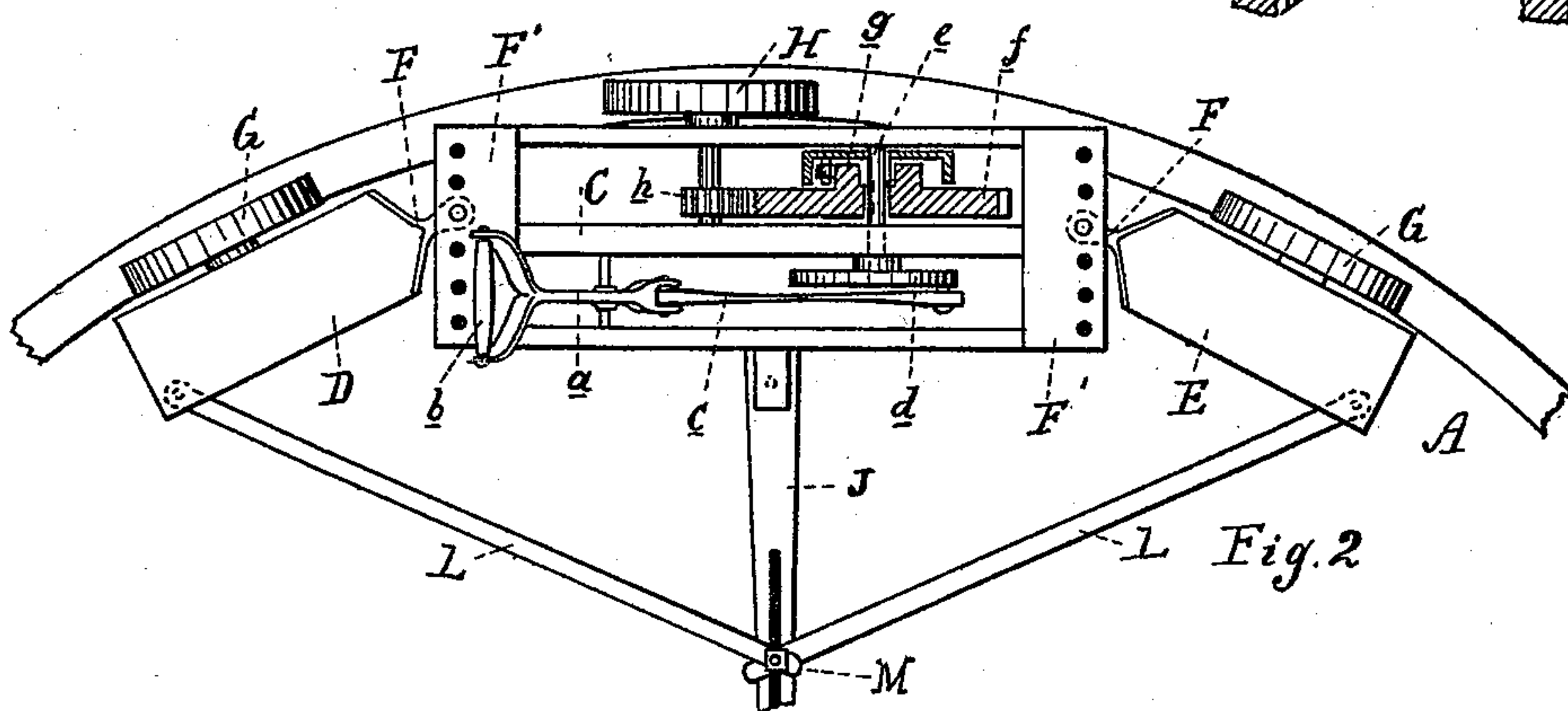
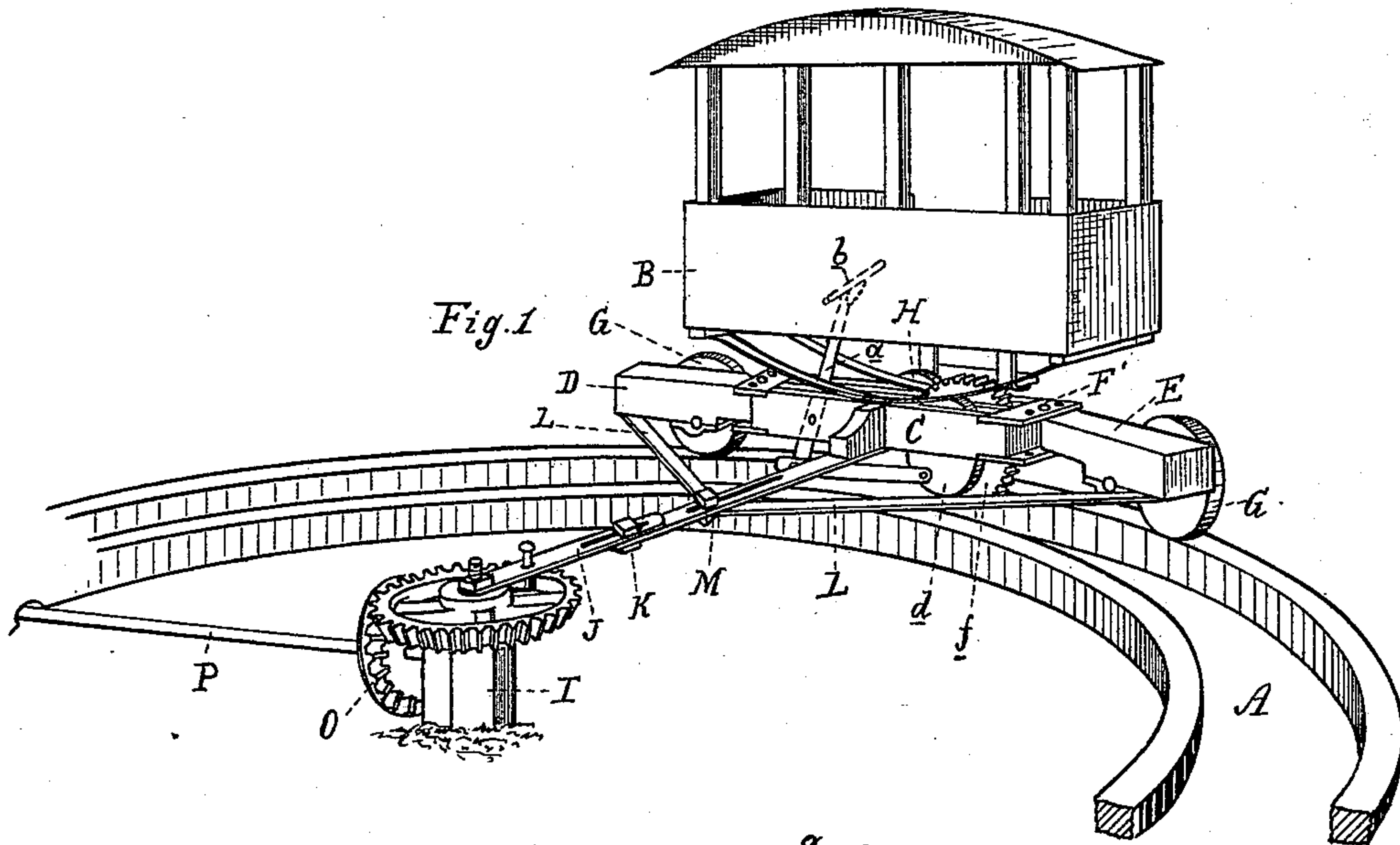


(No Model.)

J. DUNCAN.
CIRCULAR COASTER.

No. 396,472.

Patented Jan. 22, 1889.



Attest:
John Schuman.
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Attys

UNITED STATES PATENT OFFICE.

JAMES DUNCAN, OF COSHOCTON, OHIO.

CIRCULAR COASTER.

SPECIFICATION forming part of Letters Patent No. 396,472, dated January 22, 1889.

Application filed March 20, 1888. Serial No. 267,896. (No model.)

To all whom it may concern:

Be it known that I, JAMES DUNCAN, a citizen of the United States, residing at Coshocton, in the county of Coshocton and State of Ohio, have invented certain new and useful Improvements in Circular Coasters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in circular coasters intended for amusement of old and young, and belongs to that class of coasters which travel on a horizontal circular track by means of propelling-power other than gravity.

The invention consists, first, in the peculiar construction of the vehicle or car; second, in the means of propelling it; third, in the adjustability provided for adjusting it to tracks of different diameters, and, fourth, in the arrangement and combination of the various other parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a perspective view of the device as arranged for operation. Fig. 2 is a plan of the device with the body removed from the truck, and Fig. 3 is a side elevation.

A is the circular track or single rail.

B is the body of the coaster, made in any suitable form of a vehicle-body, preferably with a canopy or top, and this body is supported upon springs and provided with seats facing fore and aft, and suitable openings for ingress and egress. This body is supported upon the truck, consisting of the central part, C, which directly supports the body, and the front and rear outriggers, D and E, which are hinged to the central part by means of the pivotal connection F, which is radially adjustable, but supports the outrigger firmly in a horizontal plane.

Each of the outriggers has journaled to it a supporting-wheel, G, and the central truck has journaled in it a main supporting-wheel, H, which is also the drive-wheel, and to which a suitable propelling device is applied, preferably for hand-lever propulsion—such, for instance, as shown in the drawings, where *a* is a single hand-lever pivotally secured to the truck and projecting inwardly into a slot within the body of the car, in suitable proximity to the operator, to apply his power to

the handle *b* on the upper end. The lower end of this hand-lever is connected to a pitman, *c*, which operates on the crank *d*, which is on the crank-shaft *e*, and which also carries the loose gear-wheel *f* by means of the dog-and-ratchet engagement *g*, which transmits the motion only in one direction from the loose gear-wheel *f* to a pinion, *h*, on the shaft of the drive-wheel. Thus the operator imparts motion to the drive-wheel by means of the connection described without impeding the momentum of the vehicle.

I is a suitable point of attachment or a stake in the center of the track, and J is a radial tongue or rod secured at its outer end to the car, and at its inner end pivotally engaging the stake. This tongue is provided with the extension-joint K and with the lateral hounds L, which are pivotally secured at their outer ends to the outriggers and at their inner ends to the tongue by means of the radial adjustable connection M, all so arranged that by changing the tongue and hounds the vehicle may be adjusted to run on tracks of different diameters.

In connection with the radial adjustability of the pivotal connection F of the outriggers, which permits of the adjustment of the outrigger-wheels in relation to the central truck, there is the radial adjustability provided in relation to the track, which is obtained by changing the pivotal point F to one of a series of holes provided therefor in the clevis-plates F' on the ends of the central truck. This adjustability, in connection with the adjustability before described, permits of placing the outriggers in any desired relation to the radius of the track or to the wheel of the central truck, for the purpose of counteracting the centrifugal and centripetal forces and to balance the device as much as possible without unduly straining the tongue or hounds.

What I claim as my invention is—

1. In a circular coaster, the combination, with the body, of two or more supporting-wheels in circular alignment, outriggers adjustable on said body and each carrying one of the wheels, and of a tongue secured in radial relation thereto and provided with means for attaching it to a fixed point, substantially as described.

2. In a circular coaster, the combination, with the body of the vehicle, of the supporting-truck, in three sections pivotally connected together, and each provided with the supporting-wheels adapted to be adjusted to different circular alignment with each other, substantially as described.

3. In a circular coaster, the combination, with the body of the vehicle, of the supporting-truck, in three sections pivotally connected together, and each provided with the supporting-wheels in circular alignment with each other, of the radial tongue secured to the central part of the body, and of two hounds adjustably securing the end trucks with the tongue, substantially as described.

4. In a circular coaster, the combination, with the single-rail track, of the body B, the supporting-truck consisting of the central

part, C, provided with the supporting-wheel H, and the outriggers D and E, pivotally and laterally connected thereto and provided with the supporting-wheels G, in circular alignment with each other, the propelling devices applied to the central wheel, substantially as described, the radial tongue provided with the extension-joint, and the hounds L, adjustably connected to the tongue, all the parts being arranged and constructed to operate substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of February, 1888.

JAMES DUNCAN.

Witnesses:

C. A. LAMBERSON,
I. B. DILLIN.