

I. TOWELL.

Street-Car.

No. 219,039.

Patented Aug. 26, 1879.

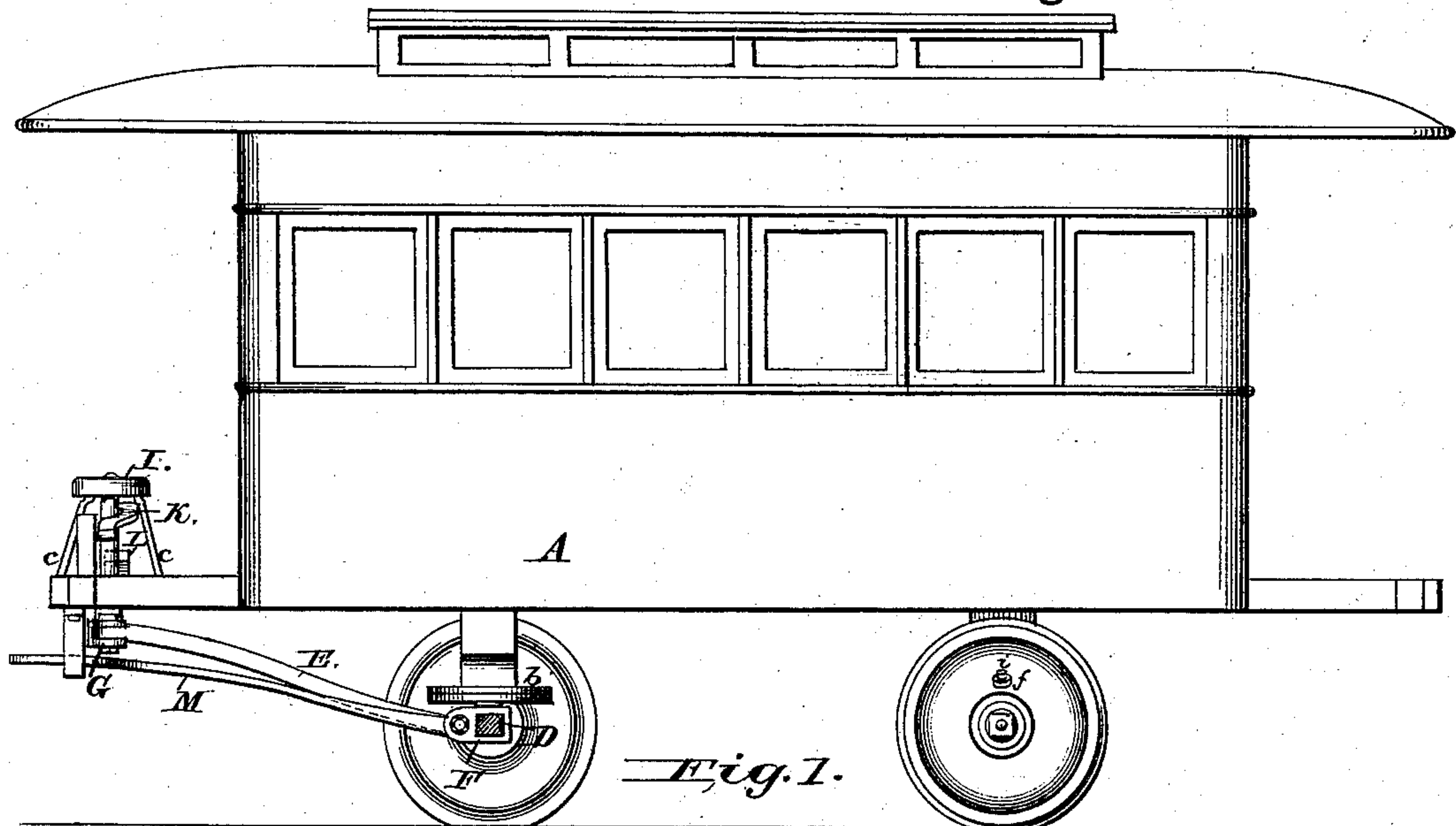


Fig. 2.

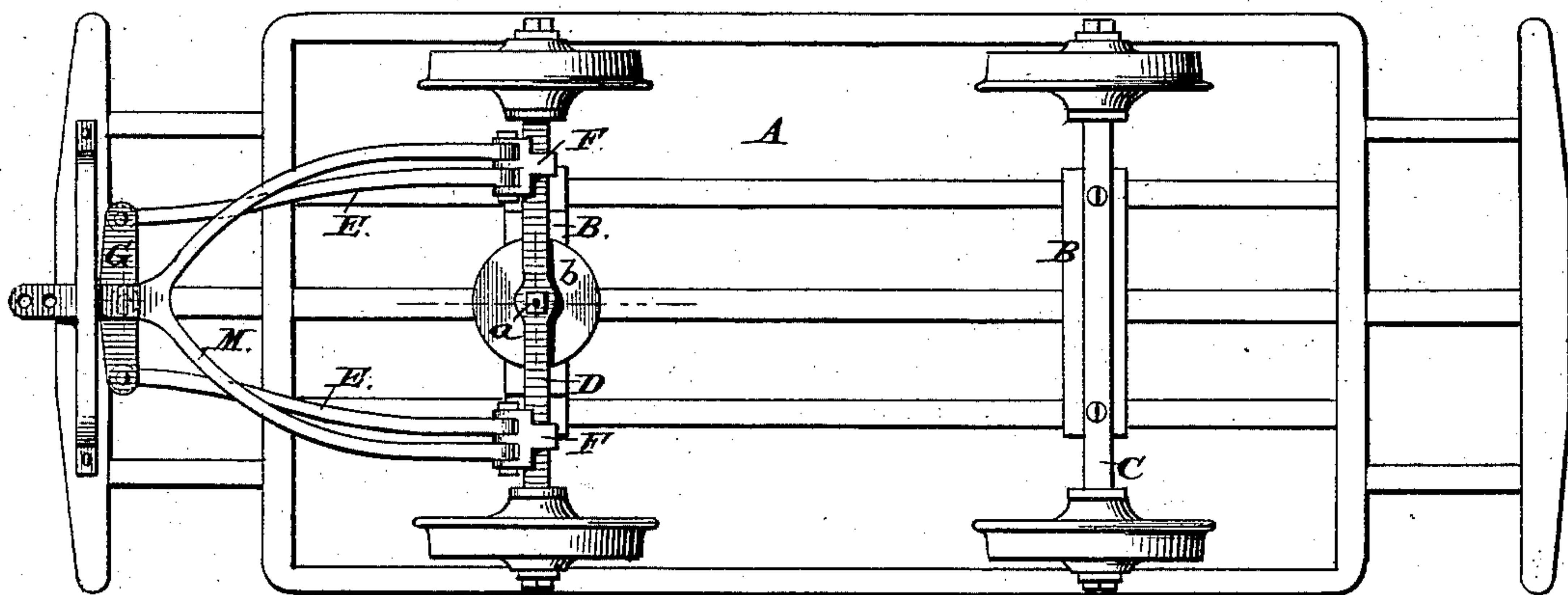
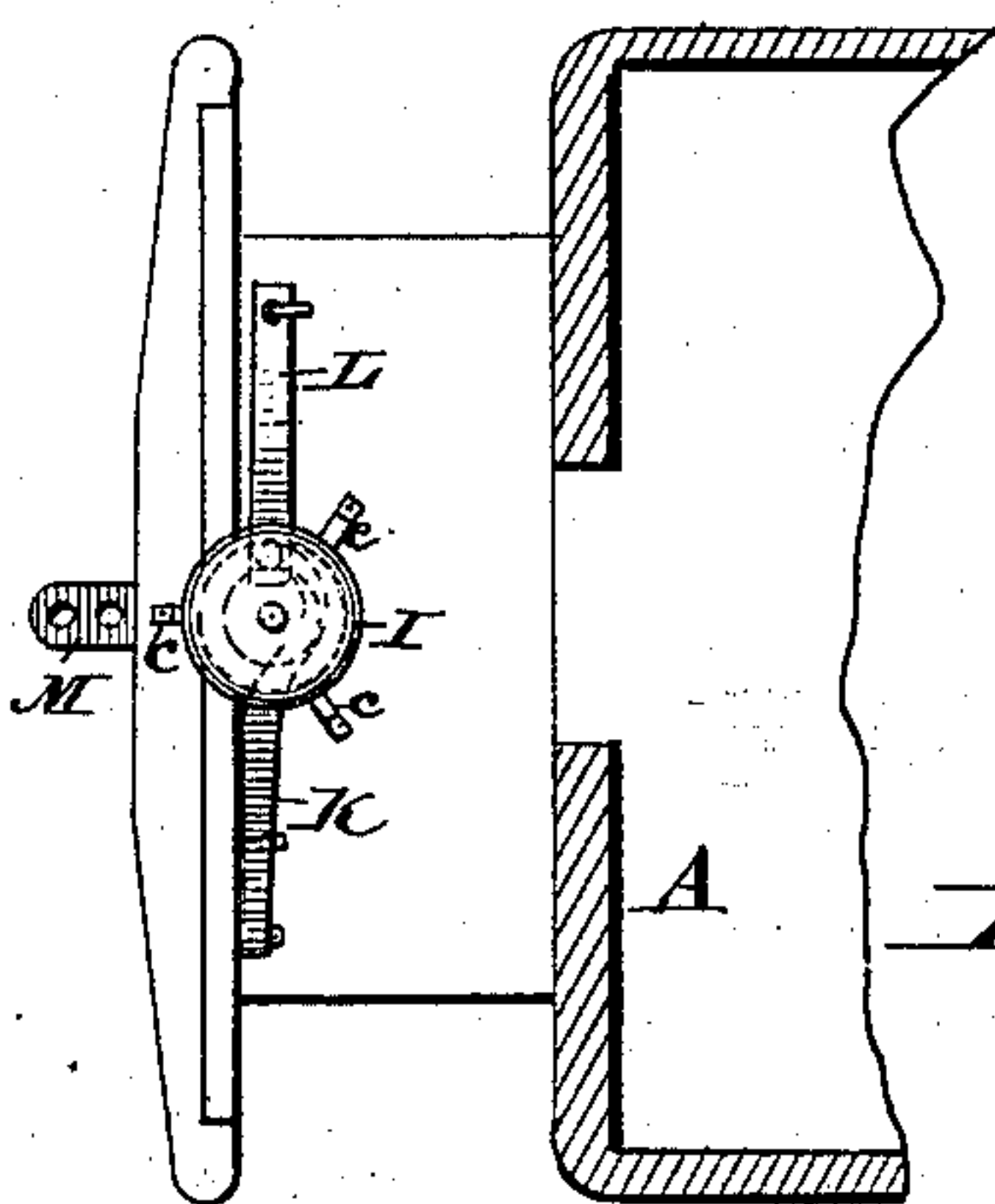


Fig. 3.



Attest:

H. L. Perrine
Wm. Henderson

Isaac Towell.
Inventor.

By A. S. Abbott
Att'y.

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Fig. 4.

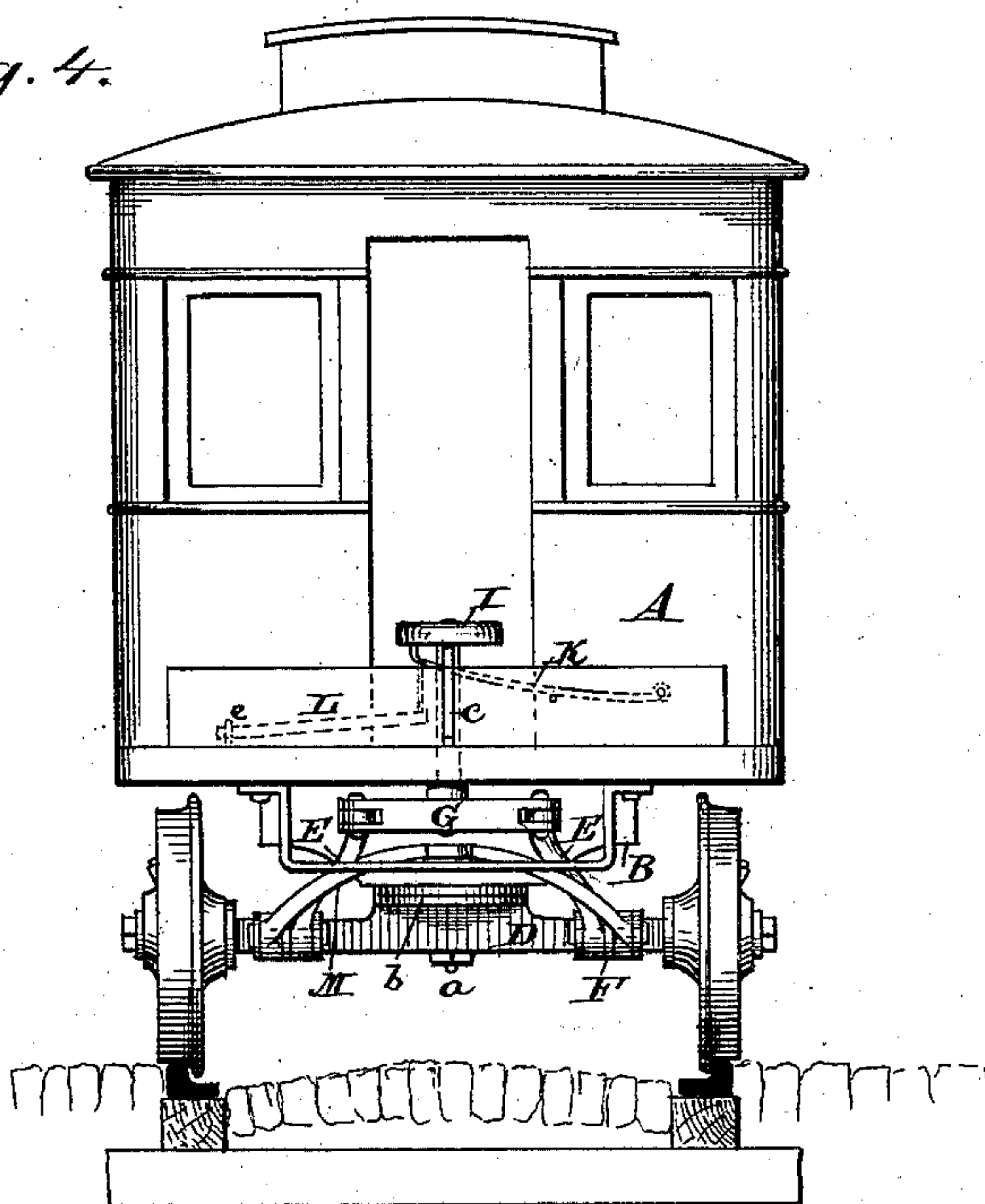


Fig. 5.

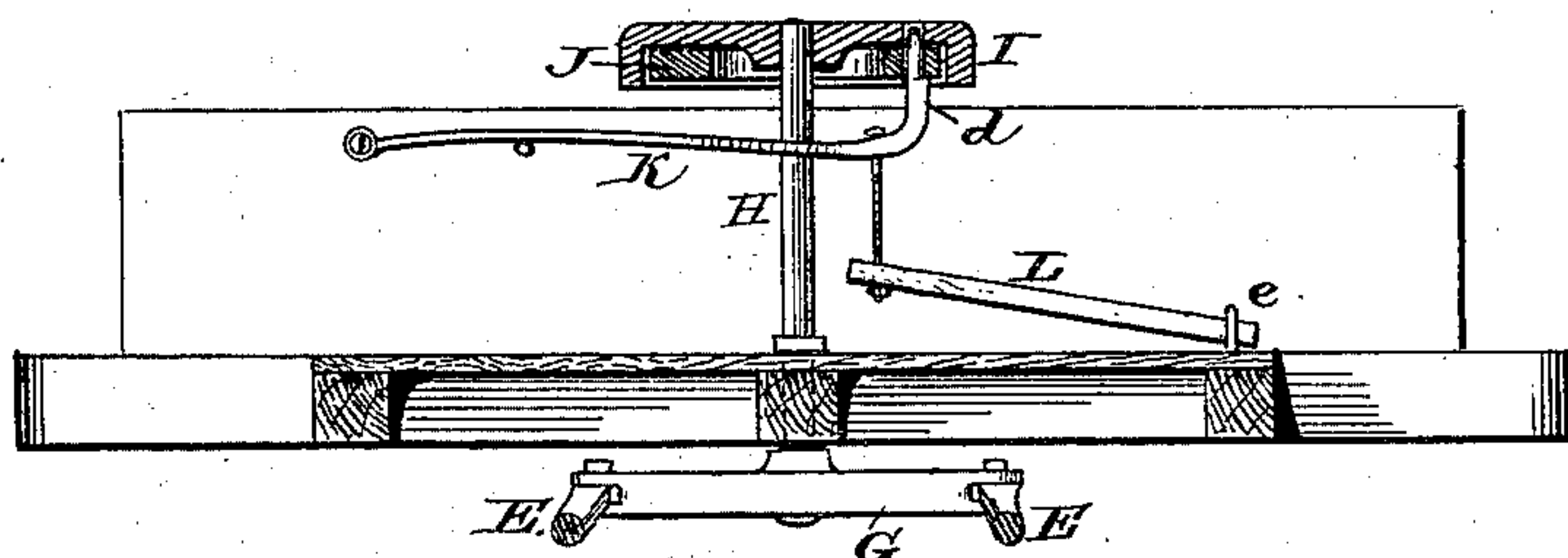
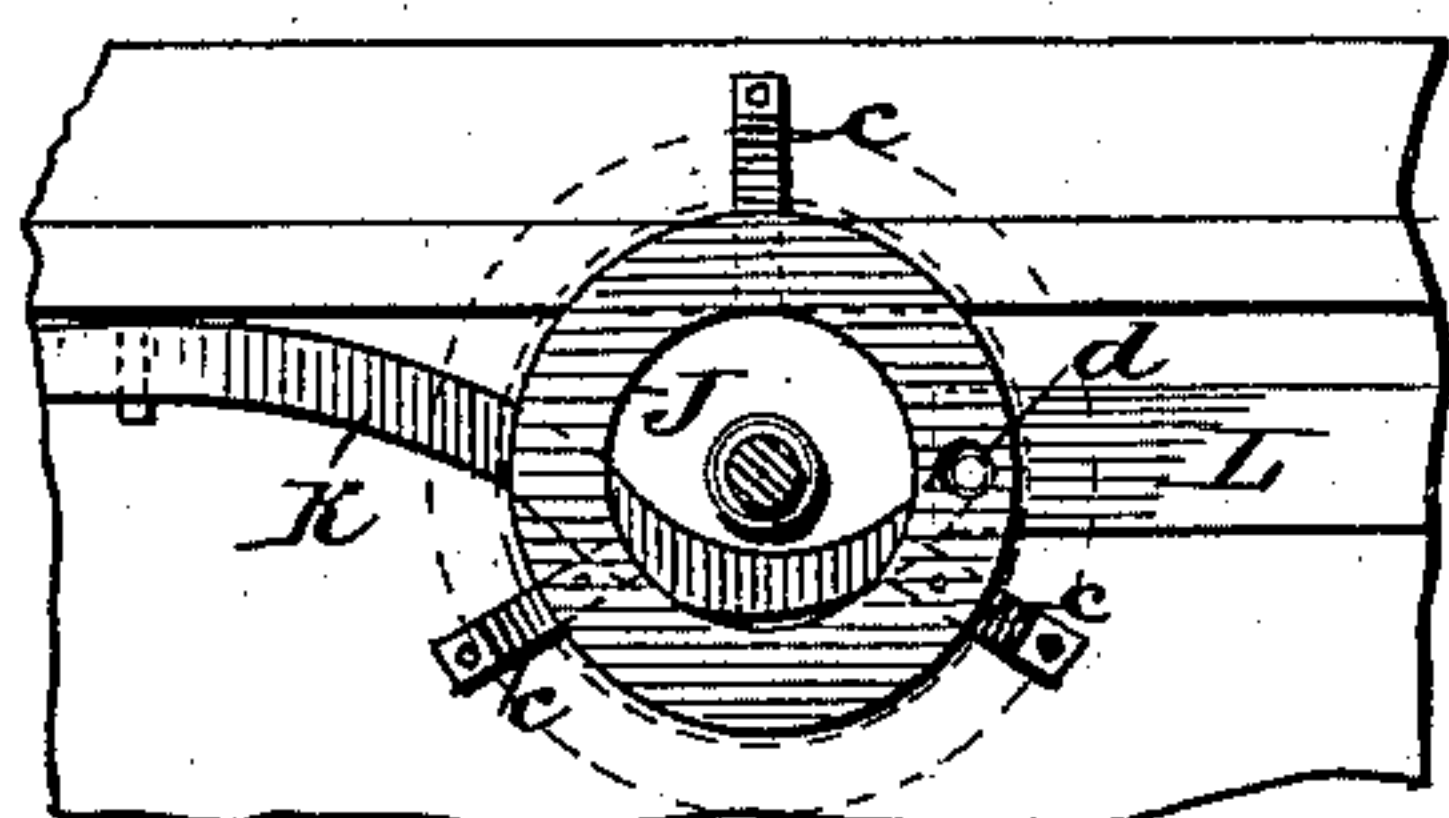


Fig. 6.



Attest:
W. L. Perrine,
Notary Public

Isaac Towell,
Inventor.
By H. J. Abbot,
Atty.

UNITED STATES PATENT OFFICE.

ISAAC TOWELL, OF COLUMBUS, TEXAS.

IMPROVEMENT IN STREET-CARS.

Specification forming part of Letters Patent No. **219,039**, dated August 26, 1879; application filed March 4, 1879.

To all whom it may concern:

Be it known that I, ISAAC TOWELL, of Columbus, in the county of Colorado and State of Texas, have invented certain new and useful Improvements in Street-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a side elevation of a car constructed according to my invention; Fig. 2, a bottom view thereof; Fig. 3, a plan view of front platform; Fig. 4, a front view; Fig. 5, a section of crown-wheel and disk, showing connection of levers therewith from body of car; Fig. 6, a top view of disk with crown-wheel removed.

My invention has reference to the construction of steam and other street-cars and locomotives, whereby the same can be readily turned around curves; and it consists in the construction and application of the parts, as hereinafter particularly specified and pointed out.

In the accompanying drawings, the letter A indicates the body of the car, set upon bolsters B, to which the axles are secured. The rear axle, C, is stationary, while the front axle, D, is swiveled, being secured to the bolster by means of a king-bolt, *a*, passed through the axle into the bolster, a disk, *b*, being between the axle and bolster.

Braces E are joined to the front axle by means of clips F, the other end of the braces being loosely or rigidly secured by pins to a lever, G, to which is secured a rod, H, passing up through the platform of the car. A crown-wheel, I, is securely fastened to the top of this rod, and is channeled out, as shown in Fig. 5. Within this channel there fits a friction plate or disk, J, supported from the platform by means of braces *c*.

To a metal plate or dash-board placed across the front of the platform there is screwed or otherwise secured a spring-lever, K, having an upwardly-projecting prong, *d*, which passes

through a hole in the disk J, and also through a hole in the crown-wheel I, as seen in Fig. 5.

The pronged end of lever K is connected by a chain or rope to one end of a foot-lever, L, the other end of which is passed through a hook, *e*, driven into the platform, the end of the foot-lever nearest the spring-lever being elevated, so that the lever will rest in an inclined position.

Any other suitable means than those described for connecting and holding the levers in position may be substituted for them.

A yoke-brace, M, is also connected to the front axle by means of the clips F, and it extends to the forward end of the car, in order that the motive power may be connected thereto.

When moving along a straight track the axle and levers are in the position shown in Figs. 1, 2, 4, and 5. When a curve is reached and it is desired to turn it, pressure is applied to the foot-lever L, which action draws the prong of spring-lever K out of the crown-wheel hole, and as the wheels strike the curve the axle is turned to the right or left, as the case may be, and the wheels follow the curve, turning the car without any wrenching or straining of the parts. As soon as the curve is turned the wheels are brought by the track back to their normal position, and the spring of lever K throws the prong thereof back into the crown-wheel hole, and thus securely locks the wheels in their position.

By this construction the moving of the cars around curves is always under the control of the operator.

This device can be applied to street-cars moved by steam, horse, or other power.

The axles are stationary, and the wheels turn thereon, although the rear axle may turn.

Street-cars already in use can be easily altered so as to be made to work this device, to do which the front wheels and axle are removed.

The axle is welded to suit the gage of the track, and a friction wheel or disk, *b*, is secured between the axle and bolster, to receive the rocking motion of the car. The wheels are taken from the axle and reamed out, and fitted to the axle so as to turn thereon.

Having described my invention, what I claim is—

1. The combination of swiveled axle D, braces E, lever G, rod H, crown-wheel I, disk J, and levers K L, substantially as set forth.

2. The combination of rod H, crown-wheel I, disk J, and levers K L, substantially as set forth.

3. The braces E and M, in combination with

axle D, levers G, K, and L, rod H, crown-wheel I, and disk J, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ISAAC TOWELL.

Witnesses:

JNO. J. SHEA,

L. KETTMANN.