

J. SHANNON.
Car-Brakes.

No. 138,535.

Patented May 6, 1873.

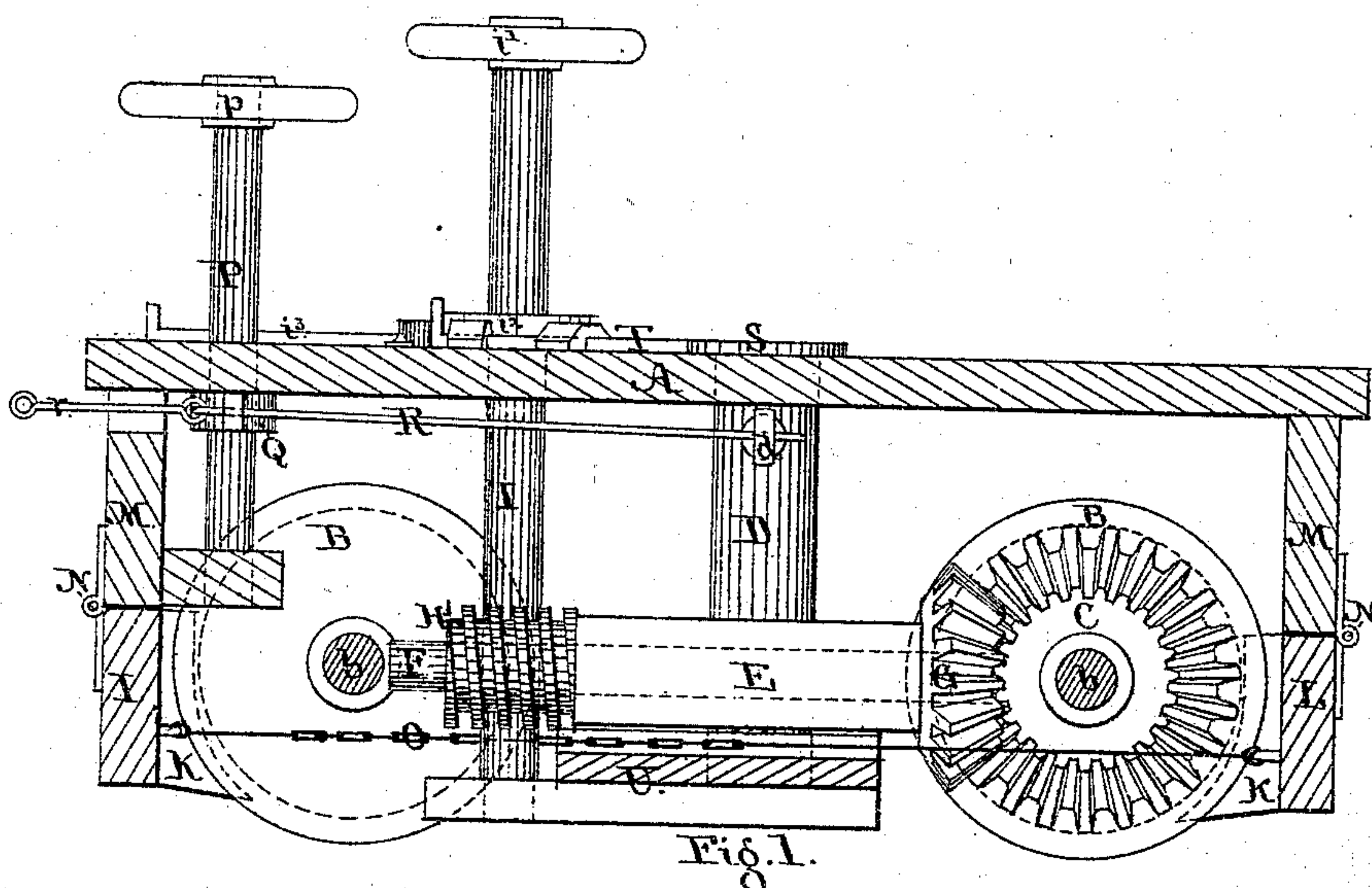


Fig. 1.

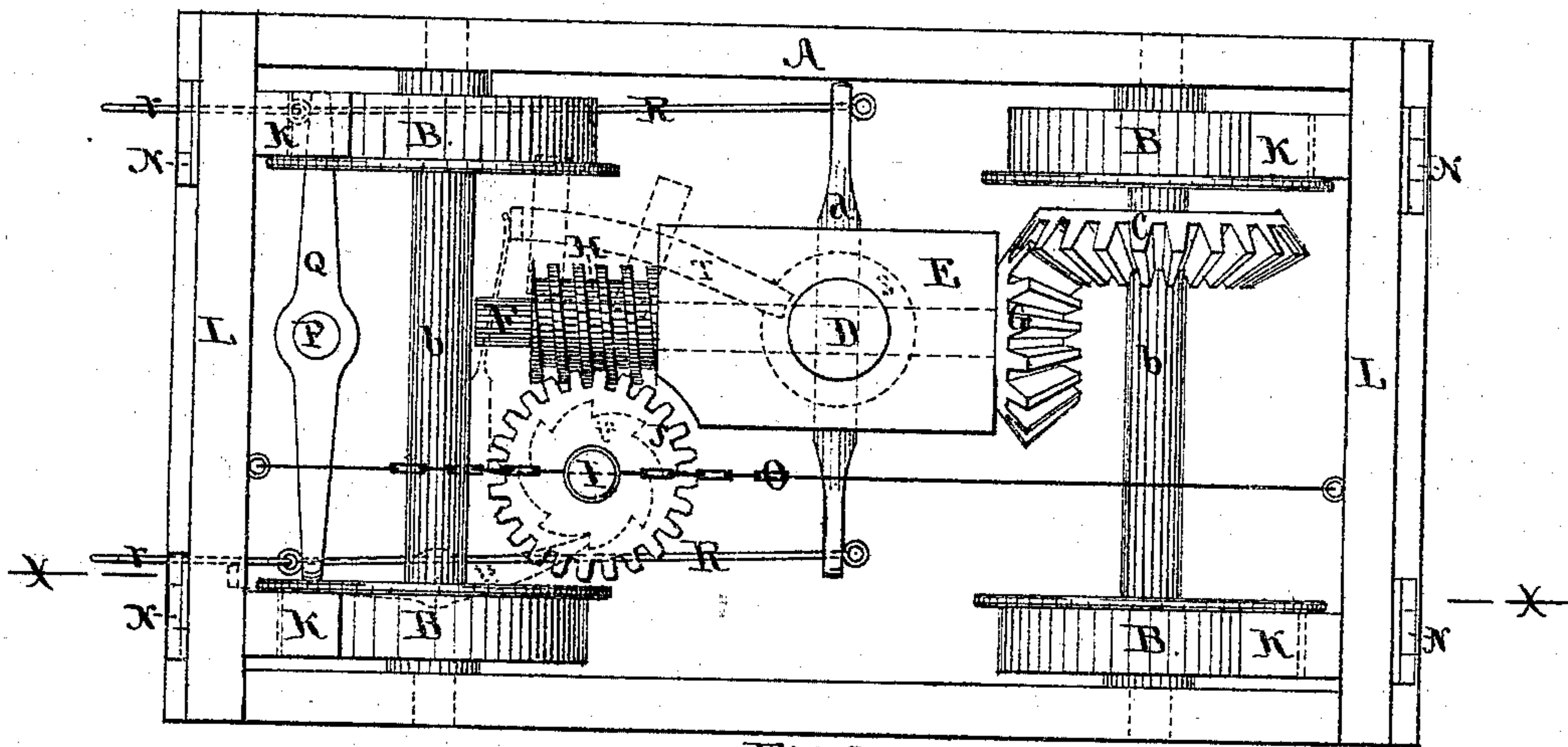


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

JAMES SHANNON, OF COHOES, NEW YORK.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **138,535**, dated May 6, 1873; application filed February 28, 1873.

To all whom it may concern:

Be it known that I, JAMES SHANNON, of Cohoes, in the county of Albany and State of New York, have invented certain Improvements in Car-Brakes, of which the following is a full and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a longitudinal section at the line *x x'*; and Fig. 2, a plan view of the under side of the truck or car, in which the cross-piece U is omitted for the purpose of more clearly showing the underlying parts.

My invention consists in attaching to the brakes of a car the devices herein shown and described, by means of which the brakes are applied by power derived from the moving train.

As shown in the drawing, A is the truck or platform of the car. B B are the wheels, attached in the usual manner to the axles *b b*. Secured to one of these axles is a bevel-gear wheel, C. D is a vertical shaft, having near its lower end a block, E, which serves as a bearing to the horizontal shaft F, upon which the bevel-pinion G and "worm" H are secured. *d* is a cross-bar, attached to the vertical shaft D, for the purpose of imparting the necessary motion to it. I is a vertical shaft for moving the brakes. It is provided with a hand-wheel, *i*¹, and ratchet-wheel *i*², (in which the pawl *i*³ engages to secure the brake when it is necessary to do so,) which permits of the application of the brakes by hand, in the usual manner. J is a worm-wheel, secured to the shaft I, and meshing into gear with the worm H. K K are the brake-blocks, made in the usual manner, and secured to the cross-bars L L, which are attached to the end pieces M M by means of the hinges N N. O is a chain, connecting together the cross-bars L L. It passes through a hole or mortise in the shaft I, and is wound around the shaft while applying the brakes. P is a vertical shaft for giving the necessary movement to the shaft D by means of the hand-wheel *p*. Near its lower end a cross-bar, Q, is secured. R R are rods for connecting together the cross-bars *d* and Q. *r r* are links to which cords

can be attached leading to the engine, whereby the engineer can have control of the brakes when necessary. The links *r r* are also intended for the purpose of connecting together similar brakes for any number of cars, by means of which they may all be operated simultaneously. S is a check-plate, secured to the top of the vertical shaft D. It is provided with a notch or opening upon its periphery, in which the spring-bolt T engages and secures the shaft D, while applying the brakes by the motion of the train. U is a cross-piece, forming a bearing for the lower ends of the shafts D and I.

The operation of my brake is as follows: While the train is in motion the shaft D is placed in such a position as to entirely disengage the wheel C and pinion G, and also the worm H, and worm-wheel J, from each other. This leaves the brakes in condition to be used by hand, if desired. When a sudden stoppage of the train becomes necessary, sufficient motion must be given to the shaft P and its cross-bar Q, either by means of the band-wheel *p*, or by the cords leading to the engine. This motion is communicated, by means of the rods R R and cross-bar *d*, to the shaft D, carrying the pinion G and worm I into gear with the wheel C and worm-wheel J, as shown in Fig. 2. At this point the spring-bolt T is forced forward into the notch of the check-plate S, and secures the shaft D in the proper position for holding the several parts in gear. By the motion imparted by the revolving axle through the wheel C, pinion G, worm H, and worm-wheel J, to the shaft I, the chain O is wound around the shaft, closing together the brake-blocks K K until they clamp the wheels B B with sufficient tenacity to prevent them from turning.

It will readily be seen that the intensity of the pressure applied by the brake-blocks to the wheels, is dependent upon the degree of speed of the moving train; the greatest speed producing the greatest pressure, thereby fulfilling the requirements of a perfect brake.

What I claim as my invention is—

1. The shaft D, pinion G, and worm H, in

combination with the wheel C, (attached to the axle *b*,) worm-wheel J, and shaft I, when constructed substantially as herein described, to operate the brake-blocks K K, as and for the purpose specified.

2. The combination of the shaft P, having the cross-bar Q and rods R R, with the shaft D, having the cross-bar *d*, as and for the purpose specified.

3. The check-plate S and spring-bolt T, or their equivalents, in combination with the shaft D, as and for the purpose specified.

JAMES SHANNON.

Witnesses:

S. J. HAIGHT,

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