

T. M. WORKMAN & J. H. JAMES.
Automatic Car Brake.

No. 231,136.

Patented Aug. 10, 1880.

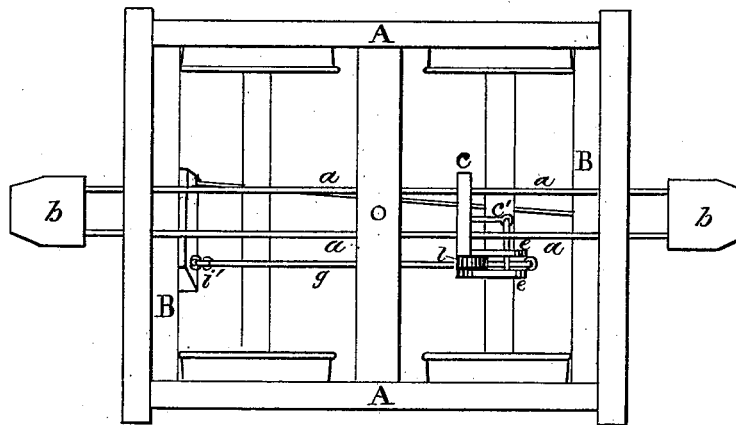


Fig. 1.

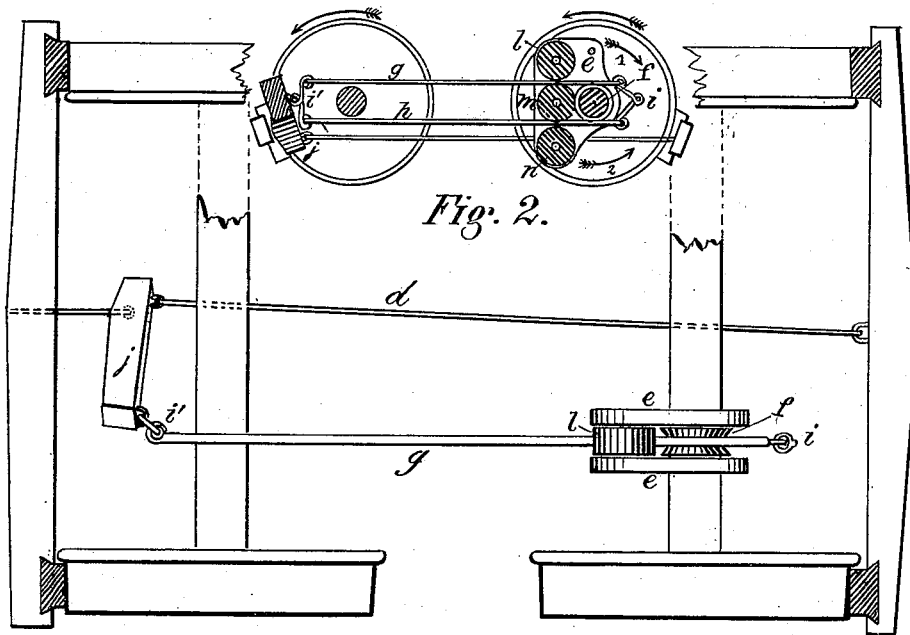


Fig. 2.

Fig. 3.

Witnesses
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AUTOMATIC CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 231,136, dated August 10, 1880.

Application filed February 24, 1880

To all whom it may concern:

Be it known that we, THOMAS M. WORKMAN and JOHN HENRY JAMES, of Newberry Court-House, in the county of Newberry and State of South Carolina, have invented certain Improvements in Automatic Car-Brakes, of which the following is a specification.

This invention relates to automatic railroad car-brakes under the control of the engineer. It differs from the air-brake, as no connections have to be made more than the ordinary coupling, and no resistance is offered to the free movement of the car when going in the direction in which the engine is moving, all of which will be hereinafter more fully described.

Figure 1 is a plan view of a railway-truck with the brake applied. Fig. 2 is a vertical section of Fig. 1. Fig. 3 is an enlarged view of the brake apparatus.

Two large rods, *a a*, run the entire length of the car, and are firmly connected with the draw-heads *b b*. These rods with the draw-heads are allowed some play endwise, and they may be passed under the sleepers or directly under the floor of the car.

Near the center plate is a cross-clamp, *c*, which is firmly attached to the rods *a a*. To clamp *c* is attached an arm, *c'*, which is also connected to the brake-sheaves *e*. These sheaves *e* are placed on the axle of one of the trucks.

A small wheel, *f*, is attached firmly to the axle. This wheel *f* may be made in segments, so as to be easily replaced in case of breakage. A V-shaped groove is cut in the periphery of wheel *f*.

Two bars, *g* and *h*, are connected at the front end by a small chain or rod, *i*, and where these rods come in contact with the roller *f* they are V-shaped to fit snugly in the groove of *f* to hold tightly therein. The other end of rods *g* and *h* are connected to the brake-lever *j* by short chains or rods *i'*.

The brake-sheaves contain three pulleys, *l*,

m, and *n*. The pulleys *l* and *n* are so located as to press the bars *g h* into the groove of *f*, whenever the sheave is turned upon the axle, by means of the arm *c'*, which is moved in either direction by the rods *a a* attached to the draw-heads, as in Fig. 3. Should the sheave *e* move in the direction of the arrow No. 1 to the right, the pulley *n* would force the rod *h* into the groove of pulley *f*, and the rotation of the axle would drag the rod *h* to the right and pull the brake-lever and operate both brakes thereby. The sheave moved by the arm *i'* in the opposite direction would cause the rod *g* to be forced into the groove of pulley *f*, and it would operate in the same manner upon brake-lever *j*.

The pulley *m*, located between the rods *g* and *h*, is to prevent either rod from being jammed too firmly in the groove of *f*.

The small chain *i* is so arranged as to keep one of the rods *g* or *h* pulled forward in such a manner that they may be ready for the application of the brakes. This also allows one of the rods *g* or *h* to be pressed out of the way of the pulley *l* or *n* when the car is being drawn in either direction. Then whenever the engine backs or applies the brakes the large rods *a a* are moved backward through the car, and consequently one of the bars *g* or *h* would be pressed into the groove of *f* and operate the brake-lever *j*, as already described.

We claim—

In automatic car-brakes, the draw-heads *b b*, connecting-rods *a a*, and clamping-piece *c*, with its crank *c'*, in combination with the sheaves *e*, pulleys *l, m*, and *n*, and pulley *f* on the axle of a car-wheel, and friction-rods *g* and *h* attached to the brake-lever, substantially as and for the purpose described.

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