

(No Model.)

J. M. SWAIM.
CAR BRAKE.

No. 379,548.

Patented Mar. 13, 1888.

Fig. 1.

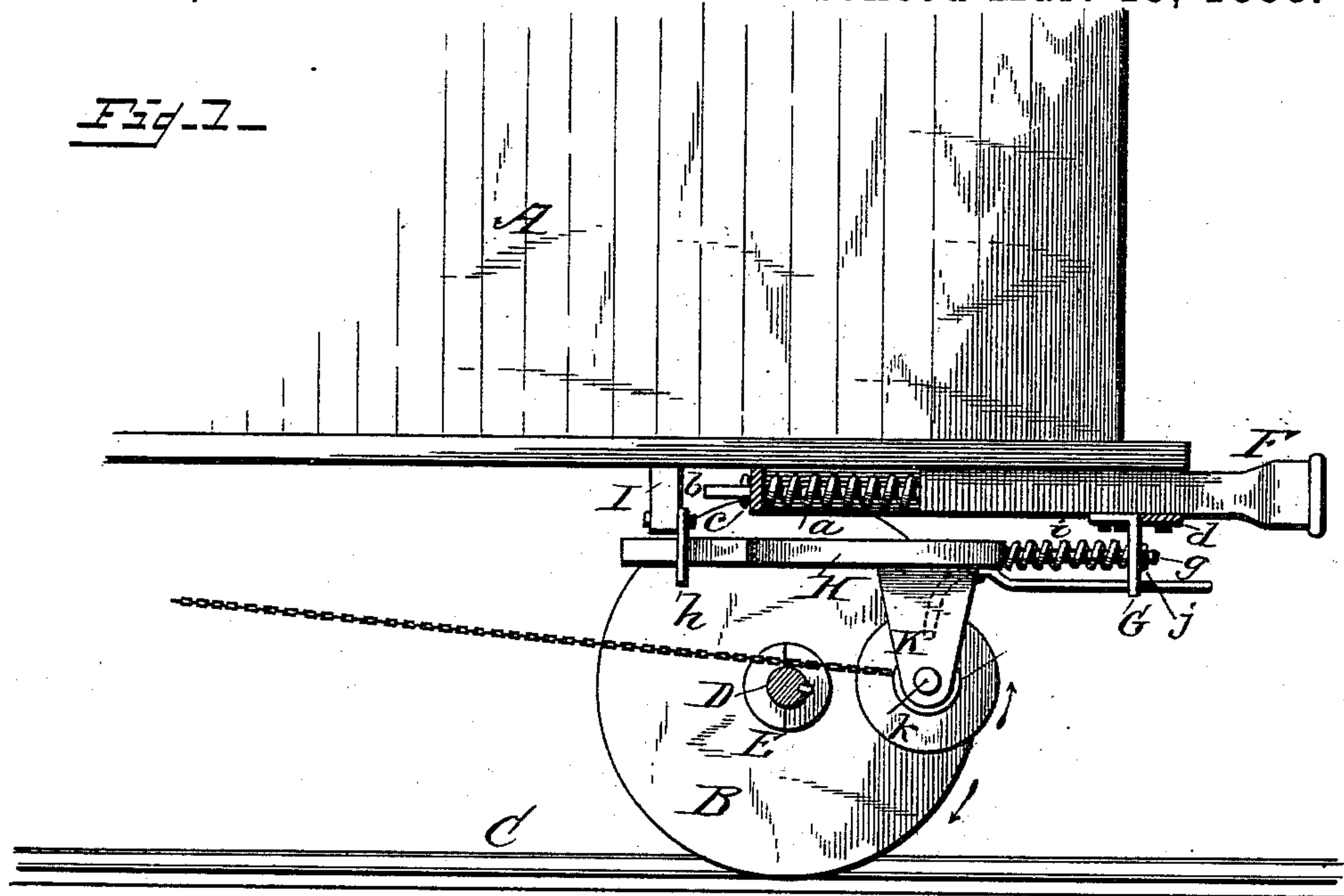
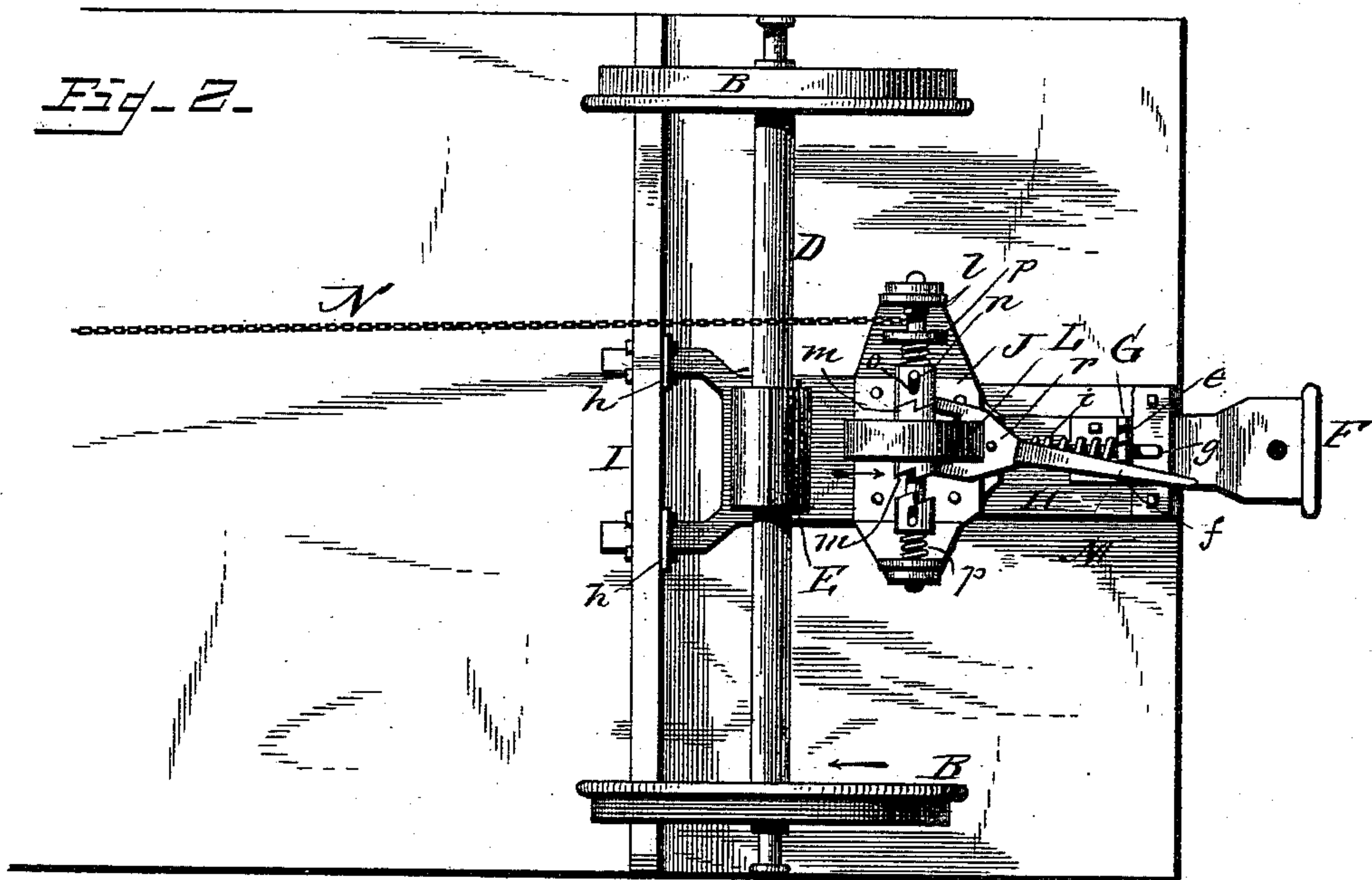


Fig. 2.



Witnesses

Albert Speiden,
Wm B. Howe.

Inventor.

John M. Swaim.

By his Attorney

Chas. H. Fowler

UNITED STATES PATENT OFFICE.

JOHN M. SWAIM, OF BLOOMINGDALE, INDIANA, ASSIGNOR OF ONE-HALF TO
HORACE B. LITTLE, OF SAME PLACE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 379,548, dated March 13, 1888.

Application filed December 5, 1887. Serial No. 256,993. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. SWAIM, a citizen of the United States, residing at Bloom-
ingdale, in the county of Parke and State of
5 Indiana, have invented certain new and useful
Improvements in Car-Brakes; and I do hereby
declare that the following is a full, clear, and
exact description of the same, reference being
10 had to the annexed drawings, making a part
of this specification, and to the letters and
figures of reference marked thereon.

This invention relates to certain new and
useful improvements in car-brakes; and it has
for its object to provide a positively-acting
15 automatic car-brake that will be simple and
cheap of construction, readily applied to a car,
and which will be durable and efficient in op-
eration.

The novelty resides in the peculiar combina-
20 tions and the construction, arrangement, and
adaptation of parts, all as more fully herein-
after described, shown in the drawings, and
then particularly pointed out in the claims.

In the accompanying drawings, which form
25 a part of this specification, Figure 1 represents
a side view of a portion of a car equipped with
my improved brake, part being shown in sec-
tion. Fig. 2 is a bottom plan of the same.

Referring to the drawings by letter, A
30 designates a portion of a car, and B the wheels
thereof, C designating a rail. The axle D has
secured to it near its center a pulley or drum,
E, made in halves and bolted round the axle
and keyed to the same to prevent its turning
35 thereon, as shown in Fig. 1.

F is the bumper, moving in suitable guides
on the bottom of the car, and normally held
in the position shown in the drawings by means
of the spring *a* around the rod *b*, carried by
40 the bumper, and working through a hole in
the guide *c*, which forms one point of resist-
ance of the said spring.

Depending from the bumper to the rear of
the guide *d* is the arm G, formed with two
45 notches, *e* and *f*, and with a perforation through
which passes the arm *g*, carried by the sliding
plate H, the rear end of which is bifurcated,
as shown, and works through guides *h*, secured
to the cross-bar I on the bottom of the car.

Around the rod *g*, and confined between the 50
plate or arm G and a shoulder on the plate H,
is a coiled spring, *i*.

j is a pin or key passed through the rod *g*,
outside the arm G.

Secured to the plate H is a carriage, J, 55
formed with depending ears K, in which is
journalled the shaft *k*, on which is the winding-
drum *l* and the friction-wheel L, so connected
therewith as to move with it and yet be ad-
justed lengthwise thereof when necessary, for 60
a purpose hereinafter explained. This fric-
tion-wheel carries upon each side a part, *m*, of
a friction-clutch, the other parts being slidingly
secured to the shaft *k* by means of the slots
and pins *n* and *o*, respectively, and held to 65
their working position by the springs *p*. As
the cars do not always run with the same end
foremost, I provide a right and left hand
clutch or ratchet. The right will apply to the
brakes when the car is running in one direc- 70
tion and the left when it is running in the op-
posite direction.

The friction-wheel can be moved from the
right to the left, as occasion may require, by
means of the lever M, pivoted at *r* to the car- 75
riage J and bifurcated, as shown, with one leg
on each side of said wheel. The other end of
said lever is designed to be held in its adjusted
position by engaging one or the other of the
notches *e f* in the arm G. When the train is 80
made up and the cars coupled, the brakeman
always knows which way the cars are to run,
and can set the lever accordingly.

N is a chain or cord, secured at one end to
the winding-drum *l* and its other end designed 85
to be attached to the brake-lever. (Not
shown.)

The operation is apparent. The bumper
is pressed in the plate H and its attached parts
are also moved in, which brings the friction- 60
wheel into contact with the drum on the axle,
thus revolving the shaft *k* and winding up the
chain N on its drum and applying the brakes.

To prevent the pushing in of the bumper
when backing the cars from applying the 95
brakes, the ratchet on the shaft of the friction-
wheel will allow the same to turn back with-
out winding the brake-chain. The friction-

wheel will slip on the drum when the brakes are wound up tight.

By the construction above described the brakes will always apply themselves when needed, and will always be off when not needed. They will not interfere in any way with the ordinary hand-brake. When an engineer wants to stop or slow up his train, all he has to do is to check his engine, when the motion of the cars forward crowd back the bumpers and apply the brakes in the manner above described to all the cars; but as soon as the cars stop crowding and the engine pulls up again the brakes are all set loose by the returning of the bumpers to their normal position through the medium of the springs above described.

What I claim as new is—

1. The combination, with the axle, the drum thereon, and the movable bumper, of an arm, G, pendent from the under side of the bumper, a plate guided at one end by said arm and actuated by said bumper, a carriage on said plate, and a friction-wheel journaled in said drum when the bumper is compressed, as set forth.

2. The combination, with the axle, the drum thereon, and the movable bumper, of the arm G, pendent from the bumper, a movable plate guided at one end by said arm and actuated by said bumper, the spring *i* between said arm and plate, a carriage on said plate, a shaft journaled in said carriage, a friction-wheel and a winding-drum on said shaft, and the brake-chain secured to said drum, substantially as described.

3. The combination, with the axle, the drum thereon, and the movable bumper, of a movable plate actuated by said bumper, a carriage on said plate, a shaft journaled in said car-

riage, a friction-wheel and a winding-drum on said shaft, and a clutch engagement between said shaft and friction-wheel, the cross-bar I, the guide *h*, secured thereto and receiving the bifurcated ends of the said plate, and the spring *i*, acting on said plate, substantially as described.

4. The combination, with the axle, the drum thereon, and the movable bumper, of a movable plate actuated by said bumper, a carriage on said plate, a shaft journaled in said carriage, a friction-wheel and a winding-drum on said shaft, a right-and-left clutch engagement between said shaft and friction-wheel, and a lever for shifting said friction-wheel on its shaft, the arm G, pendent from the forward end of the bumper and forming a guide for the forward end of the plate and formed with notches to engage said lever, substantially as and for the purpose specified.

5. The combination, with the axle, the drum thereon, and the movable spring-actuated bumper, of a plate actuated by said bumper, the yielding connection between said plate and bumper, a carriage on said plate, a shaft journaled in said carriage, a friction-wheel on said shaft, a right-and-left clutch engagement between said shaft and friction-wheel, a lever pivoted to said carriage for adjusting the friction-wheel, and means on the bumper for holding said lever in its adjusted position, as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN M. SWAIM.

Witnesses:

ALLEN MORRISON,
JOSEPH C. VICKORY.