

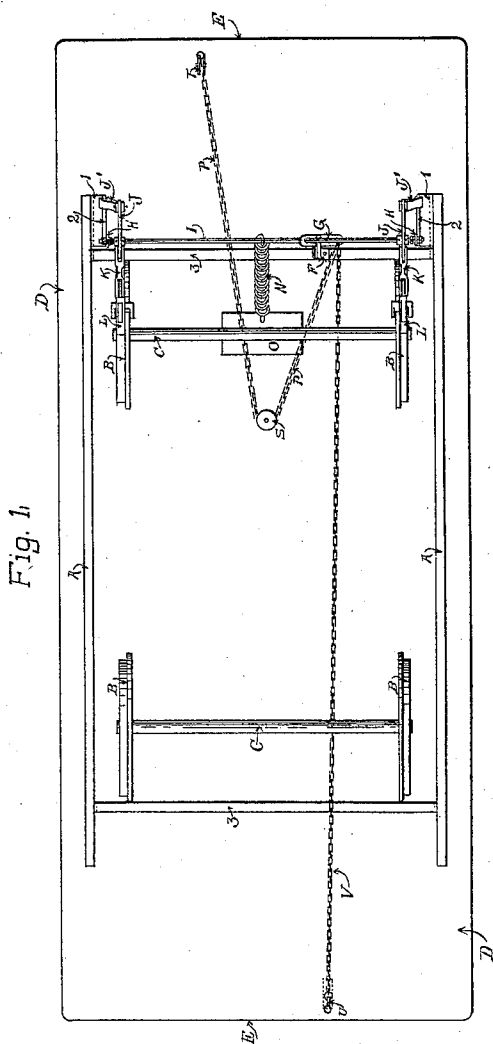
(No Model.)

2 Sheets—Sheet 1.

P. FLOOD.
CAR BRAKE FOR STREET RAILWAYS.

No. 566,072.

Patented Aug. 18, 1896.



WITNESSES:

R. Sturtevant
M. Bishop.

INVENTOR:

PATRICK FLOOD.

by *William H. Law*

ATTORNEY

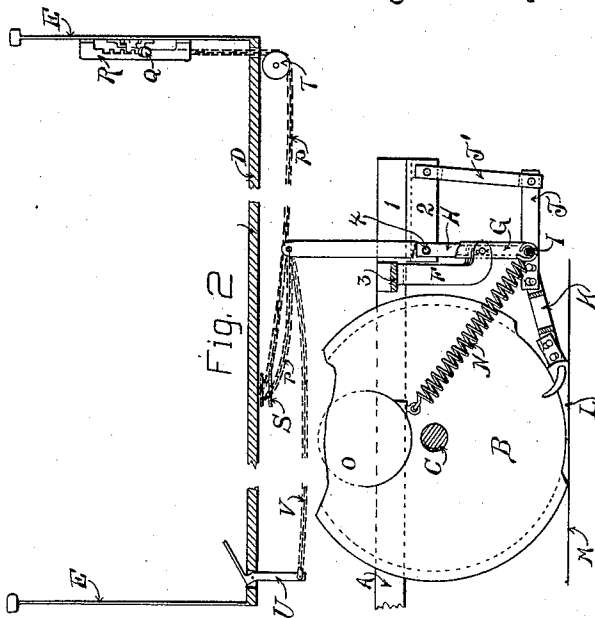
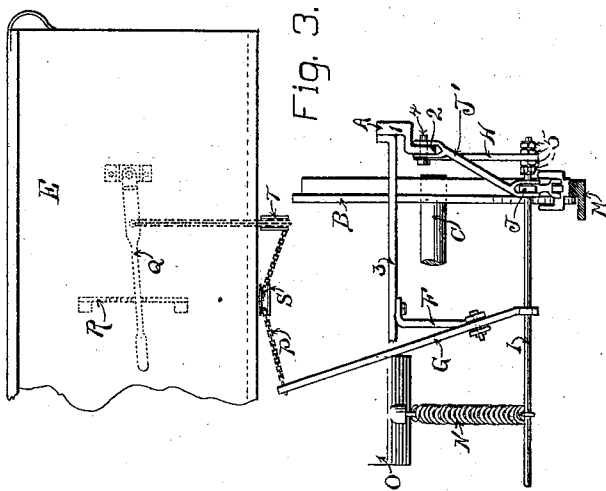
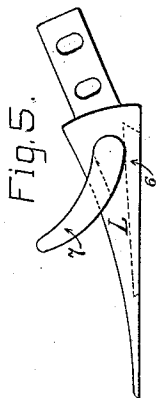
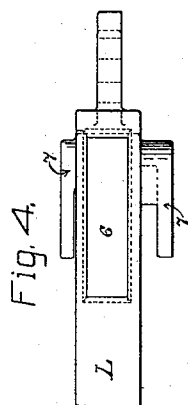
(No Model.)

2 Sheets—Sheet 2.

P. FLOOD.
CAR BRAKE FOR STREET RAILWAYS.

No. 566,072.

Patented Aug. 18, 1896.



WITNESSES:

Robt. Sturtevant
M. Bishop.

INVENTOR:

PATRICK FLOOD.

by William H. Low.

ATTORNEY.

UNITED STATES PATENT OFFICE.

PATRICK FLOOD, OF ALBANY, NEW YORK.

CAR-BRAKE FOR STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 566,072, dated August 18, 1896.

Application filed August 29, 1895. Serial No. 560,941. (No model.)

To all whom it may concern:

Be it known that I, PATRICK FLOOD, of Albany, in the county of Albany and State of New York, have invented new and useful

Improvements in Car-Brakes for Street-Railways, of which the following is a specification.

This invention relates to improvements in that class of car-brakes in which a suitably-formed brake-shoe is interposed between the tread of the car-wheels and the upper face of the track-rails when the motion of the car is to be stopped; and it consists of the brake-mechanism illustrated in the accompanying drawings, described herein, and pointed out in the claims which form part of this specification.

In the accompanying drawings, which are herein referred to and form part of this specification, Figure 1 is an inverted plan view of the bottom of a car provided with my improvements; Fig. 2, an enlarged longitudinal section of part of the lower portion of the car, the floor of the car being shown as broken apart and the brake-shoe in position to stop the motion of the car; Fig. 3, a partial front elevation of the forward end of the car; Fig. 4, an enlarged and detached inverted plan view of the brake-shoe, and Fig. 5 a side elevation of the latter.

As represented in the drawings, A designates the framework for the running-gear of the car, consisting of side-bars 1, provided with pendent lugs 2, and connected together by means of tie-bars or girths 3, all of which is usually made of wrought-iron or other suitable metal; B, car-wheels, which are secured to axles C in the usual manner. The latter are journaled in suitable journal-boxes, (not shown in the drawings,) which are carried by the framework A.

D is the car-floor, which forms a permanent part of the body of the car, and has a dashboard E at each end; F, a bracket pendent from one of the girths 3 or other adjacent part of framework A. Said bracket is arranged to receive a lever G, which is fulcrumed to its lower end for a purpose hereinafter explained.

A swinging frame consisting of pendulous arms H and a transverse bar I, which are secured together by means of jam-nuts 5 or other suitable fastenings, is jointed to the lugs 2 by means of pivots 4, that will allow

said swinging frame to oscillate in the direction of the length of the car. As shown in the drawings, the arms H and transverse bar I are made separately and secured together as above set forth, but when preferred the parts of said swinging frame may be integral. A pair of horizontal links J is jointed to the transverse bar I and arranged to move longitudinally in respect to the length of the car, and so that said transverse bar will impart simultaneous movement in corresponding directions to the links J. The outer end of the links J is jointed to the lower end of a pair of swinging links J', whose upper end is jointed to the lugs 2 of the frame A. Preferably, but not essentially, the distance between the centers of the pivot-holes in said lugs is slightly greater than between the like holes in the horizontal links J, the variation in such distances being in a ratio of about eight to nine, and the object of such variation being to effect a slight tilting movement of the horizontal links J as they are moved toward the car-wheels. To the inner end of each link J an arm K can be jointed or made integral therewith, as may be preferred, and to the inner end of each arm K a brake-shoe L is jointed. The upper face of the brake-shoe is made concave to fit the periphery of a car-wheel B, and the lower face of said brake-shoe is formed on a plane to bear upon the upper face of a track-rail M and for the purpose of obtaining greater frictional adhesion of said brake-shoe to the track-rail M.

The brake-shoe L is provided with horns 7, which project upwardly at either side of a car-wheel B, for the purpose of preventing the brake-shoe from being moved sideways out of a position that will insure it from being correctly positioned between the periphery of a car-wheel and the face of a track-rail.

The brake-shoes L are carried into place between the periphery of a car-wheel B and the face of a track-rail M by means of a spiral spring N, which has one of its ends connected to the bar I and its other end secured to any fixed part of the car, like the motor-case O, as shown in Fig. 2 and to prevent the brake-shoes L from being normally held in contact with car-wheel B by the spring N the lever G is connected to the bar I, and the upper end of said lever is connected by a

chain P to a hand-lever Q, that is fulcrumed to the dashboard E. Said hand-lever (shown in dotted lines in Fig. 3) is fitted to engage in the notches of a notched bar R, that is secured to said dashboard E, and thereby the spring N will be rendered inactive for the time the hand-lever Q is thus engaged to force the brake-shoe under the car-wheel. The chain P extends rearward from the lever G to a sheave S, pivoted to the floor of the car, and, passing around said sheave, it is carried around a sheave T to pass upwardly, and is secured to the hand-lever Q. To enable the brake-shoe L to be drawn back from the opposite end of the car, a foot-lever U is arranged on the floor of the car, so as to be accessible to an operative standing on the rear platform of the car. Said foot-lever is connected by a chain V to the upper end of the lever G, and by applying the pressure of the foot to the foot-lever U the lever G will be moved to retract the brake-shoe L from its place under a car-wheel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a brake-shoe connected to a swinging frame and formed to bear between the periphery of a car-wheel and the upper face of a track-rail, and a spring arranged to force said brake-shoe into a posi-

tion between the car-wheel and track-rail, of a lever, G, connected to said swinging frame and to a chain which connects with a hand-lever, a hand-lever, Q, fitted to take into the notches of a notched bar, R, and retain the brake-shoe in a retracted position, as and for the purpose herein specified.

2. The combination, with a brake-shoe, L, formed to fit the tread of a car-wheel and the face of a track-rail, a swinging frame—consisting of arms, H, and transverse bar, I—jointed to brackets, 2, on frame A, horizontal links, J, and swinging links, J'; said swinging frame being connected to the brake-shoe as described, a spring, N, arranged to normally retain the brake-shoe in frictional contact with a car-wheel, a lever, G, connected to said swinging frame and to a hand-lever, Q, fulcrumed at one end of the car, and a foot-lever, U, fulcrumed to the opposite end of the car—in respect to the hand-lever Q—and connected as described to the lever G; whereby the brake-operating mechanism can be operated at either end of car for effecting a retraction of the brake-shoe from the car-wheel, as herein specified.

PATRICK FLOOD.

Witnesses:

WM. H. LOW,
ROBT. STURTEVANT.