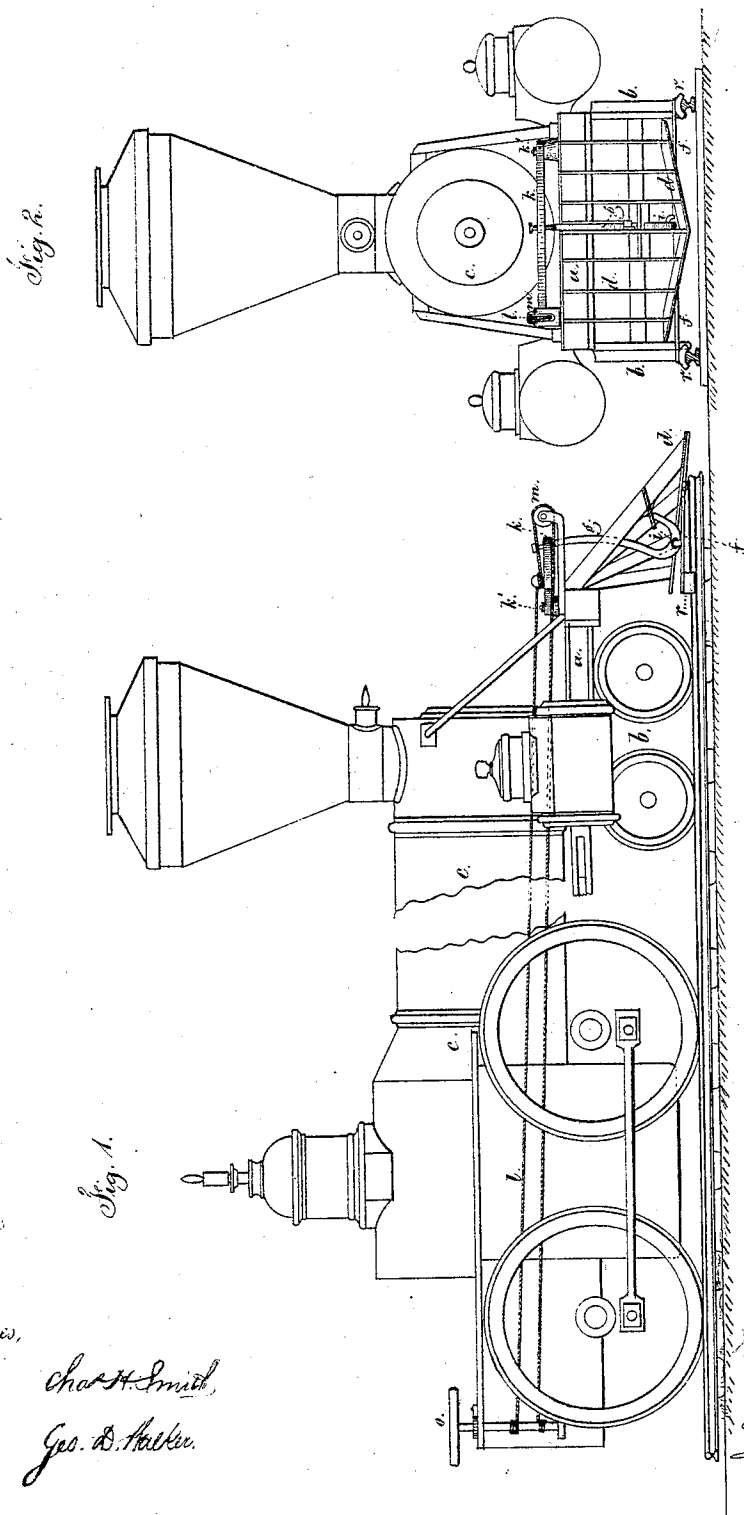


W. H. M. SANGER.

Car-Brakes.

No. 135,161.

Patented Jan. 21, 1873.



Witnesses,

Chas. H. Smith,
Geo. D. Parker.

Inventor.

Wm. H. M. Sanger,

L. M. Ferrell
att'y.

UNITED STATES PATENT OFFICE

WILLIAM H. M. SANGER, OF BAY SIDE, NEW YORK, ASSIGNOR TO KATIE SANGER, OF SAME PLACE.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. 135,161, dated January 21, 1873.

To all whom it may concern:

Be it known that I, WM. H. M. SANGER, of Bay Side, in the county of Kings, and State of New York, have invented an Improvement in Brakes for Railway Trains, of which the following is a specification:

This invention is made for stopping the train with rapidity, and giving to the engineer the control of the train, and at the same time relieving the wheels from the wear and injury arising from the brake-blocks holding the wheels so firmly as to cause them to slip upon the track and wear flat at places.

I make use of a brake-bar at the front end of the engine beneath the cow-catcher or the frame, upon which brake-bar there are shoes to rest upon the surfaces of the rails when the bar is pressed down by the action of the lever to produce the friction required to stop the train. This bar is firmly supported from the cow-catcher or frame of the locomotive-engine, so as to withstand the great strain to which it is subjected; and the mechanism that acts upon the said lever is under the control of the engineer, and by means thereof the train can be arrested by him with great rapidity and without injury to the wheels.

In the drawing, Figure 1 is a side view representing the said invention and part of the locomotive-frame; and Fig. 2 is a front elevation of the cow-catcher and brakes.

The engine is of any desired construction. I have shown the frame *a*, truck-wheels *b*, part of the boiler at *c*, and cow-catcher at *d*. The brake-bar *f* is connected with the cow-catcher *d*, by hinges or joints. *g* is a lever, that has its fulcrum at *i*, and it is connected at the upper end to the cross-lever *k*, and this has its fulcrum at *k'*, and is moved by a rope or chain,

l, leading over the pulley *m* to the hand or brake-wheel *o*, so that the engineer can force the brake-bar down upon the tracks with great force, and the shoes *r r*, that are upon the under side of the bar *f*, serve to protect the brake-bar from wear, and also increase the adhesion to the rails, so that the train can be stopped with rapidity. The brake-bar *f*, and shoes with their actuating levers, are under control of the engineer, and are in position to aid in removing obstructions as well as operating as a brake.

Steam power may be employed to actuate this brake; and when the shoes are flanged they tend to keep the locomotive upon the track.

Springs may be employed to raise the brake-bar from the track when not in use.

I do not claim a shoe pressed upon the track to act as a brake, as this has been employed. Neither do I claim shoes applied to a locomotive engine between the truck-wheels and drivers, as these have been made use of and actuated by levers upon the engine, but they do not tend to remove obstructions; hence the truck-wheels or locomotive may be thrown from the track. In my improvement the brake-blocks and bar act as track-clearers.

I claim as my invention—

The brake-bar *f* hinged upon the cow-catcher, and provided with the shoes *r r*, in combination with the levers *g* and *k*, and rope or chain *l*, as and for the purposes set forth.

Signed by me this 7th day of October, A. D. 1872.

WM. H. M. SANGER.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.