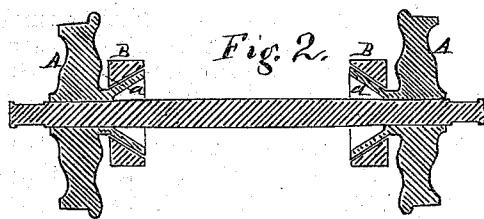
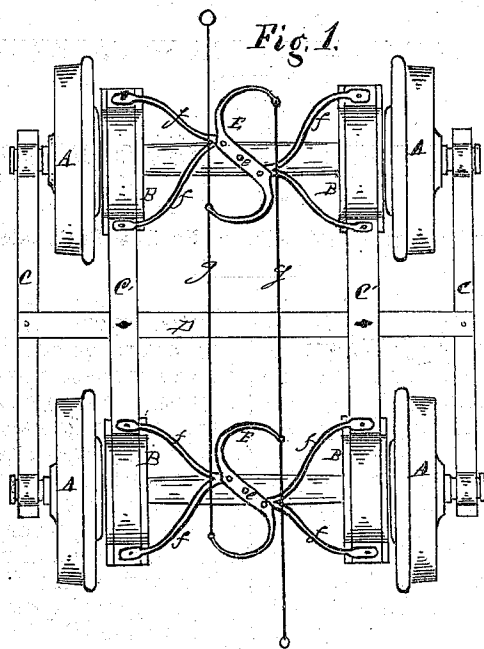


S. BALKWILL & W. W. BALKWILL
 Improvement in Railway-Car Brakes.

No. 129,880.

Patented July 30, 1872.



Witness

Inventors.

Geo. W. Schmitt
C. E. Wyman

W. W. Balkwill
S. Balkwill

UNITED STATES PATENT OFFICE.

STEPHEN BALKWILL AND WASHINGTON W. BALKWILL, OF CLEVELAND,
OHIO.

IMPROVEMENT IN RAILWAY CAR-BRAKES.

Specification forming part of Letters Patent No. 129,880, dated July 30, 1872.

SPECIFICATION.

We, STEPHEN BALKWILL and WASHINGTON W. BALKWILL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Car-Brakes, of which the following is a specification:

This invention consists in the construction and arrangement of parts as hereinafter described and claimed.

In the drawing, Figure 1 is a plan of a car-truck embodying our invention. Fig. 2 is a longitudinal section of wheel and axle, showing the cones upon the wheel.

A, Figs. 1 and 2, represents a car-wheel cast in the ordinary form, but having on their inside surface, at or near the hub, a cone-shaped shell, *a*, cast with and forming part of the wheel. Surrounding the cone is a sleeve or band, B, the object of which is to provide a strong and efficient bearing upon the wheel to break up its motion. The means for operating the brake is as follows: A frame, C C', of iron is constructed similar to that represented; the outside pieces *c* are attached to the boxes of the journals of the axles, and may have one or more cross-pieces, D, upon which is supported the rest of the frame-work for operating the brake. *c' c'* are bars lying across the frame, and which support at their ends a sleeve, B, said sleeve not touching the cones only when brought to bear against them by the levers. On the under side of the car are

pivoted levers E E; at their centers *e e* these levers are connected with the sleeves B by curved connecting-rods *f f*. Straight rods *g g* connect the levers E E together and with the hand-cranks at each end of a car, by which the brake is operated. The brakes, with their frame-work, are secured to the journal-boxes and to the body of the car, thus leaving the wheels wholly independent from sustaining the brakes, and thus dispenses with the rattling unpleasant clattering of the parts as when connected with the axles.

By this mode of construction a very efficient and easily-operated brake is attained, that is not liable to get out of order, nor does the wear of the brake lessen its effect on the wheels.

We claim as our invention—

The herein-described construction of the friction-bands B B, cones *a a*, forked connections *f f*, S-shaped levers E, rods or cords *g g* and the frame C C' D resting upon the journals of the axles, all arranged and operating as set forth, whereby draft upon the rods *g* causes the friction-bands to approach each other and tightens them on the cones, as specified.

STEPHEN BALKWILL.
W. W. BALKWILL.

Witnesses:

J. G. POMERENE,
GEO. W. TIBBITTS.