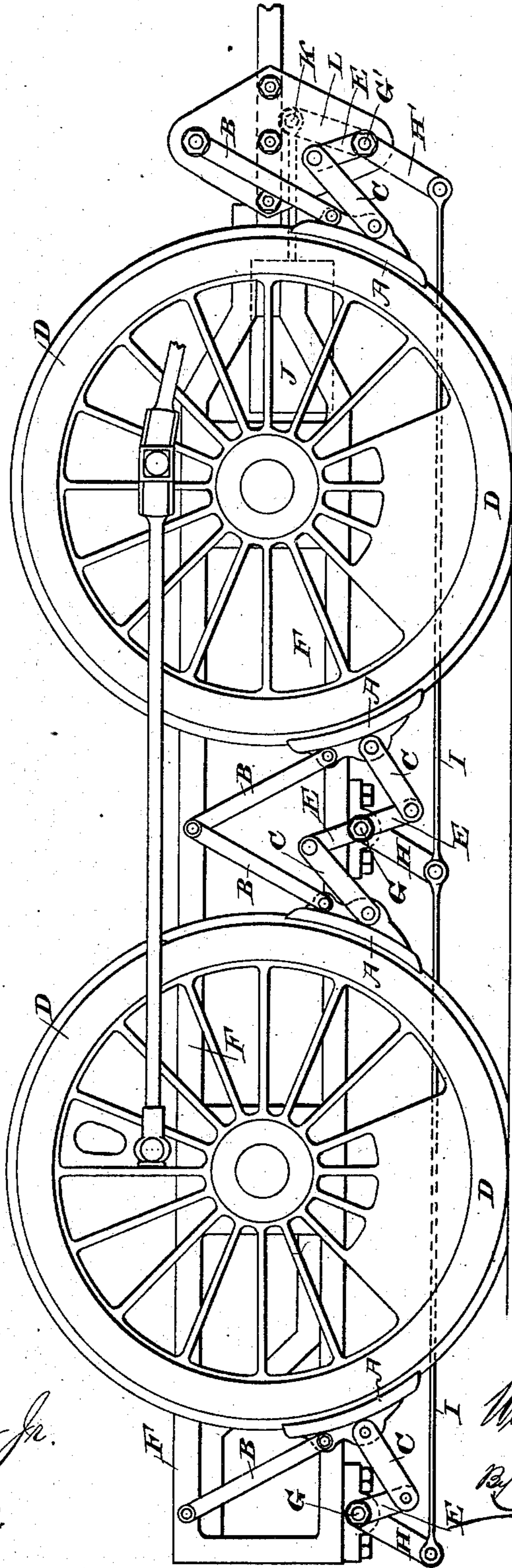


(No Model.)

W. B. TURNER.
LOCOMOTIVE BRAKE.

No. 278,471.

Patented May 29, 1883.



Attest:
Geo. T. Smallwood Jr.
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Inventor:
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attys

UNITED STATES PATENT OFFICE.

WILLIAM B. TURNER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD TO
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LOCOMOTIVE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 278,471, dated May 29, 1883.

Application filed March 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. TURNER, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Locomotive-Brakes, of which the following is a specification.

The object of my invention is to enable the brake-pressure to be applied with equal force to opposite sides of each driving-wheel. To this end I employ shoes each suspended from the locomotive-frame or from some attachment thereto by a hanger, and moved to and from the tread of the wheel by a pitman actuated by a crank. The several cranks are operated by any convenient motor or motors. They may all be attached rigidly to connecting or impulse rods actuated by the motor, so that all the shoes will be advanced or retired through equal distances relatively with each movement of the motor. If preferred, equalizing-levers or other well-known equivalent devices may be interposed between the motor and any pair, set, or system of the said shoes, so that each of said pairs or systems shall be advanced to a bearing against the tread of the wheel and serve in its turn as a fulcrum for the remainder.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawing, which represents a side view of the driving-wheels of a locomotive with my improved brakes applied thereto.

F F represent parts of the frame of a locomotive, and D D the driving-wheels.

A A are brake-shoes suspended by hangers B B from the frame F, and connected by pitmen or rods C C to crank-arms E, keyed or otherwise rigidly fixed to the shaft G, to which are also fixed operating-arms H, connected together by rods I I. One shaft, G', of the system is actuated by a suitable motor, piston, or diaphragm. For illustration I have shown at J a cylinder with a pitman, K, actuating an arm, L, keyed on the shaft G', which latter acts on its own shoes by its arms E and pitmen C, and at the same time, through its arms H' and the connecting-rods I, acts simultaneously on all the other arms H, shafts G, crank-arms E, pitmen C, and shoes A of the system,

bringing a simultaneous and equal pressure on different sides of the driving-wheels D, at as nearly opposite points as may be desired.

It will be observed that under my system all the shoes have a positive and equal movement. My system in this respect differs from those in common use, in which the brake-shoes are advanced by an arrangement whereby as soon as any one of the shoes is in contact with the wheel it becomes a fulcrum for all its fellows, and so until when all are applied each one has become a fulcrum for every other. In my system I may thus fulcrum one side or one pair of brakes against the other pairs, and each shoe is always related to at least one other in such wise that their movements are exactly equal and simultaneous, both in distance and in time; and hence the application of equal pressure to the wheels is provided not by the fulcruming of one shoe attachment to another, as under the ordinary system, but by proper original mounting and location of the respective shoe attachments.

My invention will be seen to relate exclusively to locomotive-brakes, and hence has no connection with car-brakes in which the shoes are connected by transverse beams passing beneath the car, such beams being inapplicable to driver-brakes of locomotives.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a brake mechanism consisting of a series of brake-shoes arranged in two sets, one upon each side of the vehicle, the set upon one side being independent of the set on the other side, a series of rock-shafts swiveled upon the vehicle-frame and actuated simultaneously and through equal distances by pitmen—one to each shaft—said pitmen being severally attached to and actuated by or from the outer arms of the rock-shafts, the inner arms of said shafts being all connected by rods or equivalents having longitudinal movements communicated from the brake-motor, the shoes being arranged one at each side of each of the wheels:

WILLIAM B. TURNER.

Witnesses:

FREDERICK GRASMUCK,
C. H. BETJIMAN.