(No Model.)

D. VAN DER LINDEN.

CAR BRAKE.

No. 289,943. Patented Dec. 11, 1883.

Fig. 1.

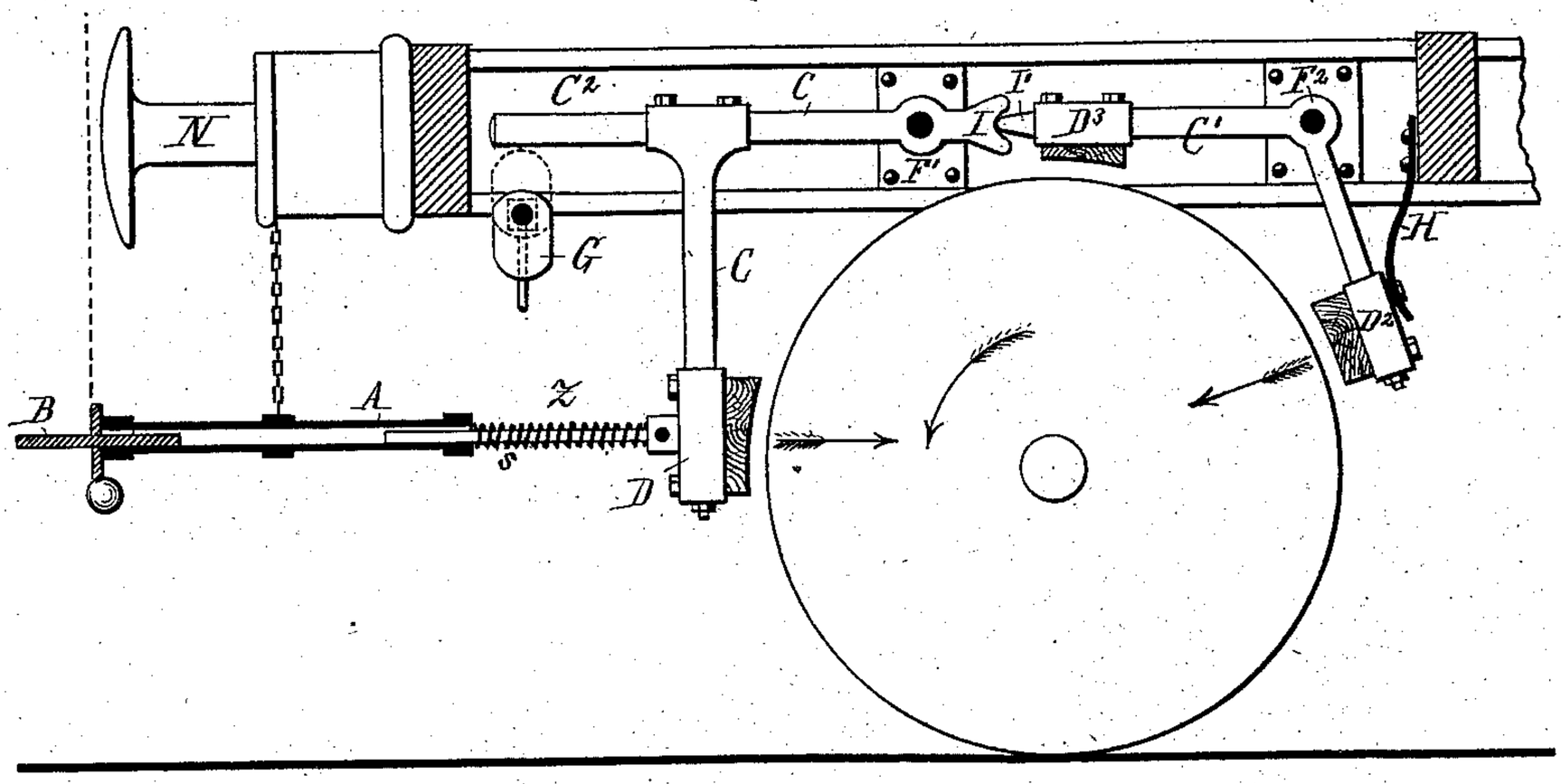
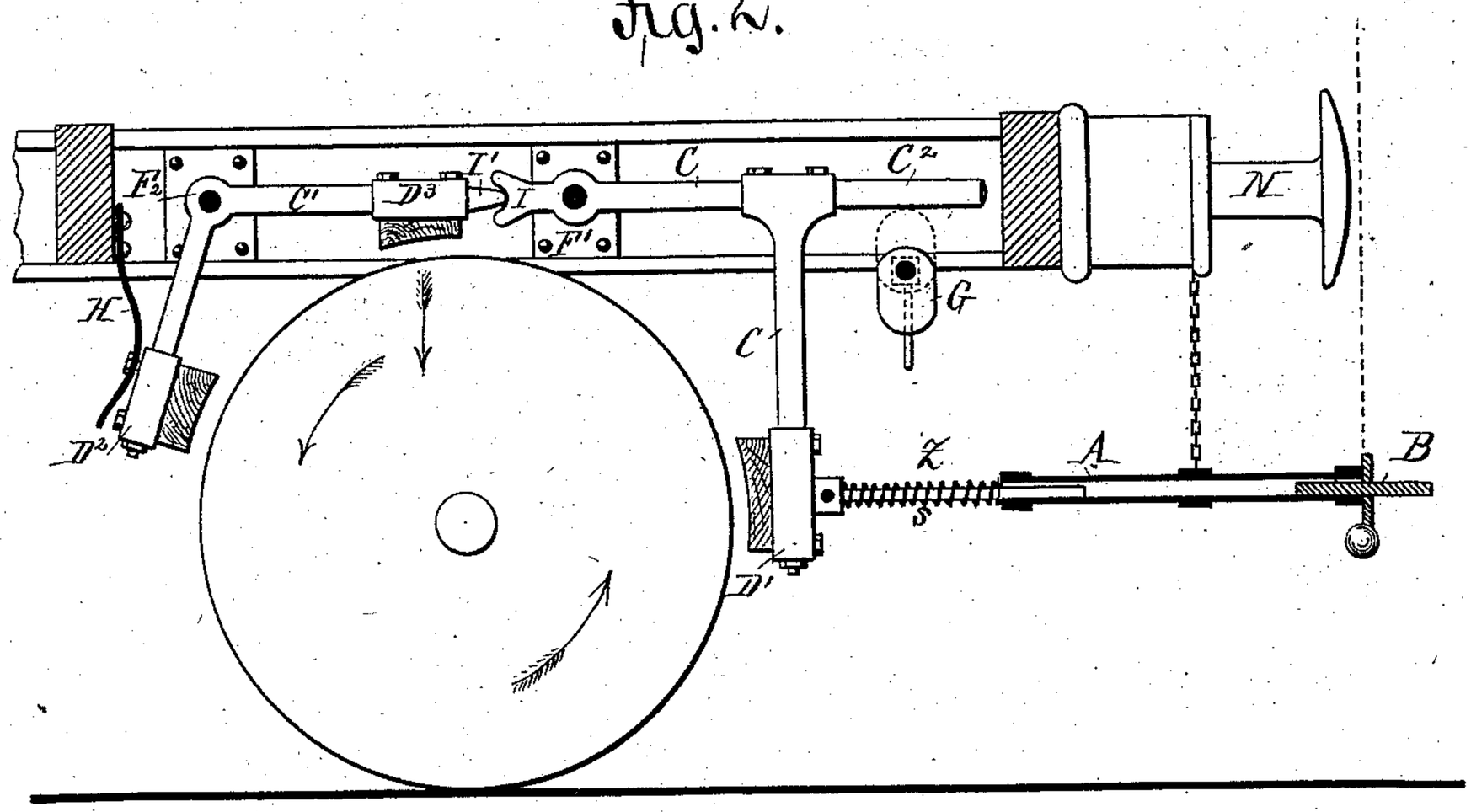


Fig. 2.



WITNESSES:

F. H. Rosenbaum.

Otto Risch.

INVENTOR

D. van der Linden

BY Paul Goepel.

ATTORNEY

UNITED STATES PATENT OFFICE.

DIRK VAN DER LINDEN, OF HOORN, NETHERLANDS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 289,943, dated December 11, 1883.

Application filed May 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, DIRK VAN DER LINDEN, of Hoorn, in the Kingdom of the Netherlands, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

This invention has reference to improvements in car-brakes by which the momentum of the cars is utilized for putting on the brakes automatically when the locomotive has stopped; and the invention consists of two angular and fulcrumed brake-levers that are actuated by a spring-cushioned brake-coupling extending from the brake-lever of one car to that of the next car, and by means of an intermeshing device of the brake-levers.

The invention consists, secondly, of the combination of the fulcrumed brake-levers with an eccentric and shaft, and with mechanism for operating the same, so that the brake-shoes can be applied to the truck-wheels independently of the coupling mechanism of the brakes when the train is to be made up.

In the accompanying drawings, Figures 1 and 2 represent longitudinal sections of two adjoining cars with my improved brake.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, N represents the buffers of two railway-cars, to which are connected the customary couplings and brake-couplings, which are suspended by chains vertically below each set of buffers N.

The brake-coupling of each car consists of a tubular sleeve, A, which is connected with the sleeve A of the next adjoining car by a screw or other connecting device, B. In the opposite end of each sleeve A is guided a cylindrical rod, Z, which is pivoted at its opposite end to an angular brake-lever, C, fulcrumed by its upper arm at F′ to the car-frame. Between the end of the sleeve A and the pivot-connection of the rod Z with the brake-lever C is interposed a strong spiral cushioning-spring, *s*. To the lower arm of the brake-lever C is applied a brake-shoe, D′, while the upper arm of the same is provided with a forked or toothed end, I, that engages the tapering end I′ of the upper arm of a second angular brake-lever, C′, which is fulcrumed to the car-frame at F^2. The upper arm of the brake-lever C′ is provided with a brake-shoe, D^3, next adjoining the tapering end I′, and with a brake-shoe, D^2, at the end of its downwardly-extending arm. A strong leaf-spring, H, is connected to the downwardly-extending arm of the lever C′, by which the brake-lever C′ is moved away from the truck-wheels when the brake is released.

The operation of the brake mechanism is as follows: As long as the train is in motion the brake-couplings exert no influence upon the cushioning-springs *s*, so that consequently a small space is left between the brake-shoe D′ and the truck-wheel, which space has to be preferably about thirty millimeters in width. When the train is to be brought to a stop, and the engineer shuts off the steam, the cars crowd by their momentum one against the other, whereby the distance between them is reduced. The cushioning-springs of the brake-couplings A are thereby compressed, and the brake-shoes D′ pressed against the periphery of the truck-wheels. Simultaneously the brake-levers C′ are moved on their fulcra by means of the intermeshing gearing I I′, and thereby the brake-shoes D^2 pressed upon the opposite side of the wheels. As soon as the locomotive is started again the pull exerted thereby upon the brake-couplings relieves the cushioning-springs and causes the brake-levers C′ and C to turn on their fulcra F^2 and F′ by the action of the leaf-spring H, whereby the brake-shoes D^2 D′ are removed from the wheels. The brakes are automatically applied by the stopping of the locomotive and an effective brake action exerted on opposite sides of the wheels.

For the purpose of using the brakes also when making up the train, the upper arm of the brake-lever C′ is also provided with a brake-shoe, D^3, which is applied to the truck-wheel by means of an eccentric, G, that is located below a rearward extension, C^2, of the upper arm of the brake-lever C. The eccentric G is applied to a transverse shaft that turns in bearings of the car-frame, and is adapted to be turned around its axis through an angle of one hundred and eighty degrees by any approved mechanism located on the platform or other suitable point of the car. As soon as the eccentric G is turned up by its operating mechanism, it raises the extension C^2 of the brake-lever C, and causes, by the inter-

mediate gearing, I I′, the lowering of the lever C′ and the tight pressing of the brake-shoe D^3 to the circumference of the wheel. As soon as the eccentric G is released from the extension-arm C^2 of the brake-lever C, the leaf-spring H returns the brake-levers C′ and C into their normal position of rest.

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

1. As an improvement in railway-car brakes, the combination, with fulcrumed angular levers C C′, which are connected at their upper arms by an intermeshing gearing, I I′, and provided at their lower arms with brake-shoes D' D^2, of a brake-coupling, A B, that is applied, by a connecting-rod, Z, and cushioning-spring *s*, to the lower arm of the brake-lever C, and of a leaf-spring, H, that is applied to the lower arm of the brake-lever C′, substantially as set forth.

2. As an improvement in railway-car brakes, the combination, with the fulcrumed angular brake-levers C′ and C, which are connected at their upper arms by an intermeshing gearing, I I′, of a leaf-spring, H, applied to the lower arm of the brake-lever C′, a brake-shoe, D^3, at the upper arm of the same lever, of an eccentric, G, adapted to engage an extension-arm, C^2, of the angular lever C, and of mechanism for turning the eccentric G and engaging the brake-lever C, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

D. V. D. LINDEN.

Witnesses:
A. S. DOCEN,
G. GROENWELD.