

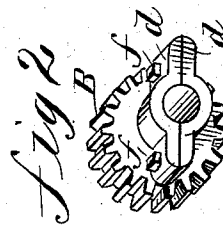
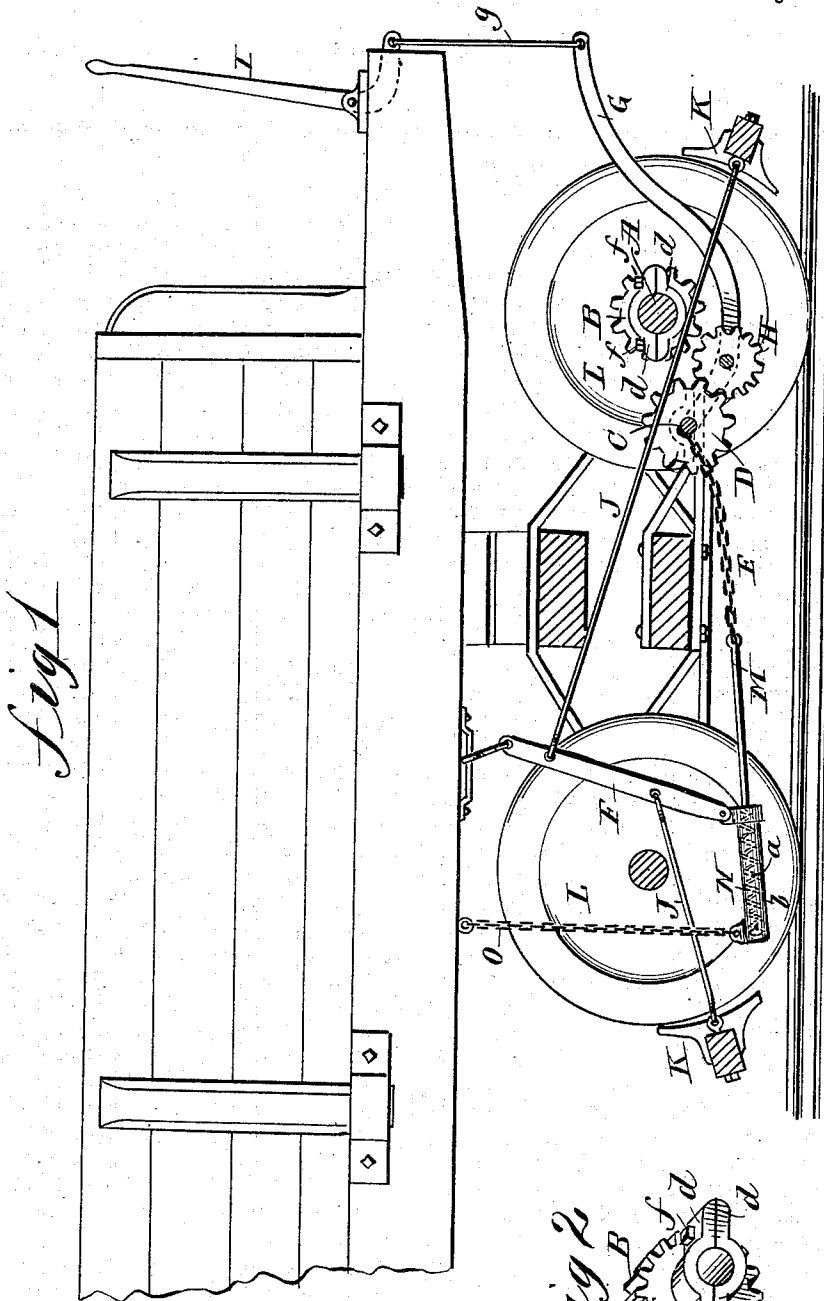
(No Model.)

C. W. SMITH.

CAR BRAKE.

No. 278,616.

Patented May 29, 1883.



WITNESSES:
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UNITED STATES PATENT OFFICE.

CHARLES W. SMITH, OF COALESBURG, MISSOURI.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 278,616, dated May 29, 1883.

Application filed March 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SMITH, of Coalesburg, of the county of Henry and State of Missouri, have invented a new and useful Improvement in Car-Brakes, of which the following is a full, clear, and exact description.

My invention relates to that class of car-brakes in which the brakes are applied by the momentum of the cars; and it consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letter of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional elevation of a railroad-truck having my new and improved car-brake applied thereto, and Fig. 2 is a perspective view of a divided cog-wheel by means of which my improved brake may be applied to cars already in use.

Upon the axle A of the car-truck I secure rigidly the cog-wheel B, and in rear of and a little below the axle A, I journal in a suitable frame attached to the frame of the truck the shaft C, on which is rigidly secured the cog-wheel D, and to this shaft is attached the brake-chain E, which has a safety flexible connection with the lower end of the brake-lever F, for the purposes hereinafter described.

Fulcrumed upon the shaft C is the lever G, on which is journaled the pinion H, which constantly meshes with the cog-wheel D, and the lever G is attached to the bent hand-lever I, that is pivoted upon the platform of the car by the connecting-rod g, so that by drawing back upon the lever I the outer end of the lever G will be raised, causing the cog-wheel H to mesh with the cog-wheel B, which will cause the cog-wheel D and shaft C to be revolved from the axle A, which will wind the chain E upon the shaft C, and thus draw forward the lower end of the brake-lever F, which, through the connecting-rods J J, will apply the brake-shoes K K to the wheels L L of the trucks.

The chain E, instead of being attached directly to the lower end of the lever F, which would make a too rigid connection, is attached to the rod M, which is cushioned in the cylinder N, which is pivoted to the lower end of the lever F, as shown, which makes the connection a flexible one, thus avoiding all danger of breaking any of the parts when the brakes are applied.

The rod M is by preference cushioned in the cylinder N by means of the spring a, placed therein, through which the rod passes, the head b being formed upon the end of the rod, so that the forward movement of the rod will be against the pressure of the spring; but other means for this purpose might be used and not depart from the spirit of my invention. The outer end of the cylinder N is by preference suspended from the truck by means of the chain O, which holds it from displacement and permits it to swing forward and backward when the brakes are applied and let off. In order that I may easily apply my invention to railroad-cars already in use, I make the cog-wheels B in two parts and form each of the parts at the sides with the flanges d, through which the bolts ff are passed for bolting the parts of the cog-wheel securely upon the axle, as will be understood from Fig. 1.

Constructed in this manner, it will be seen that the brake as a whole is very cheap, durable, easily and quickly applied, is effective, and acts entirely upon the momentum principle, and may be applied with equal facility to new cars and to cars already in use.

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

1. The combination, with a rigid axle-pin, B, of a rotary shaft, C, carrying a rigidly-attached pinion, D, and lever G, the chain E, connected with the brake mechanism, and the pinion H, journaled on one side of the lever, whereby the lifting of lever G will cause the brake mechanism to be applied, as described.

2. The combination, with the windlass-chain E and the brake-lever F, of the rod M and cylinder N, containing spring a, said cylinder being pivoted at one end to lever F and suspended at the other flexibly from the car, whereby the brakes will be applied with a yielding pressure, and not by a sudden shock, as described.

3. The brake herein shown and described, consisting of the cog-wheels B, D, and H and winding-shaft C, in combination with the chain E, rod M, cushion-cylinder N, brake-lever F, rods J J, and lever G, by which the cog-wheel H is put in and out of gear with the cog-wheel B, substantially as described.

CHARLES W. SMITH.

Witnesses:

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