(No Model.)

G. J. SMITH.

AUTOMATIC BRUSH FOR RAILWAY TRACKS.

No. 534,290. Patented Feb. 19, 1895.

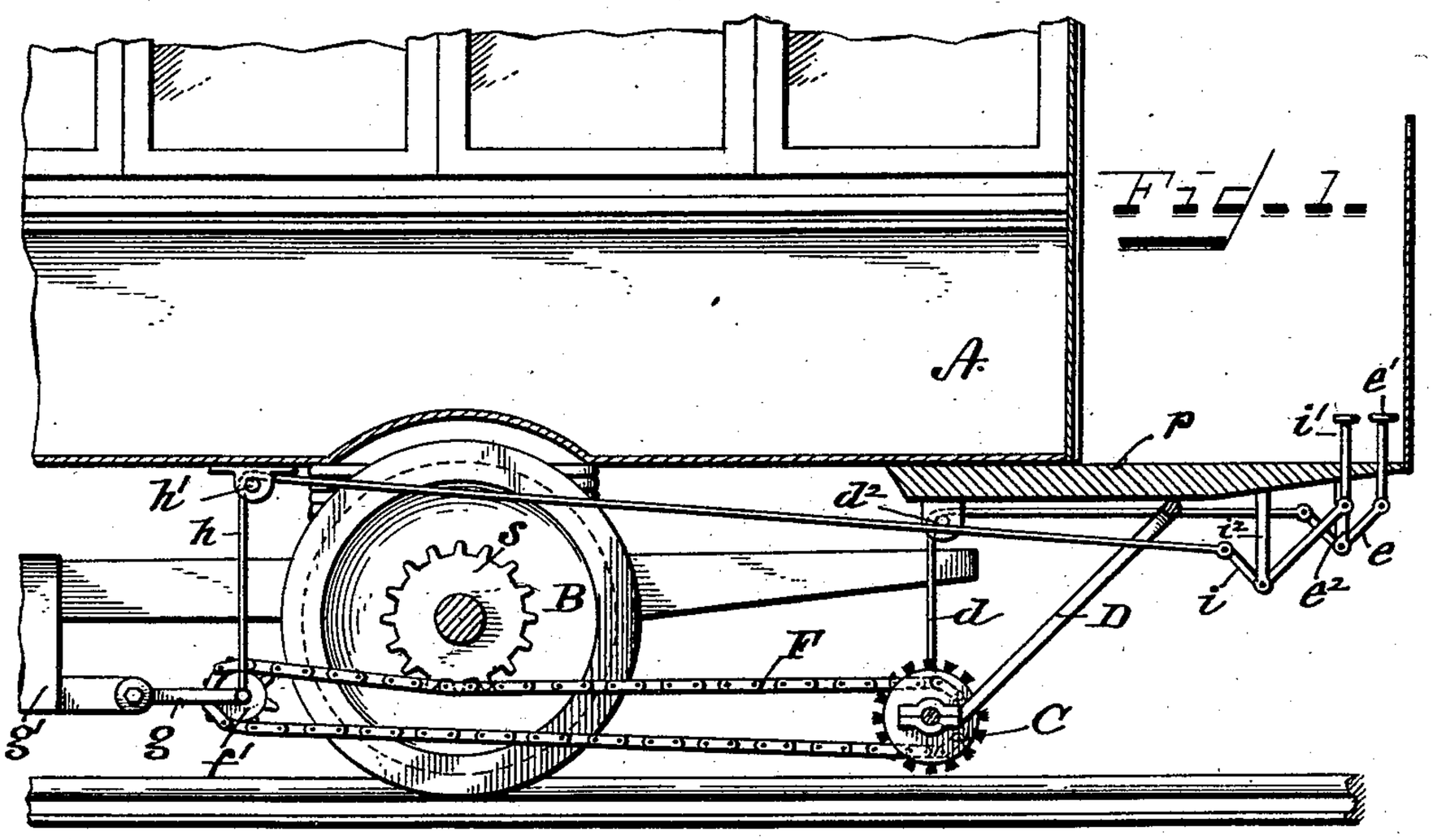

Fig. 1.

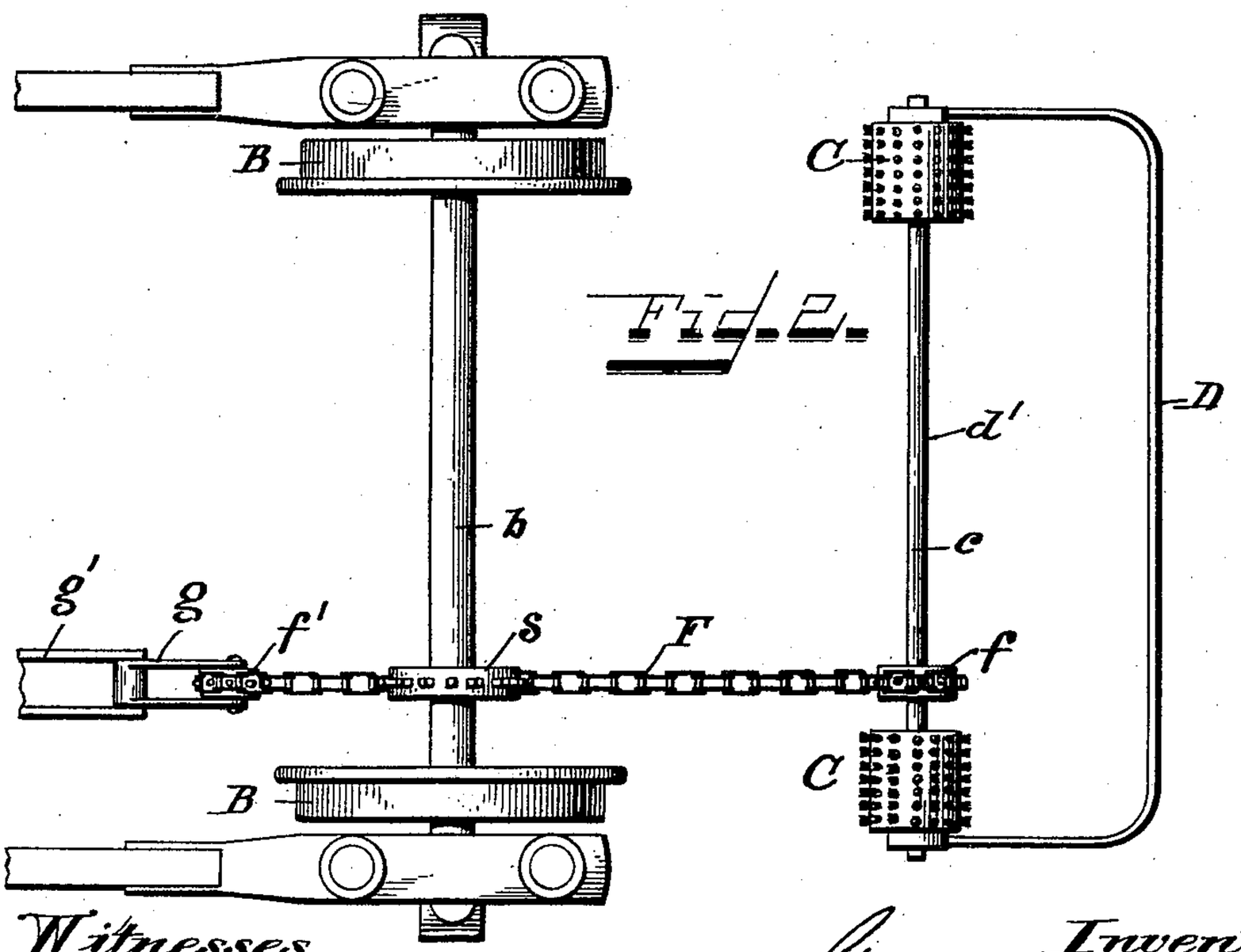

Fig. 2.

Witnesses.
Landon Freybler.
D. W. Thrasher

Inventor.
George J. Smith
by L. M. Rosa
Attorney.

UNITED STATES PATENT OFFICE.

GEORGE J. SMITH, OF COVINGTON, KENTUCKY.

AUTOMATIC BRUSH FOR RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 534,290, dated February 19, 1895.

Application filed June 25, 1894. Serial No. 515,650. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. SMITH, a citizen of the United States, residing at Covington, Kentucky, have invented new and useful Improvements in Automatic Brushes for Street-Railway Tracks, of which the following is a specification.

My invention relates to appliances for clearing the rails of dirt or minor obstructions in front of the wheels of an advancing street car; and consists, as hereinafter more fully described, of an appliance adapted to be attached to a street car, embodying a pair of revolving brushes provided with suitable driving devices, adapted to be thrown into or out of connection with one of the revolving axles of the car at the will of the driver or attendant, and into or out of operative relations with the track: the general object being to produce a simple and inexpensive device, of materials easily obtainable in the market, requiring but little labor or skill to assemble and fit together.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which—

Figure 1, is a side elevation of my invention complete attached to the car; and Fig. 2, is a plan view of same.

Referring now to the drawings, A designates the body of the car, B B two of its bearing wheels, and *b* their connecting axle.

The apparatus embodying my invention, consists: first, of a pair of cylindrical brushes, C, C, rigidly mounted upon an axle, *c*, journaled in and between the ends of a yoke, D, pivotally attached to the under side of the car, A, or its projecting platform, *p*,—the attachment being at a point forward of the vertical plane of the brushes. The brushes are spaced apart to the gage of the track, and are adjustably held suspended by means of a cord, or light chain, *d*, attached as at *d'* to the axle, *c*, passing thence vertically to and over an idler-sheave, d^2, at the under side of the car platform, and thence forward to one end of a bell-crank-lever, *e*, secured in a bracket frame, e^2, beneath the car platform. To the opposite end of the bell-crank-lever, *e*, is a foot-rest, *e'*, projecting through the platform of the car, to a position convenient to the foot of the driver or attendant. The construction is such, that, upon depressing the foot-rest and moving the bell-crank-lever, the brushes are raised from the track, and upon releasing the foot-rest, they drop again toward the track by their own weight.

The means for rotating the brushes are as follows:—Between the brushes, rigidly attached to the axle, *c*, at any convenient point, is a sprocket-wheel, *f*, carrying an endless sprocket chain, F, which passes to the rear beneath the car axle, to and around a similar sprocket-wheel, *f'*, journaled between the jaws of a yoke, *g*, pivotally hung upon a bracket, *g'*, depending from the frame work of the running gear of the car. The last named sprocket-wheel is suspended from the under side of the car body by a cord, *h*, carried upward over an idler-sheave, *h'*, and thence forward to a bell-crank-lever, *i*, pivoted in a bracket, i^2, beneath the car platform, *p*, and provided with a foot-rest, *i'*, extending through the car platform convenient to the foot of the attendant;—the construction being such, that, upon depressing said last mentioned foot-rest, the sprocket-wheel, *f'*, will be elevated; and when released, will again fall by its own weight. To give motion to the rotating brushes, an engaging sprocket-wheel, S, is secured to the car axle, *b*, above and in the vertical plane of the sprocket chain, F; and it will be seen, that, upon lowering the sheave, *f'*, the chain will be dropped out of engagement with the sprocket-wheel, S; and a like result follows from elevating the axle, *c*, containing the brushes, C; which, by means of the described yoke-connection with the platform of the car, moves in a rearward arc, thereby shortening the distance between the sprocket-wheels, *f*, *f'*, and allowing the chain to "sag" in its central portion out of engagement with the sprocket-wheel, S. These two adjustments enable the attendant to throw the brushes into or out of operation, as desired, and also to adjust the brushes to the level of the track.

Suitable catches of any convenient form (not shown herein) are provided to retain the foot-rests, *i'*, *e'*, in any position to which they are set.

As thus constructed, the brushes may be at any time thrown into operation when the car

is in motion, to clear the rails of dirt, snow, &c., or be instantly thrown out of operation until again needed.

The device is found to be especially useful for the use of electric railways where ground contacts are made at the wheel base upon the track.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a street car, the combination of the pivoted yoke; the axle journaled therein, carrying the brushes and a sprocket-wheel; the rear sprocket-wheel mounted in a suspended yoke; the sprocket-wheel upon the car axle; and the sprocket-chain connecting the brush-shaft and the rear sprocket-wheel and extended beneath and in the vertical plane of the driving sprocket upon the car axle; and means for raising and lowering the rear sprocket-wheel, substantially as set forth.

2. The combination, in a street car, of the rear sprocket-wheel, its suspending cord and platform connections; the brushes, their shaft and sprocket carried upon the pivoted yoke, and their suspending cord and platform connections; the sprocket driving chain; and the driving sprocket upon the car axle, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

GEORGE J. SMITH. [L. S.]

Witnesses:
C. B. SIMVALL,
THOMAS TOWERS.