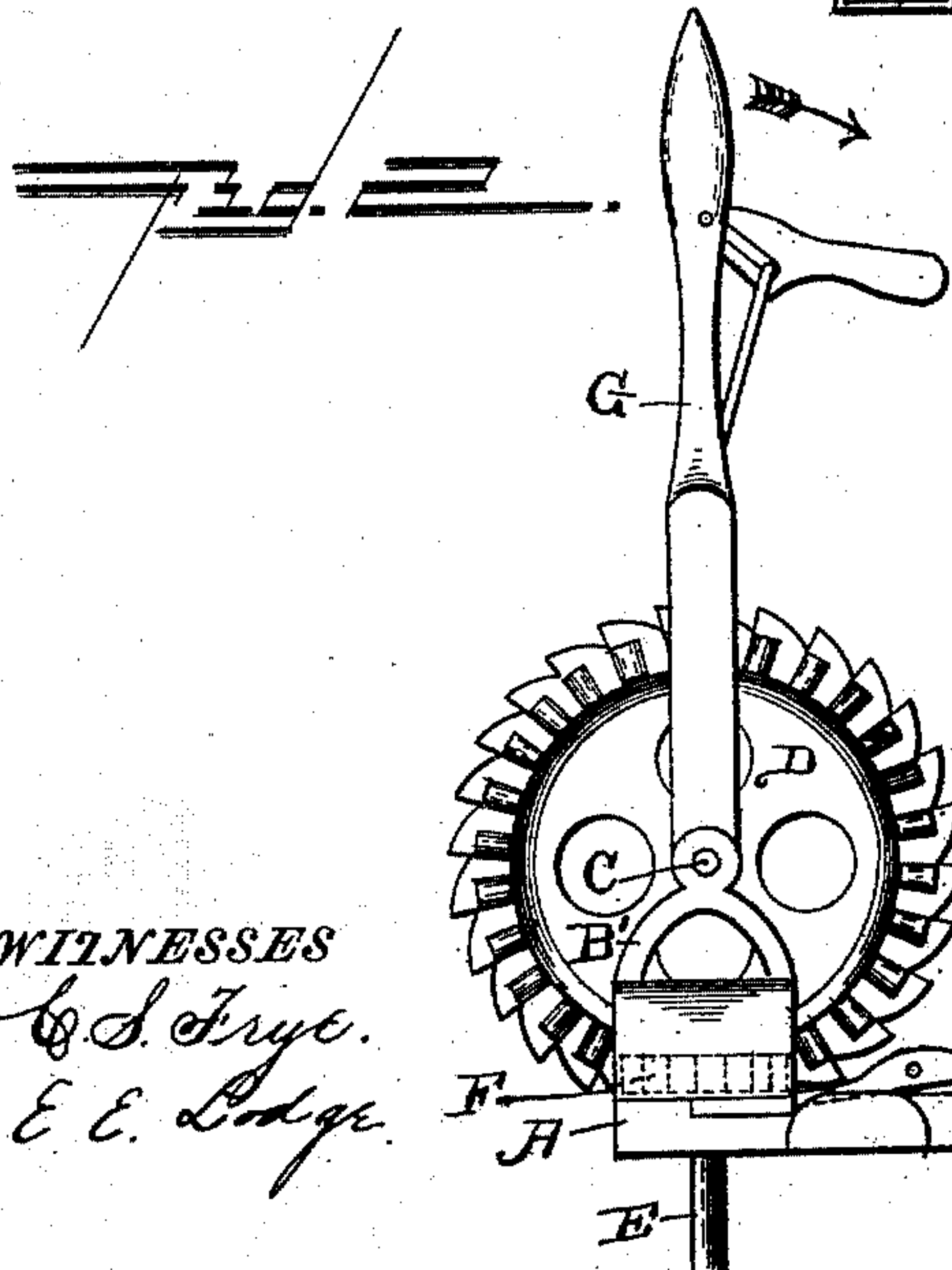
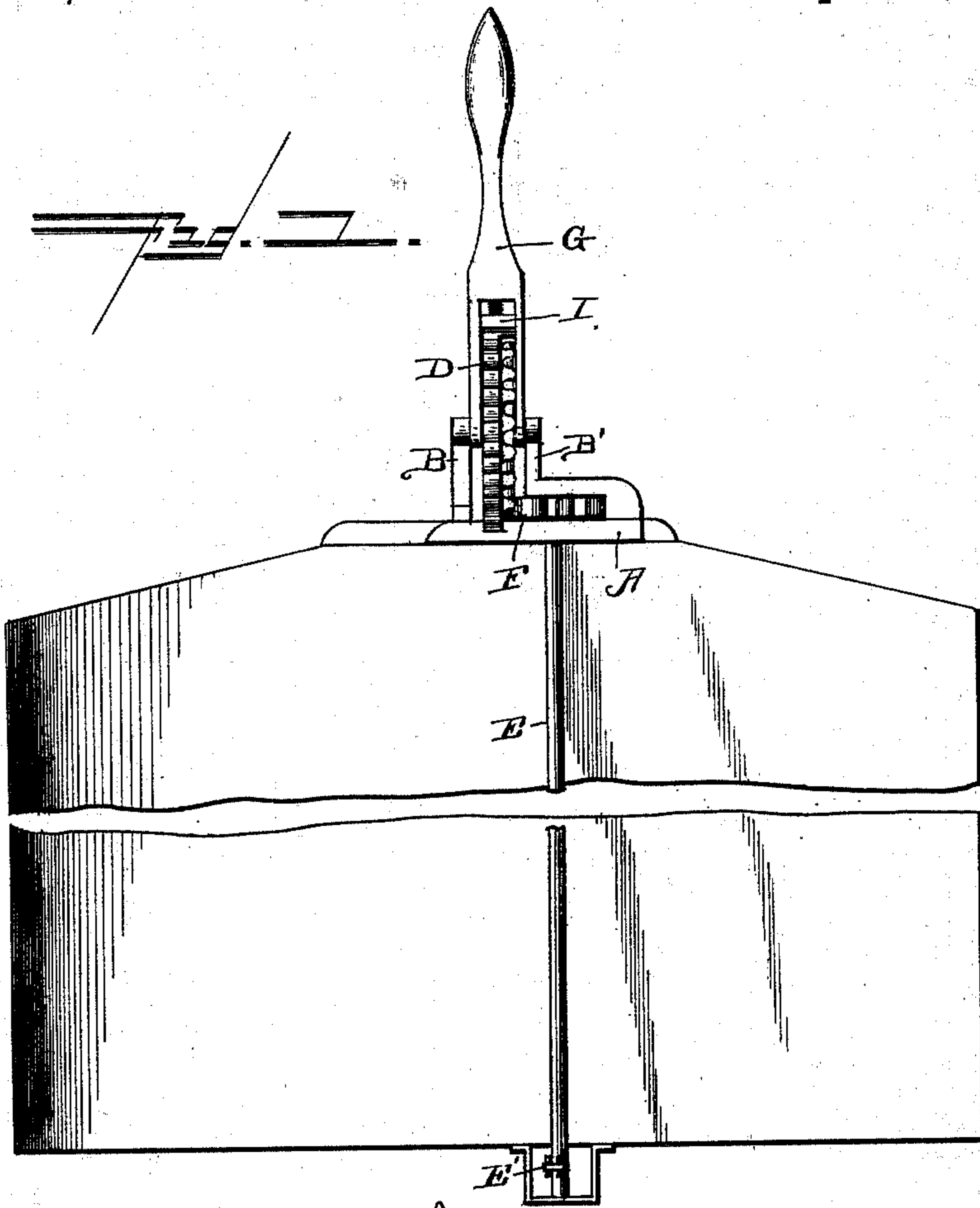


(No Model.)

J. W. BARNES.  
CAR BRAKE.

No. 483,414.

Patented Sept. 27, 1892.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOSEPH W. BARNES, OF VAN BUREN, ARKANSAS.

## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 483,414, dated September 27, 1892.

Application filed December 22, 1891. Serial No. 415,935. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH W. BARNES, a citizen of the United States, residing at Van Buren, in the county of Crawford and State of Arkansas, have invented certain new and useful Improvements in Car-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to improvements in car-brakes; and it consists in the peculiar construction, certain novel combinations, and the adaptation of parts hereinafter described, and particularly pointed out in the claim appended.

In the accompanying drawings, Figure 1 is a front elevation of my improved brake in position upon a car, and Fig. 2 is a side elevation of the same.

Referring by letter to the drawings, A indicates the base of my improved brake, which is connected in a suitable manner to the top or other part of a car. Preferably formed integral with the base A and rising therefrom are standards B B', in which is fixed a transverse shaft C, upon which is loosely journaled the combined ratchet and gear wheel D, which is provided with ratchet-teeth upon its periphery and cog-teeth upon one of its sides, as illustrated. Journaled in the base A and extending above and below the same is a vertical rotative shaft E, to which is connected one end of a brake-chain E', which is connected at its opposite end to brake apparatus of the ordinary or any approved construction. Fixed upon the upper end of the rotative shaft E, which is journaled in the lateral branch of the standard B', is a pinion F, which meshes with the cog-teeth of the gear and ratchet wheel D, whereby it will be seen that when said wheel D is rotated motion will be imparted to the said shaft and the brake-chain will be wound or unwound, according to the direction of rotation.

G indicates a bifurcated lever which straddles the wheel D and is fulcrumed upon the shaft C. This lever G is provided adjacent to the wheel D with a spring-pressed pawl I, which normally engages the ratchet-teeth of said wheel and is disengaged therefrom

through the medium of the short lever and pitman illustrated.

Fulcrumed on the base A, adjacent to the periphery of the wheel D, is a pedal-pawl J, which is normally held in engagement with the ratchet-teeth of said wheel to prevent backward rotation thereof.

In operation to set the brakes the operator pushes the lever G in the direction of the arrow and causes the wheel D to rotate in a corresponding direction, and through the medium of the pinion F causes the vertical shaft to rotate and wind the brake-chain upon it. By reason of the peripheral ratchet-teeth of the wheel D being beveled, as illustrated, it will be seen that when the lever G is moved in a direction opposite to that indicated by the arrow the pawl I thereof will ride freely over the ratchet-teeth of the wheel without moving the latter.

By the provision of a brake such as described it will be readily perceived that the brakeman is enabled to exercise a great leverage on the brake-chain and firmly set the brakes.

Although I have specifically described the construction and relative arrangements of the several elements of my improved brake, yet I do not desire to be confined to the same, as such changes or modifications may be made as fairly fall within the scope of my invention.

I am well aware of the patent granted to one Newcomb, March 14, 1876, and numbered 174,698, which shows a brake-chain, a vertical rotative shaft connected to the brake-chain and carrying a horizontal beveled pinion at its upper end, a vertically-disposed combined beveled gear and ratchet wheel, a horizontally-oblique shaft carrying a beveled pinion at one end engaging the cog-teeth of the beveled gear and ratchet wheel and carrying a beveled pinion at its opposite end engaging the beveled pinion of the vertical rotative shaft, a lever carrying a pawl for engaging the ratchet-teeth of the vertically-disposed gear and ratchet wheel, and a pedal-pawl for engaging the ratchet-teeth of said wheel and preventing backward rotation thereof, and I therefore make no claim to the same; but

What I claim, and desire to secure by Letters Patent, is—

In a car-brake, as described, the combina-



tion, with a brake-chain, a vertical rotative shaft connected to said chain, and a horizontal pinion fixed on the upper end of said shaft and having peripheral teeth, of the vertically-  
5 disposed wheel having cog-teeth on its side adjacent to its periphery, meshing with the teeth of the horizontal pinion of the vertical shaft and also having the peripheral beveled ratchet-teeth, the bifurcated lever straddling  
10 the said vertically-disposed wheel and fulcrumed on the shaft thereof, a spring-pressed pawl carried by said lever and engaging the ratchet-teeth of the vertically-disposed wheel, and a pawl engaging the ratchet-teeth of the vertically-disposed wheel and adapted to prevent backward rotation thereof, substantially  
15 as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH W. BARNES.

Witnesses:

BERKELEY NEAL,  
I. NEAL.