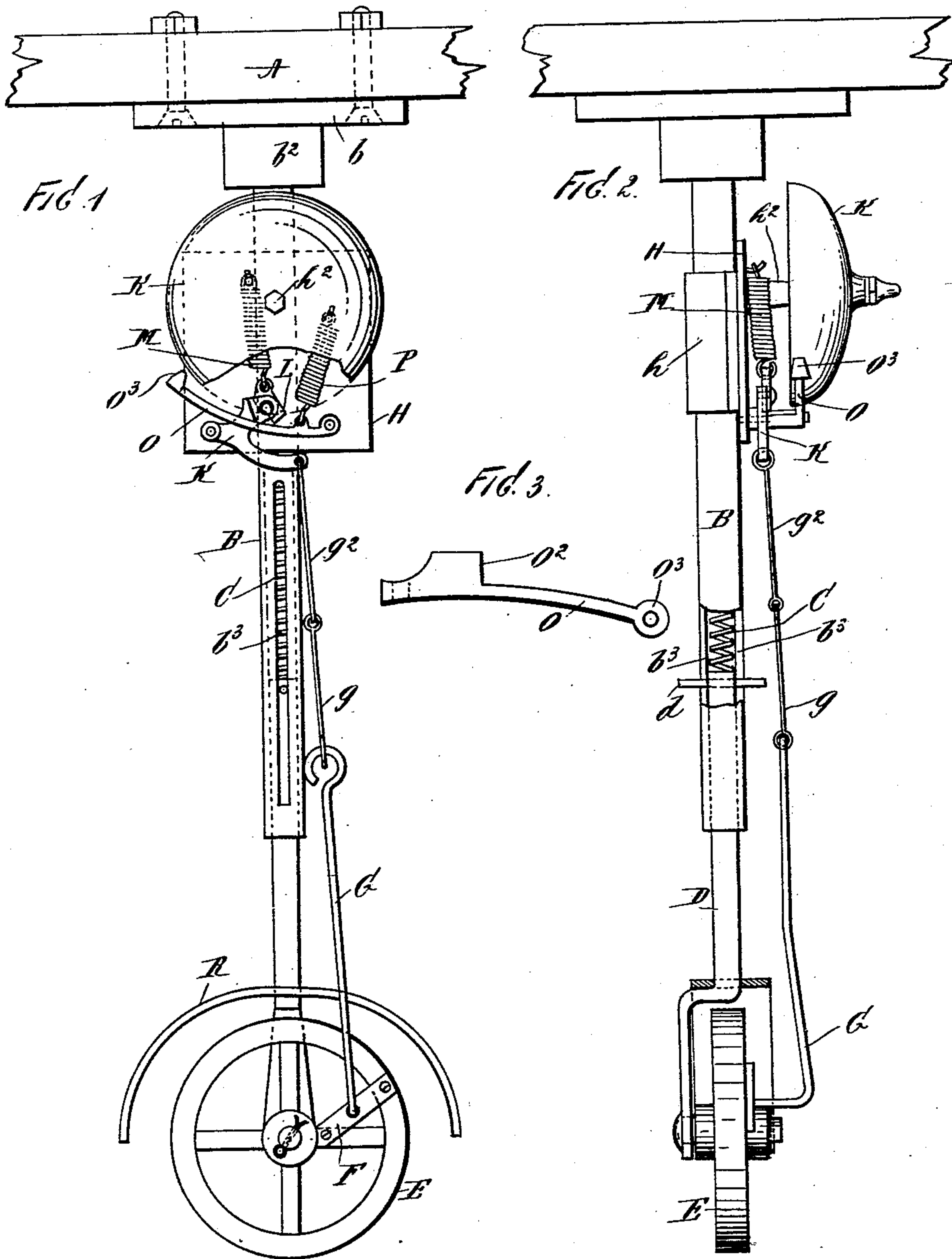


(No Model.)

T. A. BROWN.  
CAR SIGNAL.

No. 562,948.

Patented June 30, 1896.



WITNESSES:

John Buckler,  
C. Gerst.

INVENTOR

Thomas A. Brown,  
BY  
Dejar & Co.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

THOMAS A. BROWN, OF BROOKLYN, NEW YORK.

## CAR-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 562,948, dated June 30, 1896.

Application filed December 10, 1895. Serial No. 571,638. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. BROWN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Signal-Gongs for Tramway-Cars, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to signal-gongs for tramway-cars, and especially to devices of this class which are adapted for use on electric or cable railways in cities and towns, and the object thereof is to provide a device of this class which is adapted to be connected with the bottom of the platform of a car or to other portions of the bottom of the car, and which is adapted to be automatically sounded at all times when the car is in motion; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of my improved signal-gong for tramway-cars; Fig. 2, an edge or front view thereof, and Fig. 3 a plan view of a detail of the construction.

In the drawings forming part of this specification, A represents the platform of a car, and in the practice of my invention I provide a tube B, which is secured to a plate  $b$  by means of a socket or tubular extension  $b^2$  formed thereon, and the plate  $b$  is adapted to be secured to the platform of the car by screws, bolts, or other devices. The tube B is also provided at its lower end and in the opposite sides thereof with longitudinal slots  $b^3$ , and placed within said tube is a spiral spring C, and mounted in the lower end of the tube B is a vertically-movable rod or bar D, the upper end of which is provided with a cross-pin  $d$ , which projects through the slots  $b^3$ , and the upper end of the rod or bar D bears upon the spring C.

The lower end of the rod or bar D is angular in form and has mounted thereon a wheel E, and secured to said wheel, at one side

thereof, is a plate F, with which is pivotally connected a crank-arm G, which extends upwardly and the upper end of which is pivotally connected with a rod  $g$ , which is pivotally connected with a rod  $g^2$ .

Secured to the upper end of the tube B is a plate H, which is provided on one side thereof with a tubular head  $h$ , through which the tube B passes, and secured to the opposite side of the plate H is a shaft  $h^2$ , to the outer end of which is secured a gong K.

Pivotally connected with the plate H, and near the lower side thereof, is a crank-lever K, one arm of which projects downwardly and is pivotally connected with the rod  $g^2$ , and the other arm of which projects upwardly and is pivotally connected with a pawl L, with the upper end of which is connected a spiral spring M, which is secured to the plate H, and the lower end of the pawl L projects downwardly and is adapted to operate in connection with an arm O, one end of which is pivotally connected with the plate H opposite the connection of the crank-lever K, and which is also connected with a spring P, one end of which is secured to the plate H.

The arm O is provided near its pivotal end with an inwardly-directed shoulder or projection  $O^2$ , as shown in Fig. 3, and the outer end thereof is provided with a head  $O^3$ , which is adapted to operate upon the gong K; and the operation will be readily understood from the foregoing description, when taken in connection with the accompanying drawings. The lower end of the pawl L projects downwardly, as hereinbefore described, and is adapted to operate in connection with the shoulder or projection  $O^2$  on the arm O and the wheel E is adapted to come in contact with the ground between the rails of the track, when the car is in motion, and to be revolved thereby and, as will be understood, the rod or bar D is depressed, and the wheel is held in contact with the ground by the spring C, and said rod or bar D is thus capable of a vertical movement at all times, by means of which the wheel E is enabled to pass over uneven surfaces without injury to the device. At each revolution of the wheel E the lower arm of the crank-lever K is drawn downward by the crank-arm G, and in this operation the lower end of the pawl L is also drawn downwardly and against



the shoulder O<sup>2</sup> of the arm O, and said arm O is forced outwardly against the operation of the spring M, and as the pawl L passes over said shoulder O<sup>2</sup> the arm O is released and the  
 5 spring P immediately operates said arm, and the head O<sup>3</sup> thereof strikes the gong, and this operation is repeated at each revolution of the wheel E, the crank-lever K being drawn back-  
 10 wardly or upwardly to its normal position each time that the wheel E revolves by the spring M. It will thus be seen that I provide an effective device of the kind herein described, and one which is simple in construction and operation, and which is also well  
 15 adapted to accomplish the result for which it is intended. I also provide a curved or segmental plate R, which is connected with the lower end of the rod or bar D, and the convex surface of which is directed upwardly and  
 20 the ends thereof downwardly, so as to form a guard or protector for the wheel E.

It is evident that changes in and modifications of the construction herein described may be made without departing from the  
 25 spirit of my invention or sacrificing its advantages; and I therefore reserve the right to make all such alterations therein, and modifications thereof, as fairly come within the scope of the invention.

30 Having fully described my invention, I claim and desire to secure by Letters Patent—

1. The combination with the bottom of a car, of a depending tube which is secured  
 35 thereto, a sliding, spring-operated rod or bar mounted in said tube, a wheel at the lower end of said rod or bar, which is adapted to rest and turn upon the ground, a gong connected with said tube and devices connected  
 40 with said wheel for sounding said gong as the wheel turns upon the ground, substantially as shown and described.

2. The combination with the platform of a car, of a tube secured thereto, and depending  
 45 therefrom, a gong mounted thereon, a sliding, spring-operated rod or bar mounted in the lower end of said tube and provided with a wheel at the lower end thereof, which is adapted to rest and turn upon the ground, a spring-  
 50 operated crank-lever mounted adjacent to said gong, a crank-arm connected with said wheel and with said lever, and a spring-operated arm pivotally mounted adjacent to said gong, and provided with a head which is  
 55 adapted to operate the latter, said parts being constructed, combined and arranged, substantially as shown and described.

3. The combination with the platform of a car, of a tube secured thereto, and depending

therefrom, a gong mounted thereon, a sliding,  
 60 spring-operated rod or bar mounted in the lower end of said tube and provided with a wheel at the lower end thereof, which is adapted to rest and turn upon the ground, a spring-  
 65 operated crank-lever mounted adjacent to said gong, a crank-arm connected with said wheel, and with said lever, and a spring-operated arm pivotally mounted adjacent to said gong, and provided with a head which is  
 70 adapted to operate the latter, said crank-lever being also provided with a pivoted pawl which is adapted to operate in connection with said arm, or with a shoulder or projection formed thereon, substantially as shown and described.

4. The combination with the platform of a car, of a depending tube, secured to the bot-  
 75 tom thereof, which is provided with longitudinal slots in the opposite sides thereof, a spring-operated rod or bar mounted in said tube and  
 80 depending therefrom, and provided with a cross-pin, which projects through said slots, a wheel mounted at the lower end of said rod or bar, and provided with a crank-arm, a gong mounted on said tube and operative de-  
 85 vices mounted adjacent thereto, and connected therewith, and with said crank-arm, substantially as shown and described.

5. The combination with the platform of a car, of a depending tube, secured to the bot-  
 90 tom thereof, which is provided with longitudinal slots in the opposite sides thereof, a spring-operated rod or bar mounted in said tube and depending therefrom, and provided with a cross-pin, which projects through said slots,  
 95 a wheel mounted at the lower end of said rod or bar, and provided with a crank-arm, a gong mounted on said tube and operative devices mounted adjacent thereto, and connected therewith, and with said crank-arm,  
 100 said operative devices consisting of a pivoted spring-operated crank-lever which is connected with said crank-arm and a pivoted spring-operated arm which is provided with a head which is adapted to operate in con-  
 105 nection with the gong, and said crank-lever being also provided with a pivoted pawl by which the arm is operated, substantially as shown and described.

In testimony that I claim the foregoing as  
 110 my invention I have signed my name, in presence of the subscribing witnesses, this 6th day of December, 1895.

THOMAS A. BROWN.

Witnesses:

C. GERST,

S. L. HAWKSHURST.