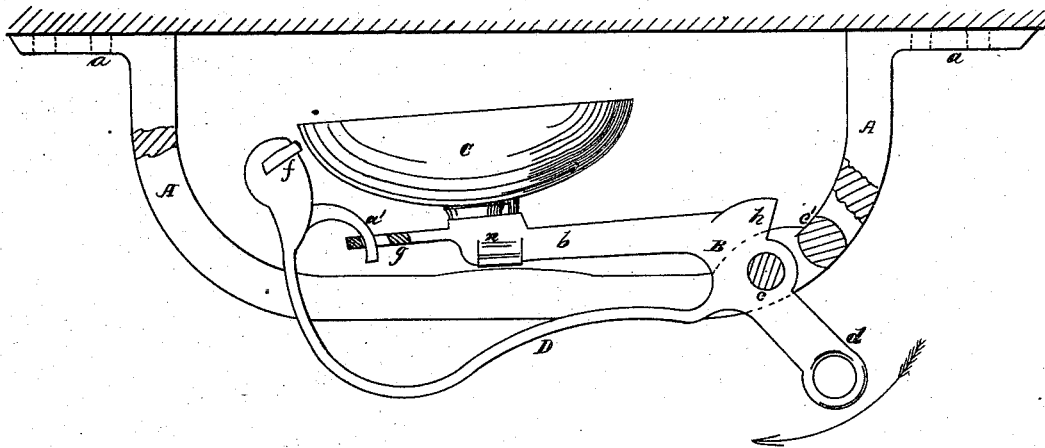


B. P. FINNELL.  
Gong for Street-Cars, &c.

No. 161,109.

Patented March 23, 1875.



*Witnesses*  
*Chas. E. Lunt,*  
*Jugersoll Lockwood*

*Benjamin P. Finnell*  
*per*  
*James A. Whitney*  
*Attorney*

# UNITED STATES PATENT OFFICE.

BENJAMIN P. FINNELL, OF NEW YORK, N. Y.

## IMPROVEMENT IN GONGS FOR STREET-CARS, &c.

Specification forming part of Letters Patent No. **161,109**, dated March 23, 1875; application filed November 1, 1873.

*To all whom it may concern:*

Be it known that I, BENJAMIN P. FINNELL, of the city, county, and State of New York, have invented certain Improvements in Gongs for Street-Cars, &c., of which the following is a specification:

In this invention the bell has, in common with the hammer, a movement upon a pivot provided in the hanger, by which the device is attached in place for use, the movement of the bell being suddenly checked; that of the hammer, which is provided upon an elastic shaft, is continued by the acquired momentum, and brings the hammer in momentary contact with the bell, to sound the same. This operation of the bell and hammer, constituting the salient feature of the invention, renders the stroke quick, sharp, and clear; and while for all practical purposes the blow is of sufficient power, it is devoid of the positive and excessive force which, in car-gongs of the usual construction, is the cause of frequent breakage.

Aside from the main feature just indicated, the invention comprises certain novel combinations of parts, whereby the most efficient operation of the apparatus is secured.

The drawing represents a side view and partial longitudinal vertical section of a gong constructed according to my invention.

A is the hanger or suspended bracket, which carries the working parts of the apparatus, and which ordinarily is attached to the car-roof, over the platform, by screws or bolts at each end *a*. This hanger is slotted longitudinally at its center, and nearly throughout its length, and is furnished adjacent to one extremity of the slot with a transverse pin, *c*. This pin forms the pivot or bearing for the bent lever B, one arm, *b*, of which extends more or less horizontally, and has attached to its upper side, near its outer end, the bell C, of the usual form. The other or short arm, *d*, of this lever B extends in a downward direction, and, when the gong is in position for use, has attached to it the strap whereby the same is sounded. Springing from the lever B, at a point near its pivot *c*, is an elastic shaft or arm, D, which is situate in the same vertical plane with the lever B, and the outer end of which is swelled, as shown at *f*, to con-

stitute the hammer or striker of the gong. Projecting from the extremity of the long arm *b* of the lever B, and formed rigidly in one therewith, is a loop, *g*, and provided in like manner upon the hammer *f* is a hook, *a'*. This hook catches in the loop *g*, in such manner as to limit the movement of the hammer outward from the bell, the tension of the shaft D being in such direction as to tend to keep the hammer out of contact with the bell. Provided upon the lever B, below the bell, are lateral spurs *n*, which rest upon the portion of the hanger underneath, and sustain the bell in the quiescent position, to which it is brought by its own gravity when the lever B is released from strain on its arm *d*, and which is indicated in the drawing. Projecting from the inner part of the long arm *b* of the lever, above the pivot *c*, is a spur, *h*, which, when the lever is lifted, comes in contact with the end *c'* of the slot in the hanger, which thus limits the upward movement of the said part of the lever, and consequently of the bell.

The apparatus being duly applied to the car, and the parts being in the position shown in the drawing, it is only necessary, by any ordinary and suitable means, to actuate the short arm *d* of the lever B, to suddenly lift the long arm *b* of the said lever, and consequently, simultaneously therewith, the bell and the hammer, whereupon, the spur *h* coming in contact with *c'*, as just herein set forth, the movement of the bell is suddenly stopped; but meanwhile the momentum of the hammer brings it against the bell, to sound the same, the hammer receding immediately thereafter, because of the tension in an opposite direction of its elastic shaft.

The stroke of the hammer being due to its movement upon an elastic shaft, the heavy and positive blow incident to the use of the ordinary gong, and which frequently causes the fracture of the bell, is avoided. Furthermore, the tension of the elastic shaft, exerted to move the hammer away from the bell, but limited in its receding movement by the hook *a'* and loop *g*, insures the retention of the hammer, when the device is at rest, in the position requisite for its effective operation when the lever B is moved, as described. Of course,

when the lever is released from the strain exerted upon its short arm, it, with its adjuncts, falls by its own weight to its normal position, the spurs *n* resting upon the parts of the hanger below, ready for a repetition of its operation when desired.

When preferred, a bell composed of wire, or of any other suitable construction, may be substituted in the place of that hereinbefore specified, as the mechanical equivalent of the same. Furthermore, the gong constructed according to my invention may be applied not only to cars and the like, but may also be employed in dwellings, and under other conditions where a device of this class is necessary or desirable.

What I claim as my invention is—

1. The elastic hammer-shaft, rigidly attached

or formed in one with the lever carrying the bell, the lever and hammer-shaft being arranged and constructed to operate in relation with each other, so that the checking of the motion of the lever shall cause the hammer, by its own momentum, to strike the bell, substantially as set forth.

2. The lever B, constructed with the arm *d*, the spur *h*, and carrying the elastic shaft of the hammer, in combination with the hanger, or its equivalent, for suspending the said parts, substantially as and for the purpose specified.

BENJAMIN P. FINNELL.

Attest:

JAMES A. WHITNEY,  
CHAS. E. QUETIL.