No. 627,171. Patented June 20, 1899.

E. C. BATES.

ANNUNCIATOR FOR STREET CARS.

(Application filed Jan. 20, 1898.)

(No Model.) 2 Sheets—Sheet 1.

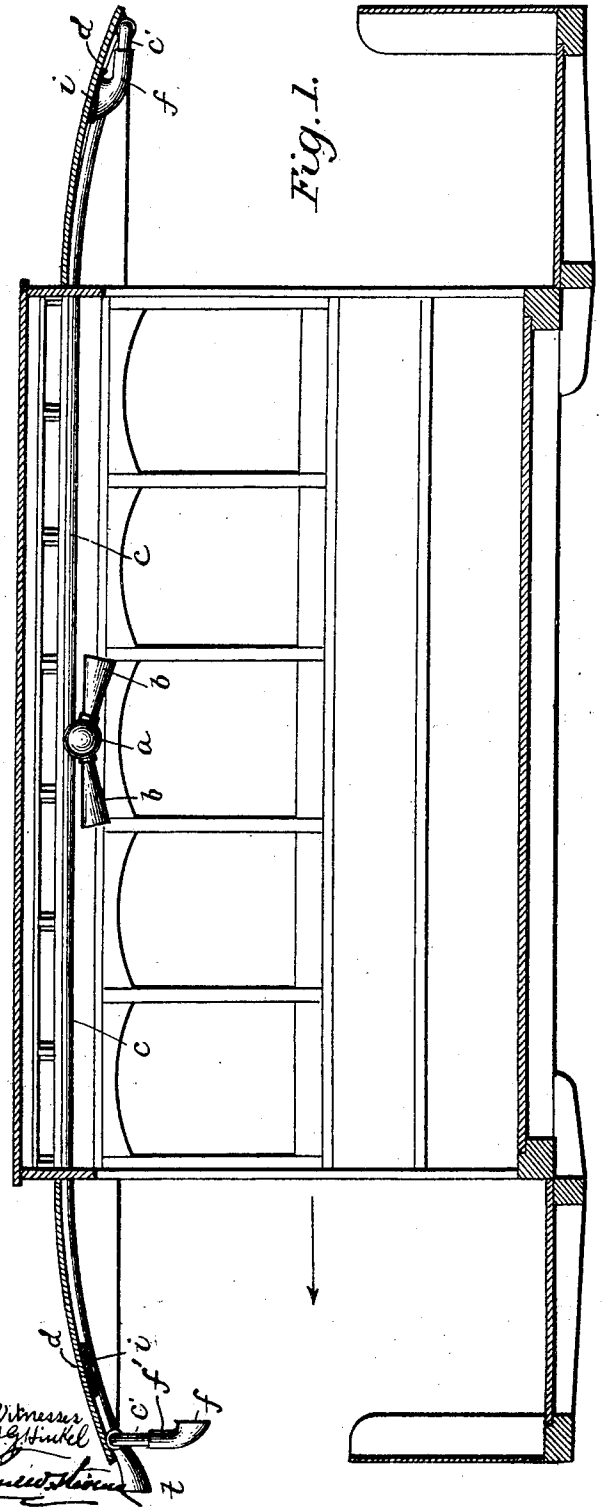

Fig. 1.

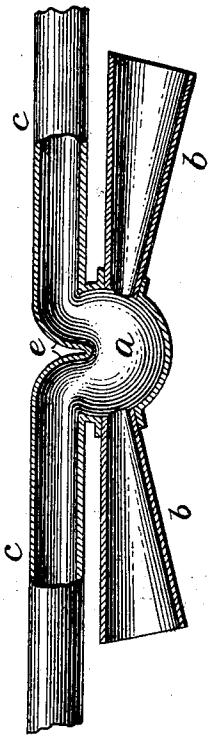

Fig. 5

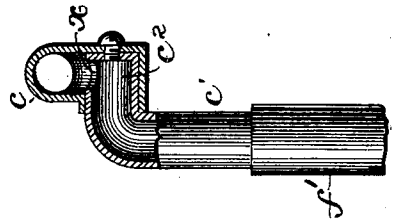

Fig. 2

Witnesses
J. Stinkel
Daniel Stein

Inventor
Edward C. Bates
by Foster Freeman
Attorneys

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Fig. 3.

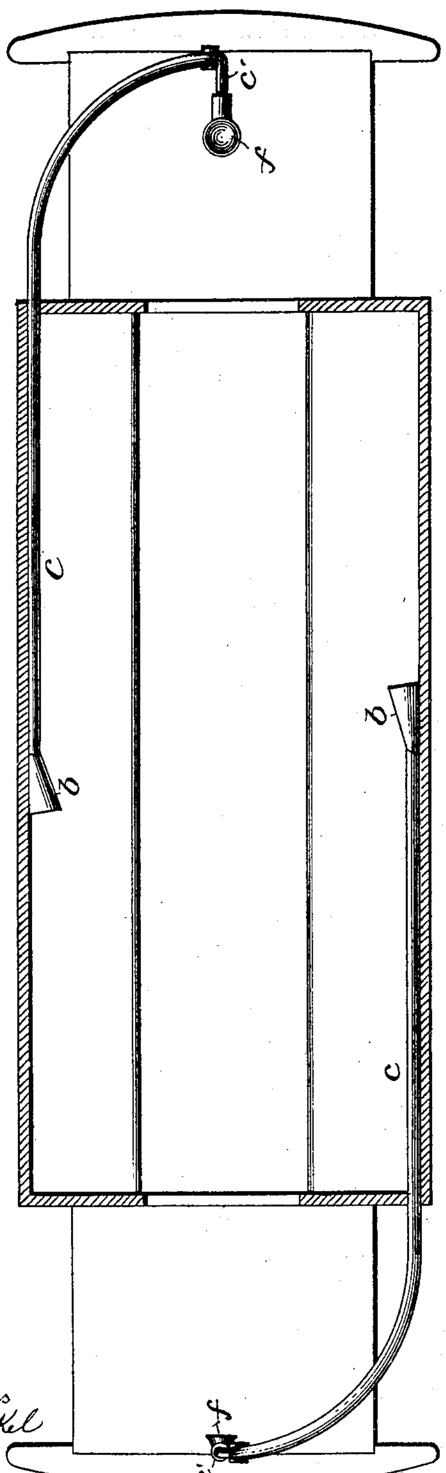
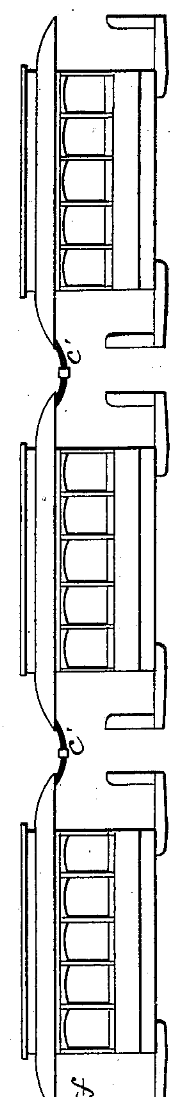


Fig. 4.



Witnesses
J. G. Hinkel
Lane W. Stearns

Inventor
Edward C. Bates
by Foster Freeman
Attorneys

UNITED STATES PATENT OFFICE.

EDWARD C. BATES, OF BOSTON, MASSACHUSETTS.

ANNUNCIATOR FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 627,171, dated June 20, 1899.

Application filed January 20, 1898. Serial No. 667,330. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. BATES, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Annunciator for Street-Cars, of which the following is a specification.

This invention has for its object to enable the driver or operator of a car to announce to the passengers within the car the names of the successive crossing streets, and to effect this without having his attention diverted from the track in front of the car or from prospective passengers at intersections; and to this end the invention consists in the combination, with any suitable annunciator—as, for instance, a megaphone arranged within the car—of mouthpieces at opposite ends of the car so arranged as always to be in front of the operator when the car is going forward, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a street-car, showing one form in which the invention may be embodied. Fig. 2 is an enlarged sectional view showing the connection between the mouthpiece and the permanent conducting-tube. Fig. 3 is a diagram illustrating a modified arrangement of the annunciators and tubes. Fig. 4 illustrates the invention combined with coupled cars. Fig. 5 is a detail view.

The apparatus may be applied to a street-car of any construction, either a single-ender or, as shown, a double-ender—that is, with a platform at each end—and with either open or closed platforms, and it may be used either with horse-cars or cable or electric or elevated-road or railroad cars otherwise propelled.

At about the center of the car is an annunciator, shown as a double trumpet, which in the construction shown consists of a hollow sphere *a*, with two diverging trumpets *b b* extending toward the opposite ends of the car, the said sphere communicating, in the case of a double car, with two tubes *c c* extending from the sphere to the opposite ends of the car and beneath the hoods *d* thereof.

When there are platforms at both ends of the cars, a deflecting-plate *e* is arranged within the sphere *a* opposite the mouth of each pipe *c*, so that any sound coming from one pipe into the sphere will be deflected to the lower part of the latter and will not be sent outward through the other pipe.

Where it has heretofore been proposed to use megaphones in street-cars, the receiver-pipe has been so arranged upon the platform that the conductor or operator desiring to speak into the same is obliged to turn his face toward the end of the car. When the announcement is to be made by the driver or operator at the forward end of the car, it will be evident that in turning to apply his mouth to the speaking-tube he must direct his attention from the road in front of him, so that he is not only liable to miss the calls of those desiring to board the cars, but also to overlook obstructions, with resulting accidents. In order to overcome this objection, the tubes *c c*, instead of extending to mouthpieces arranged upon or adjacent to the ends of the car, are extended beneath the hoods *d d* to such a position that the mouthpiece *f* may be carried down to a position in front of the operator at the forward end of the car, and it is therefore practicable for the operator to speak directly into this mouthpiece without turning his head away so as to prevent observation in the direction in which the car is going.

While the mouthpiece *f* may be upon a permanent fixture pendent from the end of the tube *c* or a continuation of the tube *c*, it is preferable to flexibly connect it with the end of the tube *c*, either by a rubber tubing or, as shown, by means of a jointed section *c'*, so that the said section, with the mouthpiece, may be swung down, as shown at the left-hand end of the car, Fig. 1, to a position to permit the motorman to speak into the mouthpiece and announce the various crossings or to be turned up, as shown at the right-hand end of said figure.

In order to retain the sound and prevent its passage to the rear end of the car, a valve may be used for closing the tube when the mouthpiece is turned up. As shown in Fig. 1, this valve may consist of a pad *i*, so arranged that when the mouthpiece is turned up it will close against the said pad, as shown at the right-hand end of Fig. 1, or, as shown in Fig. 2, the sections *c'* may have a bend c^2 extending into a socket at the ends of the pipe *c* and with an opening *x* so arranged as

to communicate with the interior of the tube *c* when the mouthpiece *f* is in a downward position, but so as to close against the side of the socket when the mouthpiece is raised, thus practically closing the tube.

While a megaphone has been shown consisting of a double trumpet and a sphere, it will be evident that there may be variations of this arrangement, that a single trumpet may serve the purpose in short cars or that there may be two or more trumpets differently arranged, and the pipe *c*, instead of extending along the center of the car, may extend along the side of the same, or one pipe at each side, terminating in a trumpet, as shown in the diagram Fig. 3.

In order to provide for a proper adjustment of the mouthpiece vertically, the said mouthpiece may be upon a short tube *f'*, which slides upon the tube *c'*, as shown in Fig. 2, or any other suitable mode of adjustment may be adopted.

In Fig. 4 the tubes *c* are coupled by coupling-tubes *c'*. In some instances where the cars are long it may be desirable to use means for increasing the sound or for carrying it better to the passengers, and I propose to use an air-current for this purpose. Such a current may be obtained in different ways, as, for instance, by means of a funnel *t* projecting forward from the pipe *c*, so as to collect the air and cause it to flow back toward the annunciator.

Without limiting myself to the precise construction and arrangement of parts shown and described, I claim as my invention—

1. The combination with an annunciator within a car, comprising a double megaphone the trumpets of which extend in opposite directions and with a tube extending therefrom, of a mouthpiece arranged at the forward end of the car in position to be in front of the operator at that end, substantially as set forth.

2. The combination with an annunciator within a car, of a tube extending therefrom to the end of the car, a hinged tube-section at the end of said tube, and a mouthpiece vertically adjustable independently of the tube-section, substantially as described.

3. The combination with an annunciator within a car, of a tube extending therefrom to the end of the car, a mouthpiece communicating with the tube, and a funnel likewise communicating with the tube and opening in the direction in which the car is moving, substantially as described.

4. The combination of the pipe extending from the end of the car, a mouthpiece connected therewith, the annunciator within the car, and means independent of the mouthpiece for directing an air-current toward said annunciator from the exterior atmosphere, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDW. C. BATES.

Witnesses:
JOSEPH H. WALES,
H. R. PEVERLY.