

(No Model.)

H. P. FREAR.
STREET ANNUNCIATOR.

No. 567,643.

Patented Sept. 15, 1896.

Fig. 1.

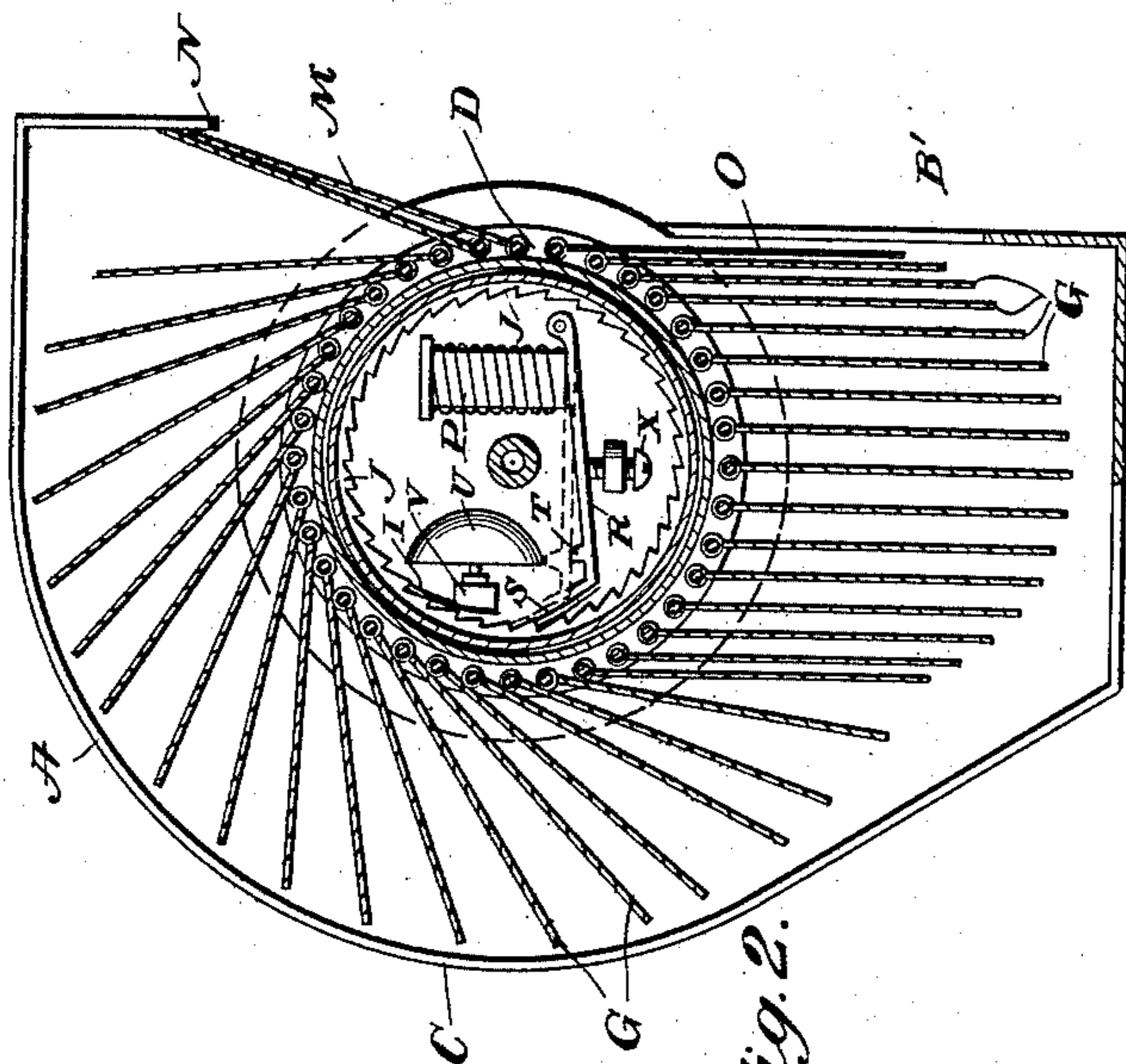
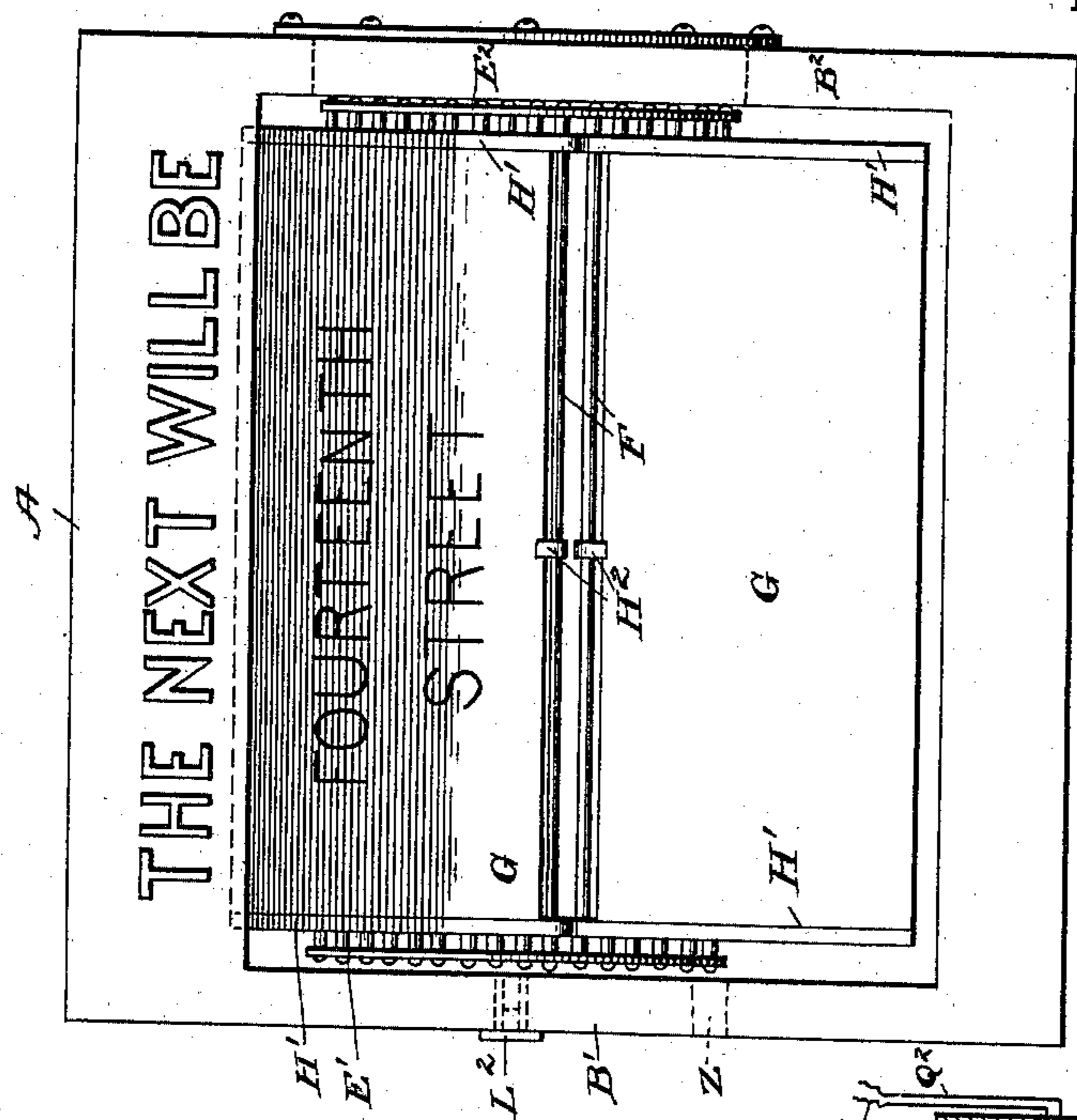
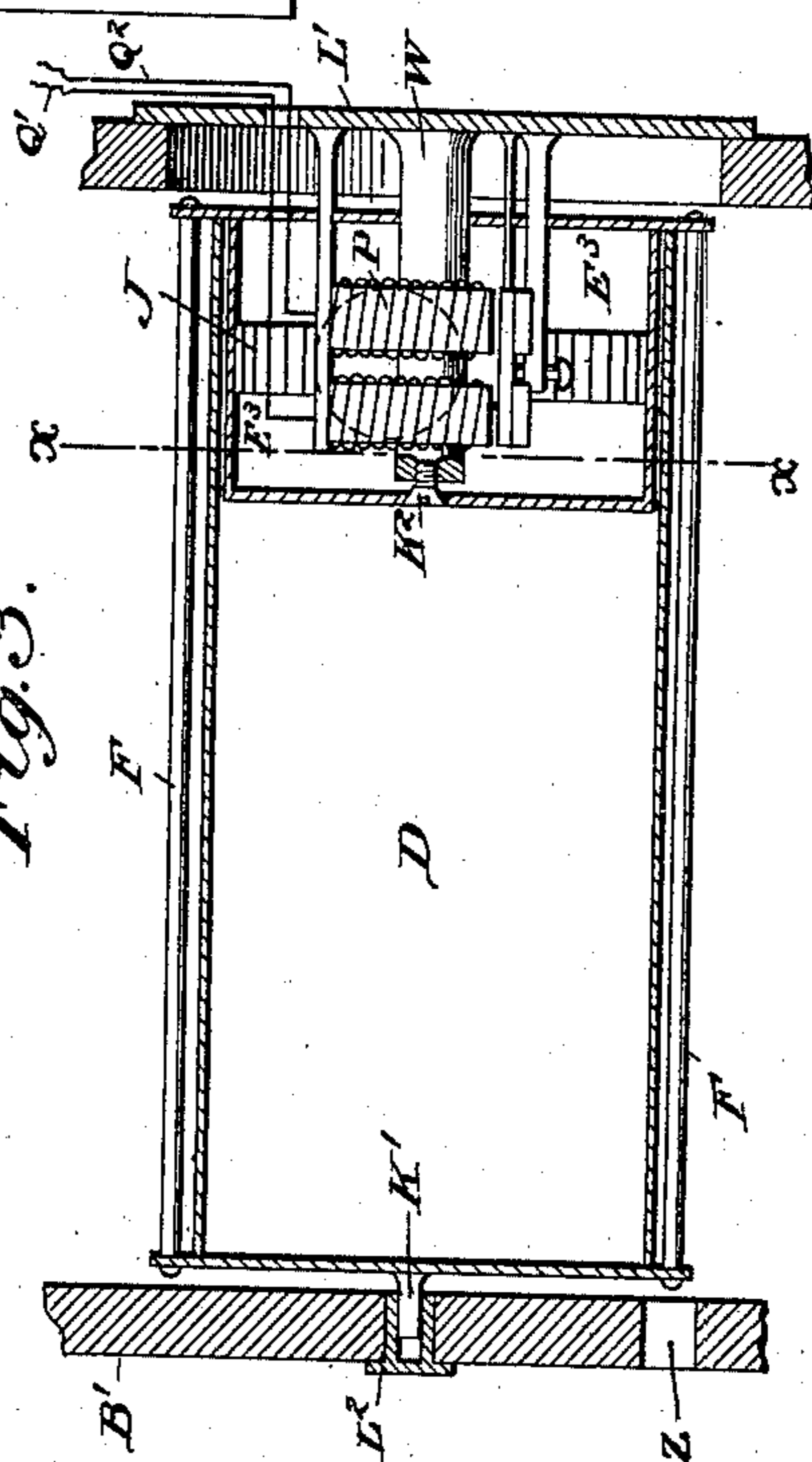


Fig. 2.

Fig. 3.



WITNESSES:

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HUGO P. FREAR, OF SAN FRANCISCO, CALIFORNIA.

STREET-ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 567,643, dated September 15, 1896.

Application filed November 13, 1895. Serial No. 568,766. (No model.)

To all whom it may concern:

Be it known that I, HUGO P. FREAR, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Annunciators for Street-Railway Cars or other Vehicles; and I hereby declare the following specification and the drawings therewith to be a complete description of my improvements.

My invention relates to apparatus for announcing the names of streets or stations as they are approached by street-railway cars or other vehicles, operated by means of an electrical current automatically or by act of an attendant, preferably by means of devices on the line that will close the electrical circuit at the proper points on the route of the car.

My improvements consist of an apparatus to be fixed in a passenger car or carriage in a conspicuous place and in a series of tablets or cards marked with the names of stations or the streets crossed and mounted on a revolving drum or cylinder in such manner that they will successively expose to the view of passengers as the streets are approached, the cylinder being turned successively the distance of one card or tablet as each street is crossed.

My improvements further consist in electrical apparatus to operate or turn the cylinder by means of an electromagnet and armature that by a pawl turns the cylinder so as to expose the name of the next street to be crossed or a station approached, and at the same time a bell or other audible device calls the attention to the tablet and name of the street being exposed. To this purpose I employ devices as shown in the accompanying drawings, in which—

Figure 1 is a front view of one of my improved annunciators with the name of a street exposed. Fig. 2 is a sectional end view of the same apparatus, taken on the line $x x$ in Figs. 1 and 3. Fig. 3 is a longitudinal section through the revolving drum or cylinder, showing the manner of arranging the actuating mechanism.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The main case A, which contains the various elements of the annunciator, consists of the ends $B^1 B^2$, preferably of wood, and an inclosing cover C, that can be made of sheet metal or thin wood.

A revoluble cylinder or drum D, preferably made of stiff paper, is mounted on pivots $K^1 K^2$, one having support in the bearing L^2 and the other in a stud W, projecting inward from the plate L^1 , as seen in Fig. 3. This revolving cylinder or drum D consists of two metal end plates E^1 and E^2 , the latter being in this case indented to form a chamber E^3 , in which is placed the electric actuating devices to be hereinafter described.

Around the drum D, and supported in the heads or end plates $E^1 E^2$, are a series of parallel rods F, on which swing the hinged tablets G, on one side of which are printed the names of streets in the route, in the manner shown in Fig. 1. These rods can be inserted and removed through a hole or slot Z in the end B^1 of the case or through the plate L^1 , so the tablets can be removed, replaced, or changed as an alteration of the names or information thereon will require. These tablets G are preferably of stiff paper or thin sheet metal, reinforced at the ends by bands H^1 of thin metal, bent so as to form hinges or eyes through which the rods F pass, a central or supplementary hinge H^2 being provided to prevent the tablets G from bending at their center, or when the drums are made of a length to require such support a middle flange around the drum D can be provided, the rods F passing through the flange the same as in the heads $E^1 E^2$. As the drum D revolves, these tablets G, by reason of their gravity, take the position shown in Fig. 2, the preponderance of weight being on the inner side and tending to revolve the drum D backward, thus keeping it in contact with the detent I, that engages the teeth of the pawl ring or rack J, as shown in Fig. 2.

The teeth in the pawl-ring J correspond in number to the tablets G, and are attached to or integral with the indented end E^2 of the drum D, as shown in Fig. 3.

The drum D is supported on the trunnions $K^1 K^2$, made integral with the removable plate L^1 and the bearing L^2 , as seen in Figs. 1 and 3, the plate L^1 being large enough in diameter

so that all the actuating mechanism which is attached to the plate L' can be removed intact through the side B² of the main case. This is a convenience in assembling the apparatus, but is not required in changing the tablets G and the rods F, as has been before explained.

Referring to Fig. 2 it will be seen that one of the tablets G is exposed in an inclined position at M, its top resting against the front of the main case at N, so the face can be conveniently seen by the passengers within a car in which the annunciator is mounted, while the back of the preceding tablet is seen at O.

Within the indented head E² of the drum D, and attached to the plate L', I fix an electromagnet P, energized by the conducting-wires Q' Q².

Beneath the electromagnet P, I place a pivoted armature R, that when the electric circuit is closed rises to the position shown by dotted lines in Fig. 2, and by means of the pawl S, which engages the rack J, turns the drum D the distance of one notch, causing the front tablet at M to be released at N, so it will fall down into the position O, exposing a new tablet and the name of another street or station at M. To regulate the stroke of the armature, an adjustable screw X is provided, on which the armature-bar R rests when the electric current is open.

The backs O of the tablets G can contain any printed information of interest to passengers, an advertisement, or may be left blank, as shown in Fig. 1, and their number can be arranged for the required number of announcements, the tablets G being omitted when too many in number. At the end of a journey, or at the beginning, the attendant turns the drum D to correct the tablets G and adjust them to names to be announced. At the same time the electric circuit is closed and the armature R rises, a hammer T thereon strikes the bell U, calling attention to the change of the tablets at M and the name of the next street.

The bell U is mounted on a stud V, projecting from and integral with the plate L', so that this, with all the electric elements, can be removed with the plate L' from the chamber L³ for inspection or adjustment, the drum D being sustained by the tablets G, resting on the bottom of the containing case A.

Attached to the stud V is a detent I, that prevents the rack J and drum D from turning backward, a constant strain in this direction being provided by the weight of the tablets G, which on the rear side stand farther out from the axis K' K², as seen in Fig. 2.

The wires Q' Q² in the case of an electrically-impelled car can be connected with the motor or line-current in any suitable manner, or on cars impelled by other than electric apparatus the wires Q' Q² can be connected to a battery conveyed on the car in which my improved apparatus is mounted.

The circuit can be opened or closed by means of contact points or stops automatically, such

contact-points being on the ways, the wire overhead, or otherwise, or by a push-button. Such devices being well known, capable of different arrangement, and not forming a part of my present invention, I do not describe them here.

The position of the drum D and tablets G can also be adjusted by an attendant directly pulling or pushing the drum around the desired amount, access being had from the front of the containing case.

The electric elements I inclose within the intended chamber E³ for protection and to save room; but it is obvious that these can be placed on the outside of the main case A—for example, attached to the outside of the plate L'—or so placed that the pawl S will act on an outside rack J, but the arrangement shown is preferable.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a street-annunciator, a main containing case, open at the front, therein a revoluble cylinder or drum provided with hinged tablets in the manner described, the drum indented or provided with a chamber at one end, and receiving within its contour the electromagnetic actuating apparatus, in the manner substantially as described.

2. In a street-annunciator, a main containing case, a revoluble drum, to which is attached a series of hinged tablets, in the manner described, one end of the drum indented and forming a chamber within the contour of the drum and electric actuating devices located within said chamber, in the manner substantially as described.

3. In a street-annunciator, a main containing case, a revoluble drum therein, provided with a series of hinged tablets in the manner described, a chamber within the drum's contour containing an electromagnet, armature and pawl, by means of which the drum is revolved, in the manner substantially as described.

4. In a street-annunciator, a revoluble drum or cylinder, provided with a series of hinged tablets, in the manner described, electromagnetic actuating apparatus supported on a removable plate opposite to the end of the drum and extending into the same that will permit the removal of this apparatus from the main containing case, substantially as described.

5. In a street-annunciator, an open-sided containing case, a revoluble drum therein provided with hinged tablets, in the manner described, a toothed wheel or rack, detent and actuating-pawl operated by an electromagnet contained within the drum's contour, and supported on a plate attached to the outside of the main containing case, in the manner substantially as described.

6. In a street-annunciator, an open-sided containing case, therein a revoluble cylinder or drum provided with a series of hinged tablets, and within the drum an electromagnet,

armature and pawl to operate the drum by means of an annular toothed rack or ring J attached to the interior of the drum and concentric with the axis thereof, in the manner
5 substantially as shown and described.

7. In a street-annunciator, a main containing case, a revoluble drum therein, the latter provided with hinged tablets, an interior chamber in the drum containing an electro-
10 magnet, armature, a pawl, detent, and rack to turn the drum, and in combination therewith a gong or bell sounded by the armature to give audible notice of the drum's movement, and of streets approached, substantially
15 as described.

8. In a street-annunciator, a revoluble drum, and a series of hinged tablets, in the manner described, an electromagnet to operate the drum and successively expose the tablets with the names of streets thereon, an ar-
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mature to operate a pawl and bell, said actuating elements being located within the drum and connecting-wires leading to a battery or other source of electric current, substantially
25 in the manner described.

9. In a street-annunciator, a main containing case, a revoluble drum and hinged tablets in the manner described, an electromagnet, armature, and mechanism to revolve the drum, inclosed within the drum's contour and
30 supported on a plate attached to and removable from the outside of the main case, in the manner substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.
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HUGO P. FREAR.

Witnesses:

JAMES DECKIE,
K. M. DAHL.