

(No Model.)

J. P. ORR & G. H. FUGH.
ELECTRICAL ADVERTISING ANNUNCIATOR FOR CARS.

No. 584,700.

Patented June 15, 1897.

Fig. 1.

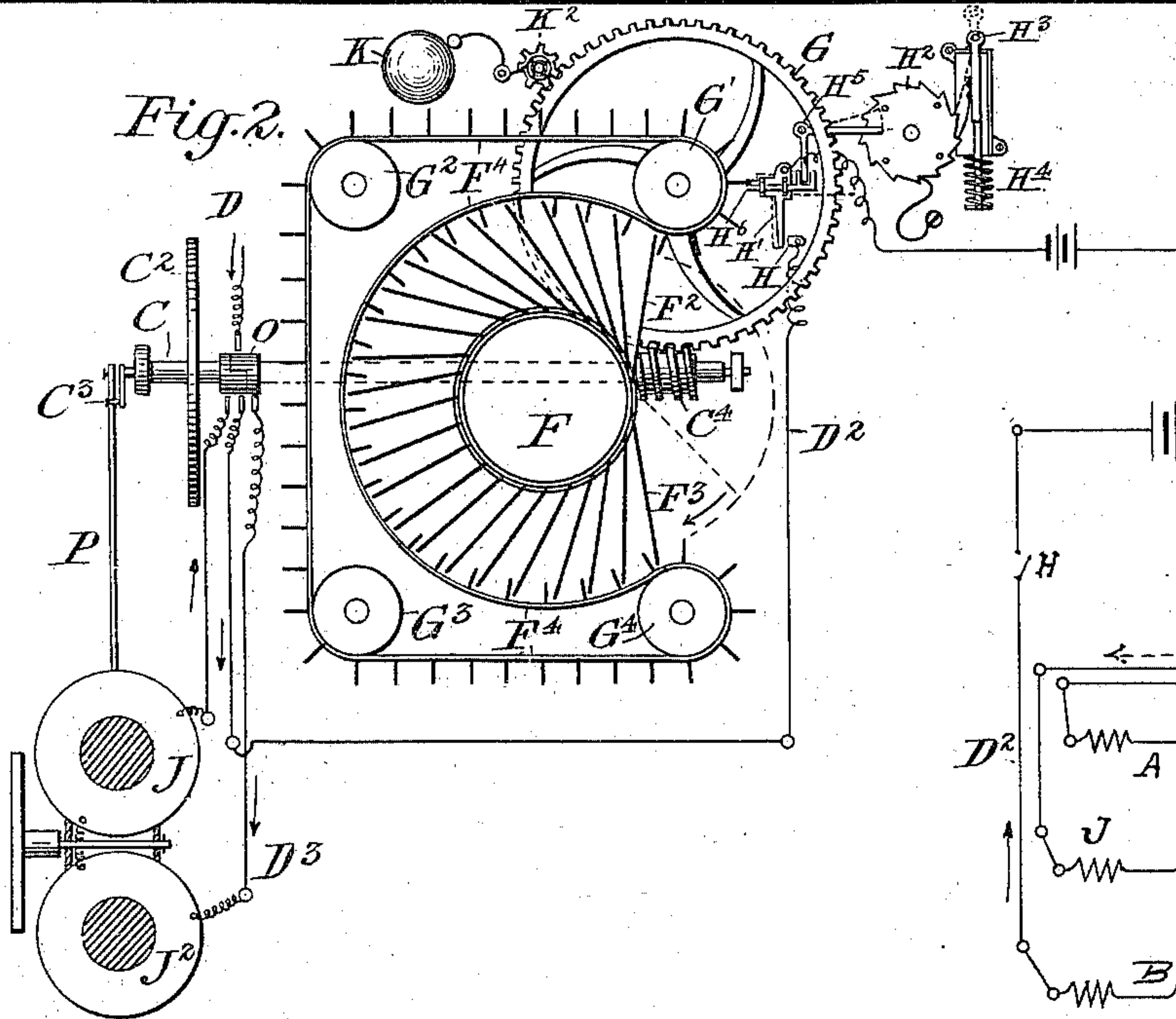
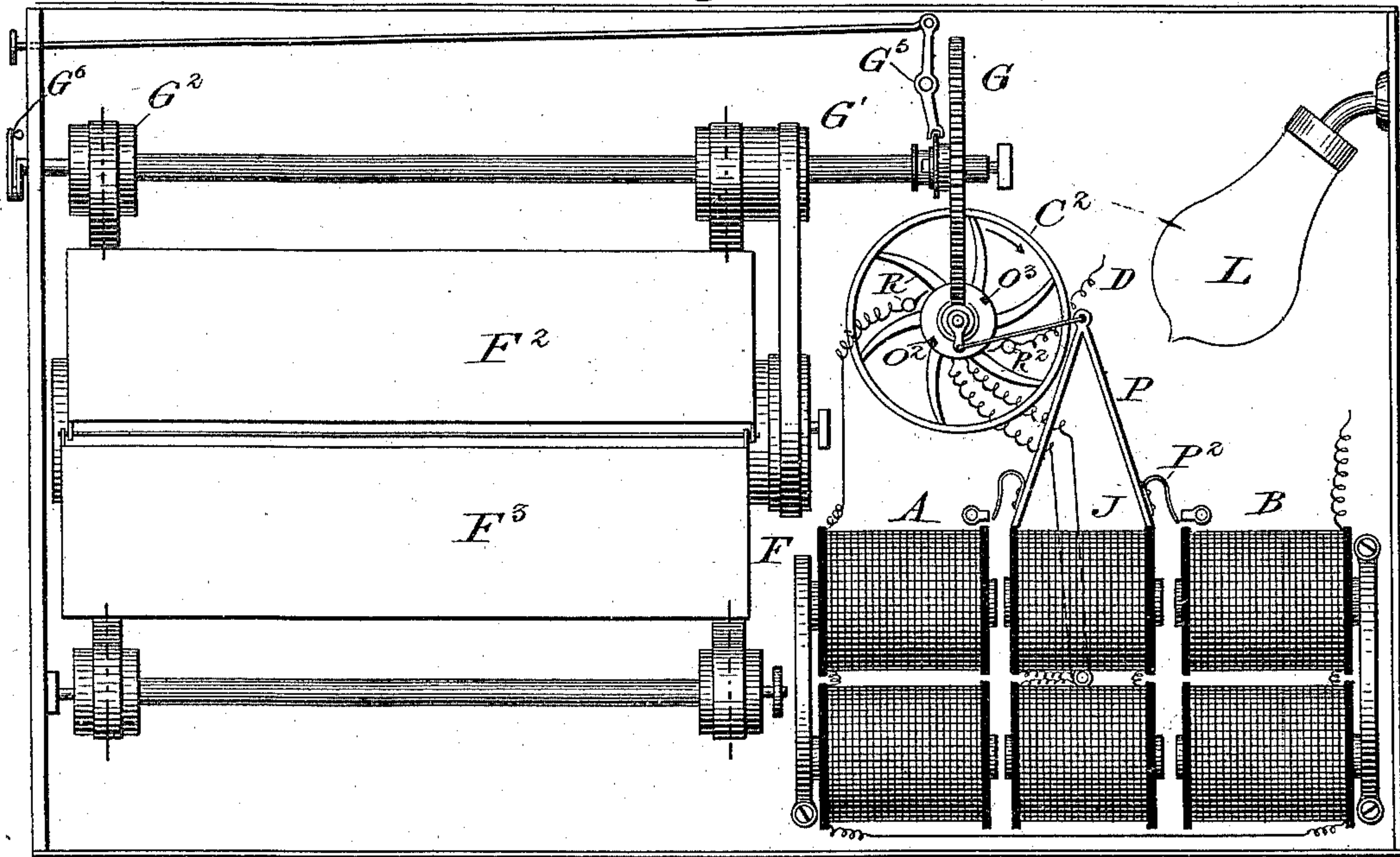
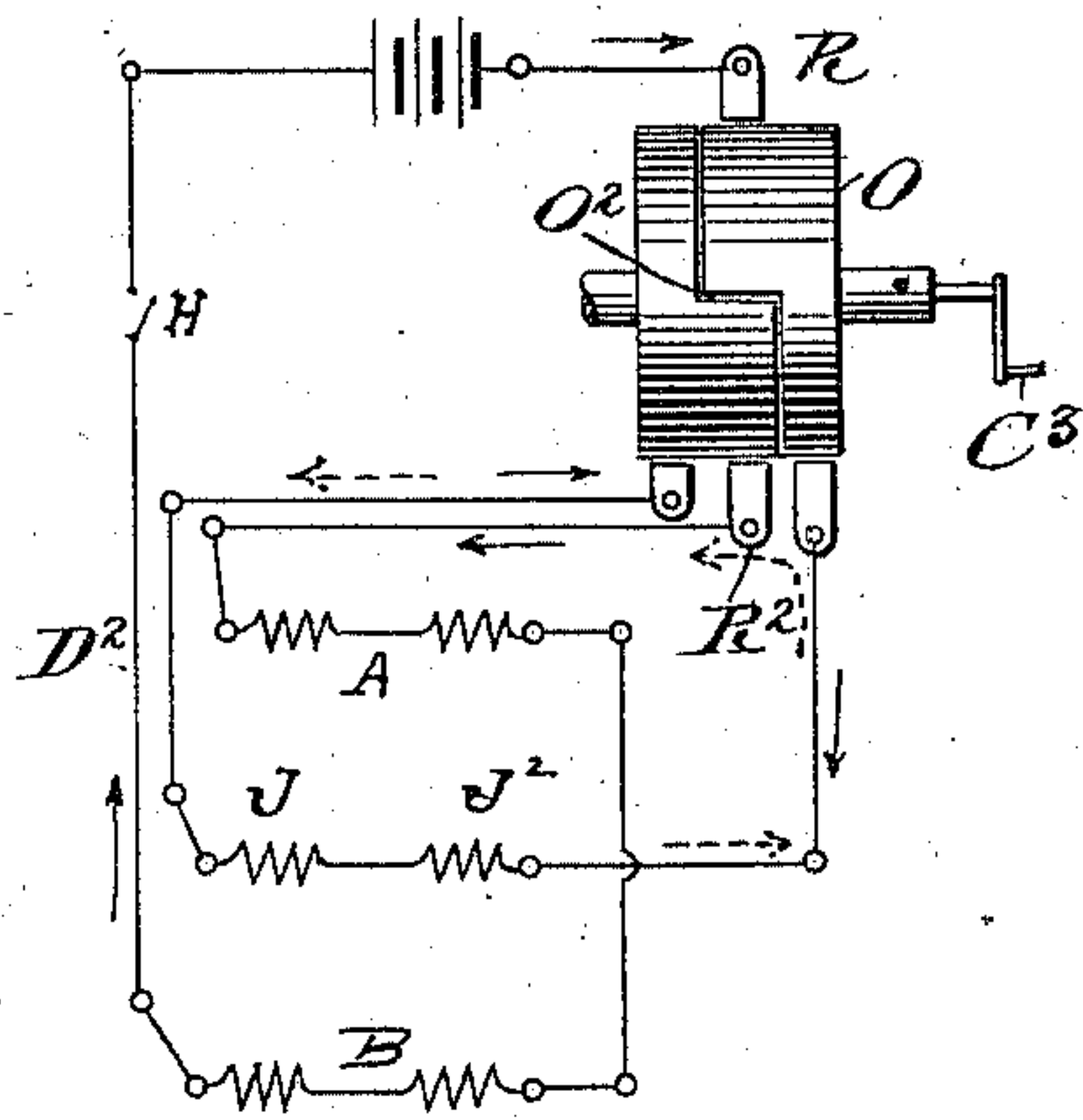


Fig. 3.



Witnesses:
S. L. Trimble
W. T. Weaver

Inventors.
James P. Orr
Geo. H. Fugh

UNITED STATES PATENT OFFICE.

JAMES P. ORR AND GEORGE H. FUGH, OF PITTSBURG, PENNSYLVANIA.

ELECTRICAL ADVERTISING-ANNUNCIATOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 584,700, dated June 15, 1897.

Application filed September 29, 1896. Serial No. 607,388. (No model.)

To all whom it may concern:

Be it known that we, JAMES P. ORR and GEORGE H. FUGH, citizens of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Electrical Advertising-Annunciator for Cars, of which the following is a specification.

Our invention relates to improvements in the "running" of cars; and the objects of our invention are, first, to furnish passengers timely and reliable information of "next stop;" second, to afford an inducement (advertising space) to railway companies to adopt its use. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is front elevation of the entire machine. Fig. 2 is a vertical section of central parts of mechanism, and Fig. 3 is a diagrammatic view illustrating the circuits in our invention.

Similar letters refer to similar parts throughout the several views.

The mechanism is conveniently mounted in a suitable cabinet having a glass front, all of which is available for illuminated advertisements except the part in front of F^2 and F^3 , which will display the name of a street or station and a business-card respectively and successively. Cylinder F is mounted longitudinally near the front of cabinet and is provided with a number of peripheral pins or rods adapted to the mounting of thin metallic plates or cards, on the one side, F^2 , of which is attached the name of a street or station, and on the other side, F^3 , is attached a business-card. These cards, pivotally mounted on F , are held in position and made to turn with F by the motion of belt F^4 , which is provided with teeth spaced to correspond with the number of cards or leaves on F and is propelled by the rotation of pulley G' . As belt F^4 moves forward its teeth successively release the plates or leaves and they swing downward from the position of F^2 to F^3 , as shown by dotted lines, Fig. 2.

In the motor the helices A and B are rigidly mounted in pairs in such a manner that the positive cores will be opposite each other, so also the negative cores, with sufficient space between for the pivotally mounting of an

electromagnetic armature to swing in the magnetic field of helices A and B .

The armature is provided with two coils with cores mounted with both positive ends in the same direction. Then both negatives will be in the opposite direction, (the cores not being connected magnetically.) Now it will be observed that in the magnetic field A one core is positive and the other is negative, and the positive end of both armature-cores being in the same field one will be attracted and the other repelled, and as the center of motion is between the two helices of the armature motion will be produced and continued until positive and negative cores come in contact. Now if the current in J and J^2 be made to flow or molecularly rotate in the opposite direction, then the attractive core becomes the repelling one and the repelling-core becomes the attracting one, producing motion in the opposite direction. As the phenomena in A is coincident in B and J , they all combine to produce motion in one direction until the current is reversed in J and J^2 , then in the opposite direction, thus producing vibratory motion, which by lever P , and link connecting with shaft C by crank and pin C^3 , rotary motion is produced.

On shaft C a fly-wheel C^2 , a worm C^4 to engage worm-wheel G , and a commutator O are mounted.

Commutator O is a small pulley made of any non-conducting material. It has two peripheral contact-plates having offset portions, but each extending entirely around the shaft and separated from each other by a ring of insulation, there being four contact-brushes, two of which, R and R^2 , are adapted to engage each contact-plate alternately; but both of them never engage the same plate at the same time, while each of the other two brushes are always in engagement with the same contact-plate, one brush for one plate which is connected with helix J and the other brush for the other plate which is connected with helix J^2 . The current from battery, Fig. 3, flows in the direction of arrows through brush R , commutator O , thence through helices J and J^2 , returning to opposite side of commutator, thence through R^2 and helices A and B , returning to battery. As the rotation of commutator brings the offset portion

of the other plate in contact with brush R the current will be carried through helices J and J² in the opposite direction, as shown by dotted arrows. Brushes R and R², mounted on opposite sides of commutator, come in contact with insulators O² and O³ just as crank C³ is in position of "dead-center," breaking circuit and demagnetizing the cores, which will then be separated by the momentum of fly-wheel and spring P² before brush R comes in contact with the other semicircular plate, closing the circuit and transmitting the current in the opposite direction through helices J and J². This phenomenon will be automatically repeated, propelling worm-wheel G and belt F⁴ until a tooth on belt engages dog H⁶ in circuit-breaker H', causing arm to swing free from contact-plate H, dog H⁶ being propelled upward, thus automatically opening the circuit at H. The circuit will be closed by the usual bell-rope signals given by the conductor, (one pull to stop and two to start,) given at each "stop" or station. Ratchet-wheel H² has twelve teeth and four pins to successively engage lever H⁵, causing one end to swing upward and the other end to withdraw dog H⁶ from engagement with pin on F⁴, closing the circuit as arm H' swings into contact with H. Sliding pawl H³ is provided with a spring to engage H² and a spiral spring H⁴ to propel pawl by reciprocating traction on bell-rope, with which it is connected. Pinion K² is mounted to mesh with worm-wheel G and is provided with pins to engage bell-clapper K. Worm-wheel G is mounted on shaft by a clutch permitting shaft and pulley G' to be turned rapidly forward by crank G⁶ to adjust F² when car does not make a full run. Clutch is thrown in gear by pressing knob on link connected with lever G⁵. Lamp L is mounted in any convenient position in cabinet to illuminate stationary and movable advertisements.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In an electrical advertising-annunciator, the combination of a cylinder F' having leaves or cards, a controlling-belt having teeth to engage said cards with a crank-shaft having thereon pulleys to operate said belt and cylinder, a worm-wheel having a clutch connection with said shaft and an operating-motor and motor-circuit including one automatic circuit-opener H, having circuit-closer H² operated by bell-cord and a bell-clapper pinion K², substantially as described.

2. In an electrical advertising-annunciator, the combination of a cabinet comprising a glass front illuminated to display leaves F, and other advertising matter with an electric propelling-motor comprising six helices, four of which are mounted in pairs with space between, two helices pivotally mounted between said pairs as an electromagnetic armature and having arms P, a crank-shaft C and a link connection between said arms and said crank-shaft, substantially as set forth.

3. In an electric motor the combination of an electromagnetic armature pivotally mounted, between fixed electromagnets, having arms P, a crank-shaft C having thereon a fly-wheel, a worm, a commutator and a link connection between said arms and said crank-shaft with brushes R and R², adapted to engage offset portions of peripheral contact-plates of commutator, and other brushes being a part of circuit connection between said commutator and said electromagnetic armature, all substantially as specified.

JAMES P. ORR.
GEO. H. FUGH.

Witnesses:

C. F. ANDERSON,
J. F. MEIGHAN.