

(No Model)

J. T. HASKINS.
OPERATING MECHANISM FOR CAR BELLS.

No. 583,305.

Patented May 25, 1897.

Fig. 1.

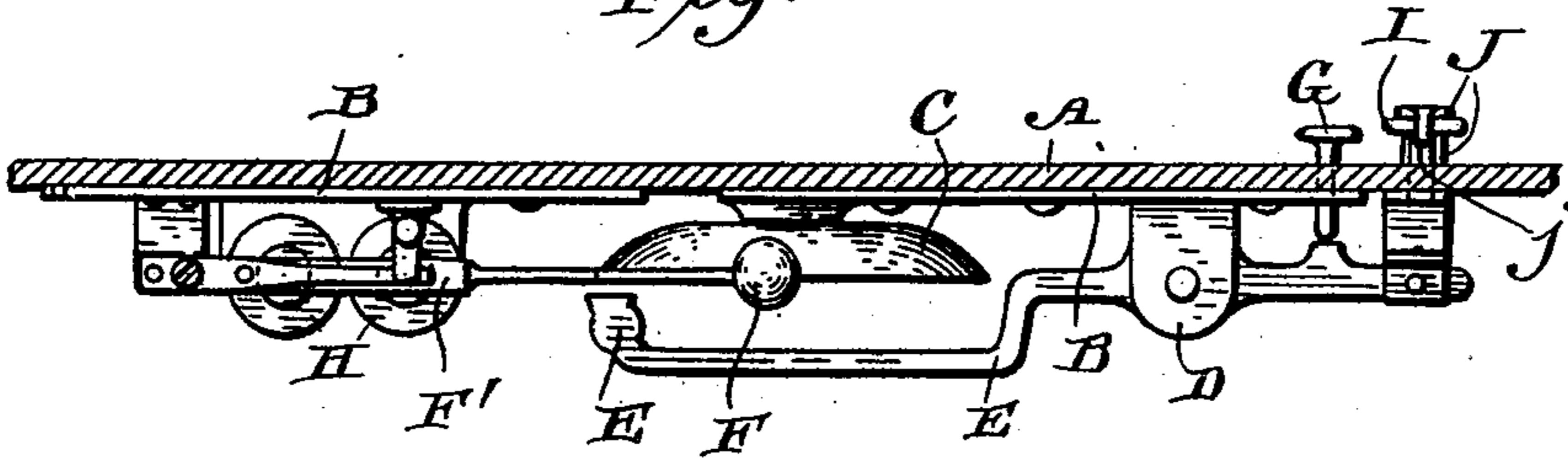


Fig. 2.

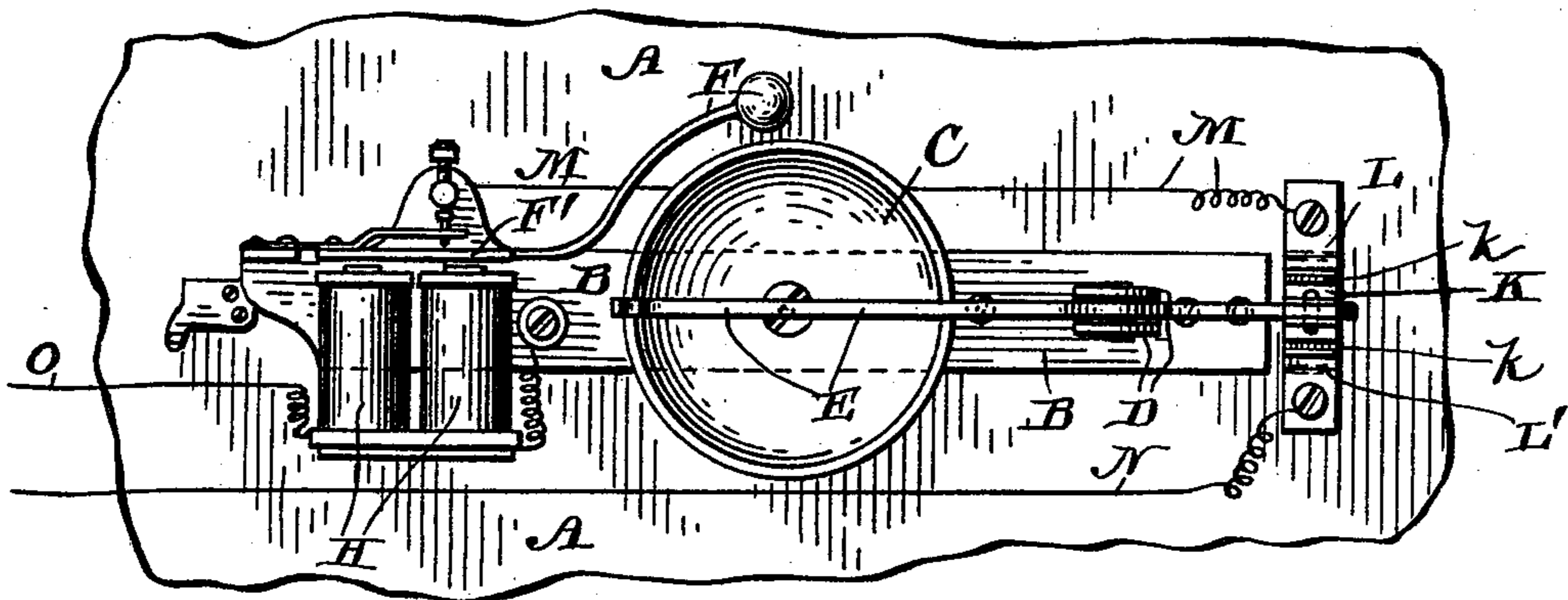
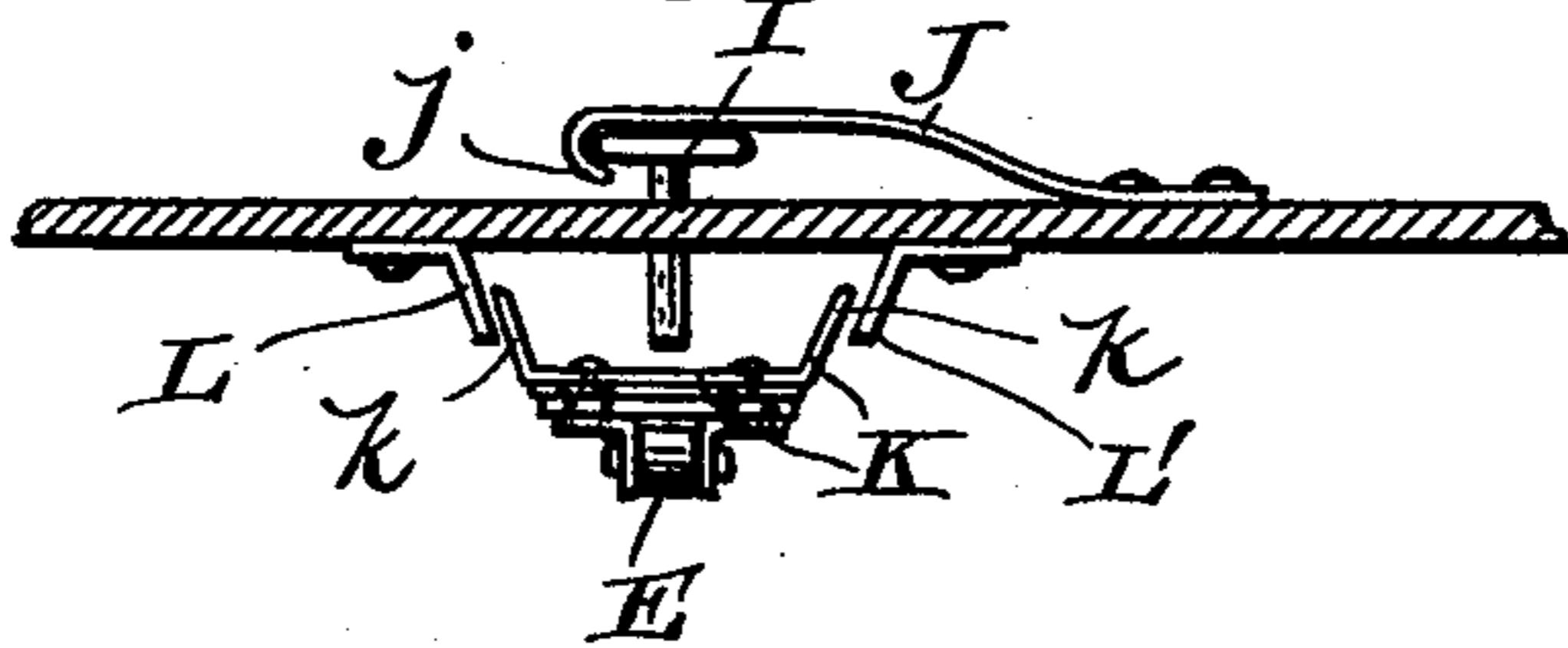


Fig. 3.



WITNESSES

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OPERATING MECHANISM FOR CAR-BELLS.

SPECIFICATION forming part of Letters Patent No. 583,305, dated May 25, 1897.

Application filed July 21, 1896. Serial No. 600,033. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH T. HASKINS, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Operating Mechanism for Car-Bells; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The chief object of this invention is to lessen the labor of the motorman in ringing the bell of an electric car and to provide for ringing it either by mechanical or electrical means, as occasion may require.

To this end my said invention consists partly in the combination of an inclined spring arranged to be easily touched and depressed by the foot of the motorman, with the push-button actuated by said spring, and circuit-closing devices against which said button bears.

My said invention further consists in the combination, with the same bell, of two hammers, one being mechanically actuated and the other electrically actuated, and the former hammer serving also as a support for the movable contact of the latter hammer.

The said invention also consists in certain additional improvements in construction and combination hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of the mechanism embodying my invention. Fig. 2 represents a plan of the same, taken from below; and Fig. 3 represents an enlarged detail view of the electric circuit-closing devices.

A designates the floor of the car, having a plate B attached to the under side thereof, to which plate the bell C is attached, as well as a pair of lugs D, between which a hammer E is pivoted to strike the said bell when a push-pin G is forced by the motorman's foot, as usual, through the floor against the tail of the said hammer. A second and lighter hammer F, partly formed into an armature F', is pivoted to a flange of the plate B and attracted by an electromagnet H, also fixed to said plate, being made to strike the said bell when the said magnet is energized. This is

effected by any slight motion of the motorman's foot against and upon an inclined spring J, which is fastened to the floor, but bears on a push-pin I, for which it serves also as a replacing-spring, being provided with a hook j, which catches under the head of the said push-pin. This pin bears down against a movable contact-plate K, provided with inclined flanges k k at each end, and brings those flanges against contact-plates L L', which are fixed to the under side of the floor and similarly inclined. A wire M runs from the plate L to the magnet and another wire N runs from plate L to conductors leading to the trolley or to the wheels and rails, as preferred. A wire O from the said electromagnet completes the circuit when the flanges k and plates L L' are in contact, as stated.

For convenience the plate K is attached, with the necessary insulation, to the tail of hammer E, so that the greater weight of the other end of the said hammer may operate to raise the said contact-plate K and open the circuit when the pressure on the pin I is withdrawn.

So long as the trolley runs on the wire and the circuit through the motor is uninterrupted the electrically-operated bell E is exclusively employed, the motorman merely needing to slide his foot upon and up the incline of spring J, giving a very gentle pressure thereby to the said pin I, which brings the plate K into circuit-closing contact, as stated, and slightly lowers the tail of hammer E, though not nearly enough to make said hammer strike. This circuit-closing operation will be effected almost involuntarily by the motorman's forward step naturally taken in putting on the brakes or reversing the power. Such a step might well miss the head of a pin, but is almost certain to bring his forward foot against some part of the rather long spring in an operative manner.

The ordinary hammer E becomes very useful when the electrical current is not available—as, for example, in running downhill with the trolley, by accident, off the wire—but it requires a great deal more force and precision of movement, since it is by no means easy to work with both hands and at the same time put down one foot exactly and vigorously. This hammer E will therefore be used

at most only as a supplementary signaling device very rarely needed. Its push-button E may, indeed, be dispensed with, converting the said hammer into a mere support for plate K, without at all interfering with the operation of the electric hammer F. Still there is of course some advantage in giving to hammer E a double function, as described. Of course the said devices for bell-ringing of both kinds may be used with a cable or other non-electric car, only there must be a source of electricity.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination with the bell, push-pin and mechanically-actuated hammer of a car, a second hammer, electromagnetic mechanism for actuating the same, and circuit-closing devices arranged to be operated at will by the motorman, both hammers being adapted to strike the same bell substantially as set forth.

2. In combination with a car-bell and me-

chanically-operated hammer, a second hammer, electromagnetic mechanism for actuating the same, and circuit-closing devices for said mechanism, consisting in part of a movable contact mounted on the tail of the former hammer and replaced thereby substantially as set forth.

3. An inclined spring, a push-pin depressed and raised thereby, a contact-plate depressed by the said pin and provided with inclined flanges, fixed contact-plates arranged for contact with the said flanges, conductors connected to said fixed plates, an electromagnet in the circuit of said conductors, means for automatically replacing the said contact-plate, and a hammer and bell actuated by the said magnet substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH T. HASKINS.

Witnesses:

GRANT M. PALMER,
ERNEST V. MUNROE.