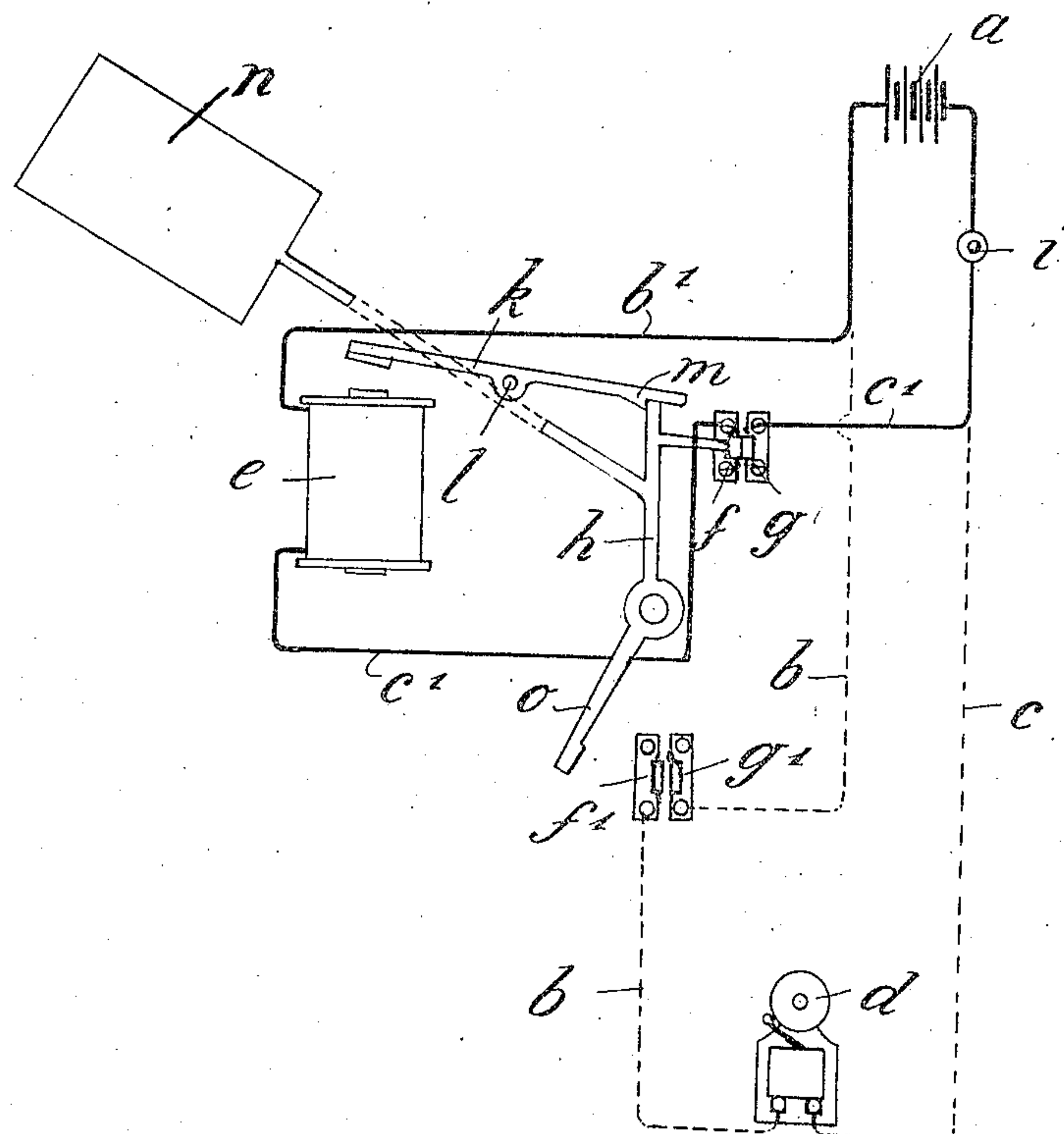


936,666.

O. RENNERT.
SWITCHING DEVICE.
APPLICATION FILED JAN. 12, 1903.

Patented Oct. 12, 1909.



Witnesses—

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OTTO RENNERT, OF LONDON, ENGLAND.

SWITCHING DEVICE.

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Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed January 12, 1903. Serial No. 138,789.

To all whom it may concern:

Be it known that I, OTTO RENNERT, a subject of the German Emperor, residing at Seagrave Road, West Brompton, London, England, have invented certain new and useful Improvements in Switching Devices, of which the following is a specification.

The object of my invention is to provide an annunciator with means whereby the current is cut off from the annunciator coil and is switched onto another circuit in parallel with the annunciator coil.

With this general object in view, my invention consists in the features, details of construction and combination of parts which will first be described in connection with the accompanying drawing and then particularly pointed out in the claims.

The drawing illustrates diagrammatically an apparatus embodying my invention.

In this drawing, *a* is a battery which is connected by conductors *b* and *c* to a bell *d*, and by conductors *b'* and *c'* to a coil *e*, this coil, therefore, being in multiple or parallel with the bell *d*. The coil *e* in the embodiment illustrated serves as the magnet coil of an annunciator.

In that branch of the circuit which contains the coil *e*, there is placed a pair of contact springs *f*, *g*, said springs being normally held in contact with each other by means of a switch lever having two arms *h* and *o*, the arm *h* carrying an indicator or semaphore device, as indicated at *n* and a projection which engages the contact spring *f*. The lever *h* is normally held in a position to close the circuit at the contact springs *f*, *g* by means of an armature lever *k*, pivoted at *l* and provided with a detent tooth *m* which engages the top end of the switch lever *h* as shown in the drawings.

In the circuit which contains the bell *d*, two contact springs *f'* and *g'* are provided, these being arranged in the path of the arm *o* of the switch lever. A suitable circuit-closing device, as for example, a push-button *i* is arranged in that part of the electric circuit common to both parallel branches of the circuit.

The operation of the embodiment of the invention hereinbefore described is as follows:

When the push button *i* is pressed, the circuit is closed at that point and the current flows through the coil *e* of the annunciator, no current passing through the bell because the springs *f'* and *g'* are not in contact with each other. As soon as the coil *e* is energized, it attracts its armature lever *k* and thereby retracts the detent tooth *m* from the arm *h* of the switch lever which thereupon swings away from the contact springs *f* and *g*, thereby opening the circuit through the coil *e*, the arm *o* of said switch lever, then coming into engagement with the spring *f'* and forcing it into contact with the spring *g'*, thus closing the circuit through the bell *d*. In this way, the entire strength of the battery is thrown first into the coil *e* to operate the annunciator and then into the bell *d* to ring the latter.

Having thus fully described my invention, what I claim is:

1. The combination, with two circuits arranged in parallel and having conductors common to both circuits, a battery connected to said common conductors, and a manually operated circuit closing device, included in one of said common conductors, of a bell and a pair of contact springs in one of the parallel circuits, an annunciator magnet and a second pair of contact springs in the other parallel circuit, a switch lever arranged to close alternately the two pairs of contact springs, and an armature lever coacting with the annunciator magnet and arranged to hold the switch lever in one position to close the second pair of contact springs and, when the manually operated circuit closer is operated, to release said switch lever, whereby the latter then closes the first pair of contact springs.

2. The combination, with two circuits arranged in parallel and having conductors common to both circuits, a battery connected to said common conductors and a manually operated circuit closing device included in one of said common conductors, of two pairs of contact springs, one pair in each parallel circuit, a switch lever arranged to close alternately the two pairs of contact springs, an armature arranged to hold the switch lever in a position to close the contact springs

of one parallel circuit, an electro-magnet in the latter circuit and arranged when energized to cause the armature to release the switch lever, whereby the contact springs of the second parallel circuit are closed and the others opened, and a bell in the second parallel circuit.

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

OTTO RENNERT.

Witnesses:

PAUL HENSCH,

WILLIAM EDWARD EVANS.