

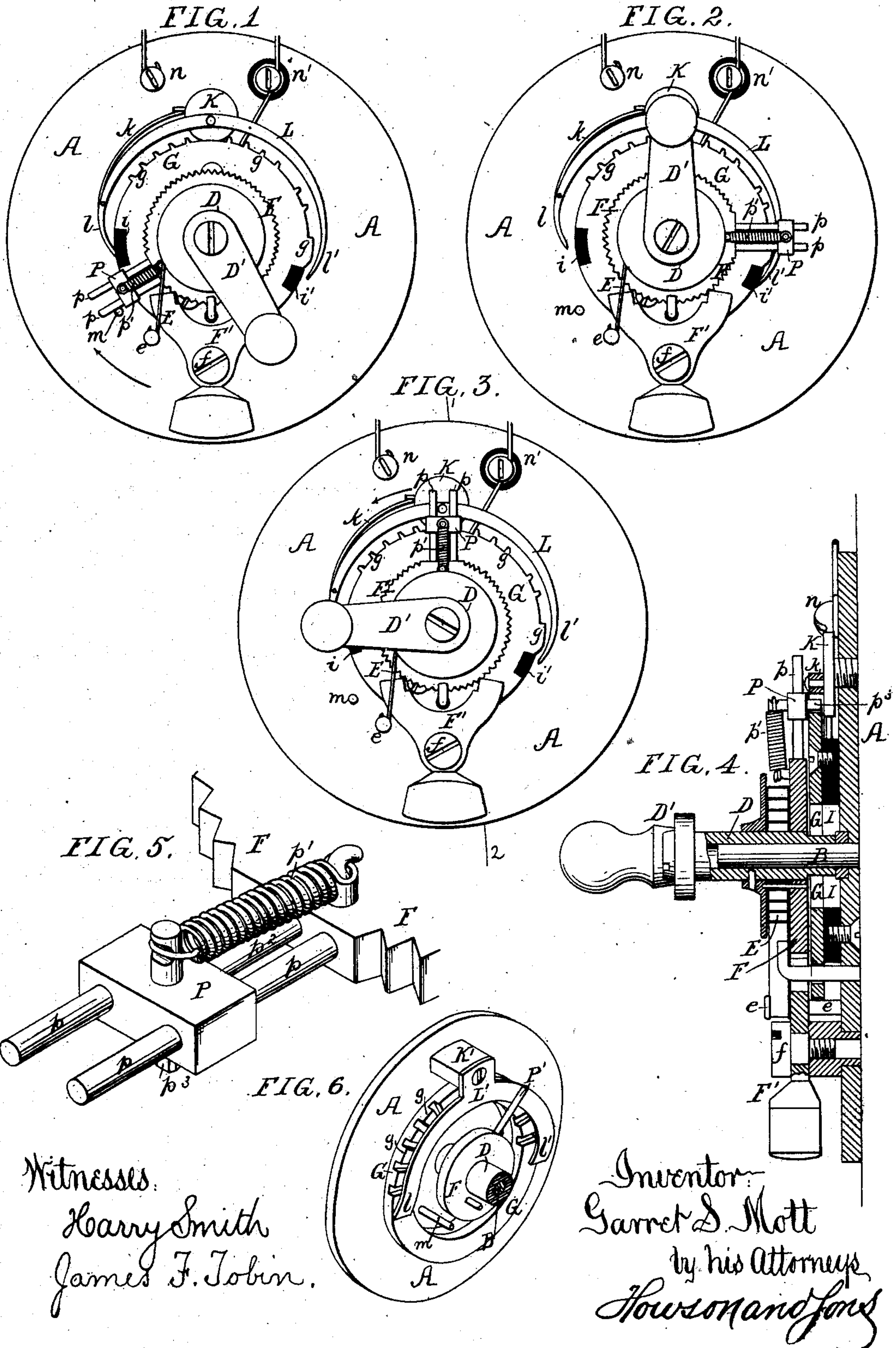
(No Model.)

G. S. MOTT.

ELECTRICAL SIGNAL TRANSMITTER.

No. 244,918.

Patented July 26, 1881.



Witnesses:
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UNITED STATES PATENT OFFICE.

GARRET S. MOTT, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRICAL SIGNAL-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 244,918, dated July 26, 1881.

Application filed February 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, GARRET S. MOTT, a citizen of the United States and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Electrical Signal-Transmitters, of which the following is a specification.

The object of my invention is to construct a simple and efficient transmitting-instrument for electrical signals for fire, district-telegraph, and other alarms and similar uses; and this object I attain by combining a movable contact-piece and brake-plate with an automatic bridge-lever, by which the said piece is kept from contact with the brake-plate when moved in one direction, but is allowed to come into contact with such plate when moved in the other direction, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is a face view of my improved electrical signal-transmitter with the cover or case removed; Figs. 2 and 3, similar views with the movable parts in different positions; Fig. 4, a section on the line 1 2, Fig. 3, drawn to an enlarged scale; Fig. 5, a perspective view of a part of the carrier and the contact-piece, and Fig. 6 a perspective view of a modification.

To the casing or frame A of the instrument is fixed a center-pin, B, to which is adapted a barrel, D, free to turn thereon. To this barrel is secured a carrier-wheel, F, provided with the yielding contact-piece P, as more fully described hereinafter. The said barrel also carries a coiled spring, E, which tends to keep the rod *p* of the carrier against the stop *m*, the outer end of the spring being secured to a pin, *e*, fixed to the casing, while the end of the barrel is provided with a crank-handle, D', by which the carrier and its contact-piece may be rotated on the center-pin B against the action of the said spring. The carrier-wheel F, in the present instance, is toothed on its outer periphery, to serve the purpose of an escape-wheel, in connection with the weighted scape-lever F', (pivoted to a fixed stud, *f*, on the casing,) in order to properly retard the action of the spring E on the barrel and carrier. To the casing A is also secured the breaker-plate G, which is, however, carefully insulated therefrom by a non-conducting ring, I, Fig. 4. This breaker-plate is electrically connected with an

insulated binding-post, *n'*, while the other terminal binding-post, *n*, is electrically connected with contact-piece P through the casing, center-pin, barrel, and carrier. The breaker-plate is provided with projections *g*, the number and spacing of which correspond to the character of the signal to be made.

As shown in Fig. 5, the contact-piece consists of a block, P, which is adapted to slide freely on a pair of guide-rods, *p p*, fixed radially on the carrier-wheel F. A spiral spring, *p'*, tends to pull the said block toward the carrier; but the block is prevented from being drawn beyond a certain point by a stop-rod, *p''*, on the block coming into contact with the periphery of the carrier, so that when the contact-piece is carried around the periphery of the breaker-plate G in the direction of the arrow, Fig. 3, as described hereinafter, a projection, *p''*, on the under side of the sliding block will come into contact with the projections *g* on the breaker-plate, but will not come into contact with the said plate G between the said projections, Fig. 4.

In my improved transmitter, as in others of the same class, the signal is to be made by turning the handle D', this action causing the winding up of the spring E, which, on the release of the handle D', returns the parts to their normal positions. (Shown in Fig. 1.) In order to permit the closing and breaking of the electrical circuit to make the signal only when the carrier and contact-piece move either on their forward or return stroke, I employ a bridge-lever, L, which, in the present instance, carries the contact-piece P clear of the breaker-wheel when the carrier is moved in the direction of the arrow, but permits said contact-piece to come into contact with the projections on the said plate on the return movement of the carrier. This bridge-lever, in the present instance, consists of a lever, L, pivoted to a stud, K, on the casing, in the same plane with the breaker-plate, and curved to the same general outline as the said plate, and with its opposite ends, *l l'*, bent inward, but so as to allow a slight oscillating motion of the said lever on its pivot, the motion being limited in one direction by the end *l* coming into contact with the insulating-point *i* on the breaker-plate G, Fig. 1, and in the other direction by the end *l'* coming into contact with the insulating-

point i' , Fig. 2. A spring, k , tends to keep the lever L in the position shown in Fig. 1, with the end l in contact with the insulating-piece i .

5 The operation of the device is as follows: When it is desired to make the signal the handle D' is moved in the direction of the arrow, Fig. 1, and as the carrier moves around with its contact-piece P the pin p^3 on the lat-
10 ter comes into contact with the end of the bridge-lever L , and the piece P is carried around the outer edge of the latter until it passes the end l' of the lever L , Fig. 2, when, on the release of the handle, the spring E will
15 cause the carrier to rotate in the opposite direction, and the projection p^3 on the contact-piece will enter between the edge of the plate G and the end l' of the bridge-lever, Fig. 3, since the latter has been caused by the spring
20 k to keep or return to its normal position. As the carrier continues its movement the projection on the piece P will come into contact with the successive projections g , and in doing so will make and break the electrical circuit a
25 number of times, and at intervals corresponding with the number of projections and the length of the spaces between them.

The number of signals may be increased by having two or more of the automatic bridge-
30 levers in connection with a break-plate; and, if desired, gear-wheels may be arranged between the carrier and spring-movement, as in clocks, to retard the movement of the carrier.

The transmitter above described is arranged
35 to work on an open circuit, the passage of the contact-piece over the projections of the break-wheel causing the momentary closing of the circuit; but the transmitter may, of course, be arranged to work on a closed circuit, in
40 which case the insulating-pieces i and i' are dispensed with, and the contact-piece is always

in electrical contact with the break-plate G , directly or through the lever L , except when passing over the spaces between the projec-
45 tions g , the circuit then being momentarily opened to make the signal.

The construction of the bridge-lever and contact-piece may be varied without departing from my invention. In the modification, Fig. 6, for instance, the bridge-lever L' is a spring
50 with one or both ends bent, one end, l , bearing on the face of the break-plate G , while the other end, l' , is at a slight distance from the plate, the projections g , in this case, being on the face of the plate around the edge, beneath
55 the automatic bridge-lever L' . The contact-piece P' consists simply of a spring-arm secured to the rotary carrier F , and caused to ride on the bridge-lever when moved in the direction of the arrow, Fig. 6, but entering be-
60 tween said lever and the plate G on the return movement, and coming into contact with the projections, but not the spaces between the projections. In this case the transmitter is shown arranged to be worked on a closed
65 circuit, the insulating-points i and i' being omitted, as above described.

I claim as my invention—

The combination, in an electrical signal-transmitter, of a break-plate and rotating car-
70 rier, having a yielding contact-piece, with a pivoted spring-lever having one end adapted to bear on the said break-plate in the path of said contact-piece, substantially as specified.

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

GARRET S. MOTT.

Witnesses:

JAMES F. TOBIN,
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