

966,901.

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UNITED STATES PATENT OFFICE.

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ALARM SYSTEM.

966,901.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT GOLDSTEIN, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Alarm Systems, of which the following is a full, clear, and exact description.

This invention relates to central energy alarm systems and has for its object the release of the alarm transmitter by energy from the central battery as long as the line wire either way from the transmitter is intact.

In the figure 1, which embodies a typical form of my invention, the normal circuit is as follows:—from source A (here shown in two parts with a ground connection G between the two), through alarm repeating relay D, line 1, to transmitter T and therein from junction X to wire 2, contact 3, switch arm 4, wire 5, switch arm 6, contact 7, wire 8 and junction Y to line 20, alarm repeating relay E, to source A.

In transmitter T the circuit from junction X through wire 9, magnet H¹, wire 10, switch arm 11, contact 12, switch arm 13, contact 14, wire 15, magnet H² to junction Y is normally shunted by the circuit previously described and hence magnets H¹ and H² are deenergized, armature h is retracted, the end h¹ engages the pallet tail t, and the end h² engages the notch in winding drum w of the normally wound transmitter T, restraining the movement of the same. A normally open ground connection is also provided from junction of contact 12 and switch arm 13, by wire 16 to switch arm 17 and contact 18 to ground G¹.

The normal operation of the system is as follows:—The switch s is operated by any suitable means, opening circuit at contact 7. Current in transmitter T now flows from junction X to junction Y through wire 9, magnet H¹, wire 10, switch arm 11, contact 12, switch arm 13, contact 14, wire 15, and magnet H². Both magnets become energized, attract armature h, releasing pallet tail t and winding drum w and allowing the break wheel M to rotate and make periodic interruptions in the circuit by means of switch arms 11 and 13 which are received at a suitable point by means of relays D and E, which through their armatures d, e, control lamps P, Q.

Assume now a break in wire 1 say at Z. The opening of contact 7 as before does not cause any current to flow through magnets H¹ or H², so I provide a second switch arm 17 and contact 18 which close circuit to ground G¹. Upon the operation of switch s a circuit is then established as follows:—from source A, relay E, line 20, junction Y, magnet H², wire 15, contact 14, switch arm 13, wire 16, switch arm 17, contact 18 to ground G¹ and thence by ground G to source A. Magnet H² is now energized and attracts armature h, releasing the transmitter as before, the signals being received only through relay E.

Assume now a break in wire 20 say at Z¹, then as before upon the opening of contact 7 no current is established through magnets H¹ or H². Upon the closing of contact 18, however, a circuit is established as follows:—from source A, through relay D, line 1, junction X, wire 9, magnet H¹, wire 10, switch arm 11, contact 12, wire 16, switch arm 17, contact 18, to ground G¹ and thence by ground G to source A. Magnet H¹ is now energized and attracts armature h, releasing the transmitter as before, the signals being received only through relay D.

Cam N is provided to close circuit to ground G¹, and to open shunt from junction X to junction Y independently of switch arms 17 and 6, so that premature restoration of the switch arms to their original position will not affect the transmission of the signal from break wheel M. It will then be obvious that as long as either line wire 1 or 20, is intact so that a signal could be received at the central station, the transmitter T can be released from the central battery, thus avoiding the use of local batteries at the signal station.

I claim:—

1. A line circuit, a normally grounded source of current for same, a plurality of translating devices in said circuit, a transmitter, a plurality of releasing means for said transmitter in series in said circuit, a normally closed shunt around said releasing means, a normally open connection to ground between said releasing means, and means for opening said shunt and closing said open connection to effect the operation of said releasing means.

2. Two sources of current, a ground connection between the same, a metallic circuit

including said current sources, an independently operable switch in said circuit, a translating device in each member of said circuit and in shunt circuit, a transmitter, a ground connection therefrom, and means for releasing said transmitter: the switch in said metallic circuit being normally closed to short-circuit said shunt circuit.

3. Two sources of current, a ground connection between the same, a metallic circuit including said current sources, a translating device in each member of said circuit and in shunt circuit, a transmitter, a ground connection therefrom, two electro-magnets con-

trolling said transmitter to release the same, 15
a ground connection between said magnets, switches respectively interposed in said last named ground connection and in said metallic circuit, and means for simultaneously operating said switches to open said circuit 20
and close said ground connection.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

ALBERT GOLDSTEIN.

Witnesses:

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