

RING BACK RELAYS AND INTERRUPTER EQUIPMENT
CIRCUIT 18876 A
SUPERIMPOSED GEN. OR TWO FREQ. HARMONIC
WITH INSPECTORS RING BACK - 4 PARTY.

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GENERAL

This equipment is used to place the proper ringing frequencies or the proper combination of superimposed ringing current onto the line thru the line bank contacts.

MOTOR
MAGNET

Ground on the interrupter start lead operated the motor magnet thru the back contact of D.* The motor magnet energizes and opens the circuit to B.

RELAY
D

B and D do not operate as soon as the interrupter start lead is grounded because of the copper slug that each one has over its core at the armature end. D operates thru the back contact of B from ground on the interrupter start lead an instant after the motor magnet operates and opens the circuit to the motor magnet.

The rotary magnet restores; steps the wipers onto bank contact #1 so as to close the circuit to F; and closes the circuit to B.

RELAY
B

B which is also slow in pulling up, operates thru the back contact of the rotary magnet and opens the circuit to D. D restores and closes the circuit to the rotary magnet. The rotary magnet operates thru the back contact of D and opens the circuit to B. B restores and closes the circuit to D. D again operates and opens the rotary magnet which allows the rotary magnet to restore; step the wipers onto the 2nd bank contact and close the circuit to B. The circuit to F remains closed from ground on the interrupter start lead

*NOTE: A.B. etc., refer to relays A.B. etc.,

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thru the wiper and #2 bank contact.

A and B continue to operate alternately in this manner and cause the motor magnet to step the wipers over the contacts. The wipers close the circuit to F while rotating over the contacts #1 and #2, and close the circuit to H while rotating over the contacts #3 and #4. #5 bank contact is not connected to either circuit so as to allow a pause between ringing periods. #6 and #7 bank contacts are connected to #1 and #2; and #8 and 9 are connected to #3 and 4 etc., so that the circuits to F and H will be closed alternately five times, with a pause between each ringing period while one set of wipers is rotating over the bank contacts.

SPARK
COILS

The 3000 ohm resistance coils connected in multiple with F and D prevent excessive sparking at the springs which open their respective circuits. The 1/2 M.F. condenser in series with a 10 ohm resistance connected in multiple with the rotary magnet prevents excessive sparking at the bank contacts of D.

RELAY
F

F operates from ground on the interrupter start lead thru the wipers and proper bank contacts; places frequency #2 onto negative line bank contact #5; and places frequency #1 onto positive line bank contacts 1, 2, 3, and 7 onto negative line bank contacts, 4, 6, and 9. F remains operated while the motor magnet steps the wipers over two bank contacts and places ringing current onto the line bank contacts as explained above.

RELAY
H

The wipers open the circuit to F on the third

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rotary step and close the circuit to H during the third and fourth rotary steps. H places frequency #2 onto negative line bank contacts 3, 6, and 10 and onto positive line bank contacts 1, 4, 5, and 8; and places frequency #1 onto the negative line bank contact #2. Any combination of two frequencies may be obtained by calling one of the first six numbers.

Line bank contacts 7, 8, 9, and 10 are grounded on one side and connected to only one frequency on the other side so as to allow an inspector to call one of these four numbers and ring only the bell he is testing.

Line bank contacts #1 and #6 are connected to ground on one side and the two ringing frequencies are placed on the other side of the line alternately by the interrupter so as to ring the two bells on this side of the line.

The leads connected to the line bank contacts are normally connected to either battery or to ground so as to supply current to operate the ring cut-off relay of the associated switch when the called party answers.

The 5000 ohms resistance coils connected in multiple with F and with H prevents excessive sparking at the wipers and rotary bank contacts. The battery to the line bank contacts is taken thru a 100 ohm resistance coil so as to prevent a direct short being placed in the circuit when the springs are being adjusted.

AUTOMATIC ELECTRIC COMPANY
KWG:RM.....
AUGUST 2, 1920.....

SPARK
COILS

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