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METHOD OF OPERATION
MAKE BUSY CIRCUIT
With Motor Start Control, Call Indicator Trunk Panel Machine Switching System.

DEVELOPMENT

1. PURPOSE OF CIRCUIT

1.1 This circuit is used to make call indicator trunks busy at the Mechanical district and office frames. It is controlled from the call indicator position at the manual office at which these trunks are incoming.

2. WORKING LIMITS

2.1 This circuit has a maximum external circuit loop of 3193 ohms.

OPERATION

3. PRINCIPAL FUNCTIONS

3.1 This circuit is controlled from a call indicator position, to make all trunks incoming to that position busy, when the position is vacated or trouble has developed. Its principal functions are:

3.11 Automatically supplies current to the drive motor of the make busy frame for driving the sequence switch.

3.12 Connects ground to the sleeves of the trunks terminating at the call indicator position at which the make busy key is operated.

3.13 Automatically stops the drive motor of the make busy frame when all trunks from an office have been made busy.

3.14 Automatically starts the drive motor of the make busy frame, removing the busy condition from the trunks and restoring the make busy circuit to normal when the make busy key at the call indicator position is restored.

4. CONNECTING CIRCUITS

This circuit will function with:

4.1 Any set of trunks which can be made busy by connecting direct ground to the sleeves of the trunks.

DESCRIPTION OF OPERATION

5. REMOVING TRUNKS FROM SERVICE - FIRST CYCLE

When the key at the distant relay call indicator position is operated, the (L) relay operates. The (L) relay operated, operates the (L-1) relay which in turn locks to ground on cam D and operates the (ST) relay. The (ST) relay operated, operates the (ST-1) relay which connects battery to the power-drive motor, starting it. When the armature reaches a pre-determined speed, the centrifugal contact on the gear case shaft closes, operating the (SSC) relay. The (SSC) relay operated advances the sequence switch out of position 1. The A cam advances the switch to position 6. As the switch advances from position 2 to 6, ground is successively connected through the contacts of cams F to R inclusive, to the sleeves of the trunks connected thereto.

6. ALL TRUNKS MADE BUSY

As the switch enters position 2, the (ST) relay locks to ground on cam D. As the switch leaves position 2, the (L-1) relay releases, removing ground from the contact of cam B. As the switch leaves position 5-1/2, the (ST) relay releases, releasing the (ST-1) relay. The (ST-1) relay released, disconnects battery and ground from the motor, which stops and opens the centrifugal contact on its gear case shaft, releasing the (SSC) relay.

7. RESTORING TRUNKS TO SERVICE

When the make busy key is released, the (L) relay releases, and operates the (L-1) relay which locks to ground on cam D. The (ST) and (ST-1) relays, the drive motor and the (SSC) relay operate as described in paragraph 5. The (SSC) relay operated, advances the switch to position 7, the A cam advancing it to position 10. As the switch leaves position 6-1/4, ground is removed from the contacts of cams F to R inclusive, thus disconnecting ground from the sleeves of the trunks.

8. RESTORING THE CIRCUIT TO NORMAL

In position 7, the (ST) relay locks to ground on cam D. As the switch leaves position 7, the (L-1) relay releases, removing ground

from the contact of cam B. As the switch leaves position 9-1/2, the (ST) relay releases, the (ST-1) relay, stopping the motor and relay as described in paragraph 6. The circuit is now normal with the exception that the switch is in position 10.

9. REMOVING TRUNKS FROM NORMAL - SECOND CYCLE

When it is desired to make the trunks busy again, the (L) relay is operated, and the circuit functions as described in paragraphs 5 and 6, except that the switch stops in position 15 and remains there until the (L) relay is released and the switch is advanced to position 1 instead of position 10 as described in paragraph 7 and 8.