PUBLISHED
MAY 18, 1943.
BY A. P. C.

E. ROSSBERG
CONNECTION FOR TELEPRINTERS
Filed Sept. 20, 1940

Serial No.
357,533
2 Sheets-Sheet 1

Fig. 1

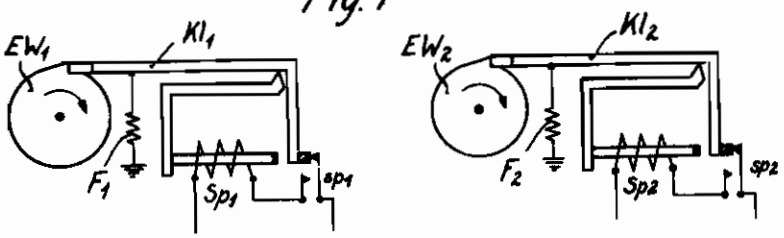
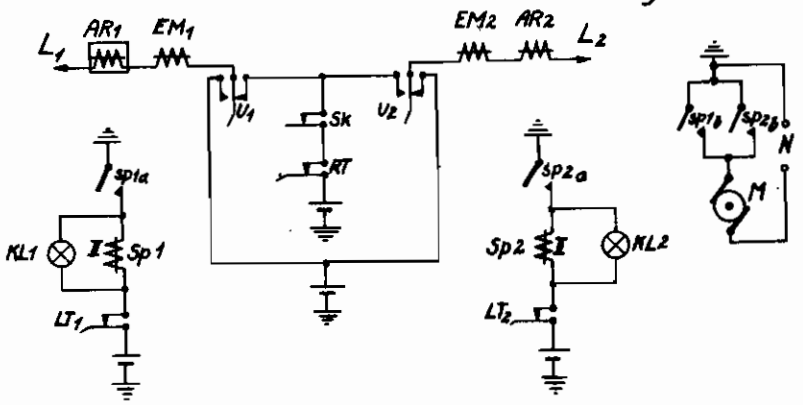
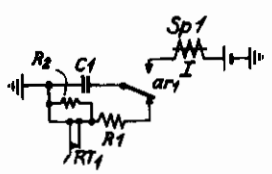
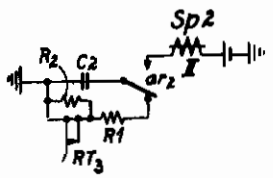


Fig. 2







Inventor:
Ehrhard Rossberg
By: Richardson and Greer
Attys.

PUBLISHED
MAY 18, 1943.
BY A. P. C.

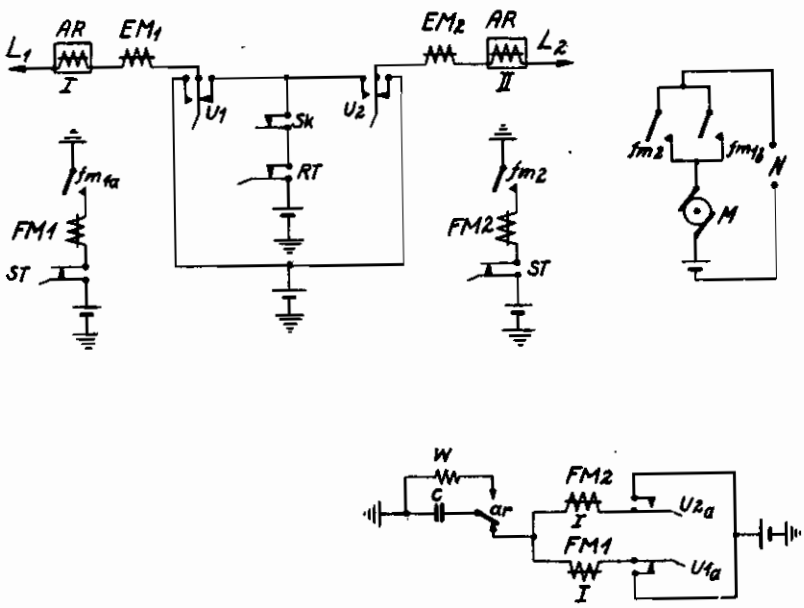
E. ROSSBERG

CONNECTION FOR TELEPRINTERS

Filed Sept. 20, 1940

Serial No.
357,533
2 Sheets-Sheet 2

Fig.3



Inventor:
Ehrhard Rossberg

By: Richardson and Greer
Attys.

Published May 18, 1943

Serial No. 357,533

ALIEN PROPERTY CUSTODIAN

CONNECTION FOR TELEPRINTERS

Ehrhard Rossberg, Berlin-Siemensstadt, Germany; vested in the Alien Property Custodian

Application filed September 20, 1940

This invention relates to a connection for teleprinters, in which a transmitter is combined with various, preferably with two receivers.

Such apparatus presents difficulties as to the remote control, since if the apparatus called over a long distance line had already been called from another long distance line and is in operation, the motor is set in motion and faulty signals are printed in accordance with the actuation of the receiving magnet upon the arrival of the call signal for the second receiver.

This drawback may be removed according to the invention by the fact that the shafts of the receivers are blocked by a pawl whose release is effected in accordance with the reception of the call signal.

The pawl is preferably actuated by means of a magnet which operates in response to the reception of the call signal. If call signals which have a given minimum duration are utilized a known combination consisting of a condenser and a resistor is preferably employed. The locking magnets may be provided with a holding winding so that they remain energized during operation.

Further details of the invention will be apparent from the following description taken in connection with the accompanying drawings, in which

Figs. 1 to 3 show some embodiments according to the invention in diagrammatic form.

Fig. 1 shows the arrangement of the pawl and magnets.

In the state of rest the magnets Sp1 and Sp2 of the control lamps K*l*1 and K*l*2 are deenergized and prevent both receiver shafts from rotating even when the receiver magnet receives the starting impulse. Only upon the energization of the magnets Sp1 and Sp2, the receiver shaft is permitted to rotate in order to translate the signals received.

In Fig. 2 is shown the switching system for the operation of the apparatus. If, for instance, a call is received over the line L1, the calling relay AR1 is released in accordance with the calling impulse which consists in an interruption of current. The contact ar_1 is actuated to the position shown so that the condenser C1 discharges through the resistance R1. As soon as the starting impulse ceases, the current flows through the line L1 so that the armature of the relay AR1 is again attracted. The condenser C1 is charged through the winding I of the magnet Sp1, which circuit is from: earth, condenser C1, contact ar_1, magnet Sp1, battery, earth. The locking magnet attracts its armature so that the shaft EW1 (Fig. 1) may begin to rotate and the contact sp_{1a} is closed. In this manner a holding circuit is established through the winding II of the magnet Sp1, extending from earth, contact sp_{1a}, magnet Sp1II, quenching key LT1, battery to earth. The control lamp K*l*1, which indicates that the receiver with the magnet EM1 (Fig. 2) and the shaft EW1 (Fig. 1) is in operation in the direction of the line L1, is inserted in the circuit in parallel relation to the circut just traced. Upon the operation of the magnet Sp1 the motor M is connected to the current supply circuit N through the contact sp_{1b}. The receiving magnet EM1 can receive the signals coming from the direction L1. The transmitting contact *sk* is arranged in this circuit in accordance with the position of the double-throw switch U1. Over the line L1 an up and down working may therefore be effected with the aid of the receiving magnet EM1 and the contact *sk*. Over the line L2 only a reception may be effected at the same time through the change-over switch U2.

A call arriving over the line L2 acts in a corresponding manner through the relays AR2 and the locking magnet Sp2. If an up and down working is to be effected the directional switches U1 and U2 which may under circumstances be combined to one switch must be switched over in a corresponding manner. A call over the lines L1 and L2 extending to the remote station takes place after changing over the directional switch in the corresponding position by depressing the key RT. The closed circuit current is thus interrupted in the line, the remote apparatus is started in the manner described above and also the relay AR1 or AR2 is released at the home station so that the apparatus is allowed to run down.

If the resistance R1 is not of the same magnitude in the calling and called apparatus it may occur that the home apparatus starts, but the remote apparatus does not start at the remote station, because the calling impulse was too short. For this reason auxiliary resistors R2 are in addition provided which are short-circuited through the contacts RT1 and RT2 of the calling key. If the calling key is therefore depressed the time constant of the circuit C1, R1 is increased by the resistances R2 so that the calling impulse must be transmitted somewhat longer in order to start the home apparatus, thus ensuring a starting of the remote apparatus.

In Fig. 3 the connection as shown in Fig. 2 is simplified. In this case only one calling relay

AR is provided which, however, carries two windings. Besides only one combination consisting of a condenser and a resistor is provided. The relay AR is so dimensioned that it is already released in the state of rest when current flows over the lines L1 and L2 in the opposite direction in both windings. However, during the operation the armature thereof is attracted owing to the relatively short telegraphic impulse. The operation is effected in the same manner as in Fig. 2. The relay AR is actuated in response to a call, for instance, through the winding II in the event of the line L1 being deenergized. In this manner the condenser C1 is discharged through the resistance W in order to transmit at the end of the starting impulse upon the release of the relay AR an impulse through the magnet FM1, winding I and the directional switch $U1_a$. The locking magnet FM1 is attracted and remains energized through its contact fm_{1a}. The motor M is started through the contact fm_{1b}. Otherwise the operation is effected in the same manner as in Fig. 2.

The connection may be simplified to a further extent if a make and break contact is allotted to the receiving magnet EM1 or EM2 shown in Fig. 2 or 3. This magnet has then the same function as the contacts ar_1 and ar_2 (Fig. 2) or ar (Fig. 3).

EHRHARD ROSSBERG.