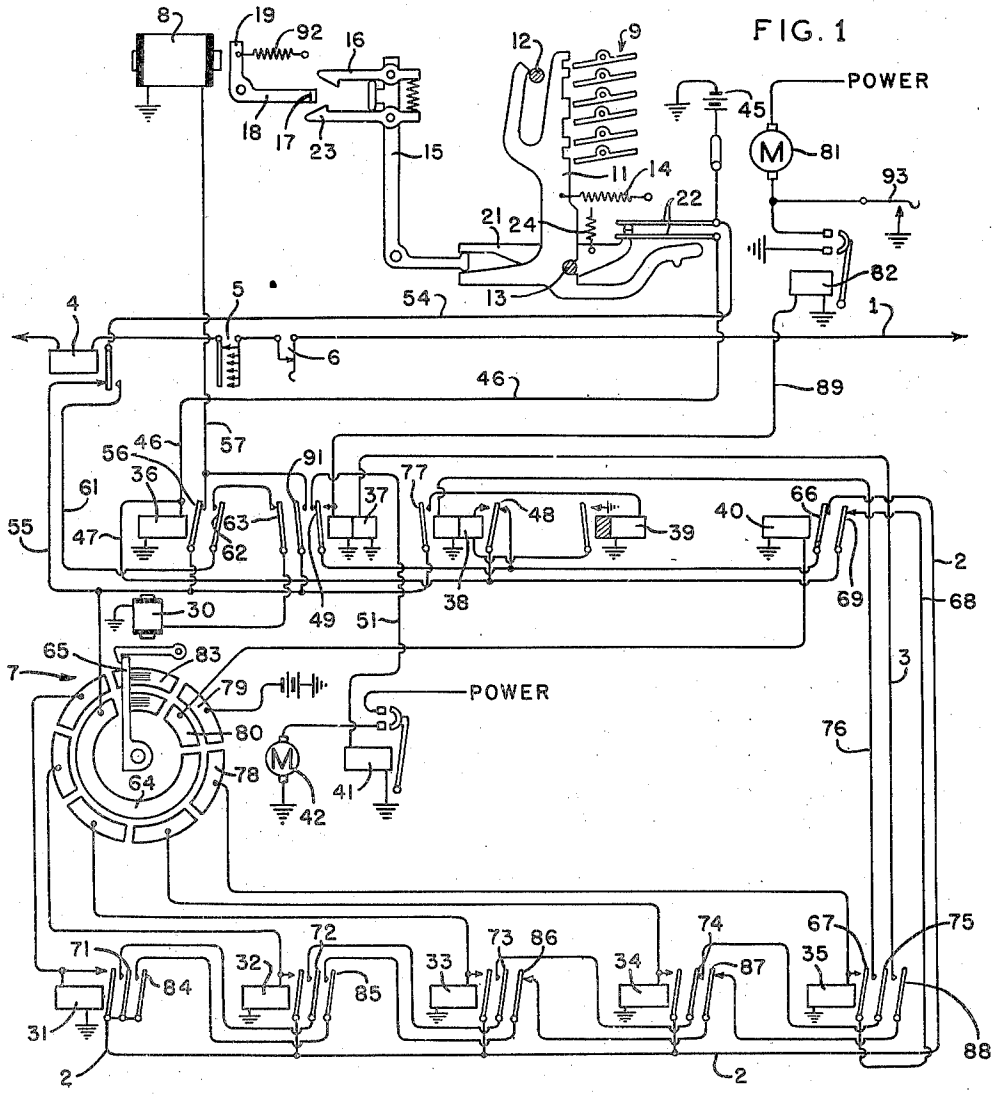
Feb. 28, 1939. J. O. CARR 2,148,435

STATION SELECTOR SYSTEM

Filed Dec. 31, 1936

FIG. 1



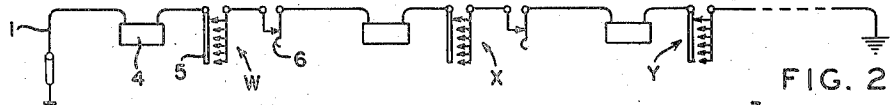


FIG. 2

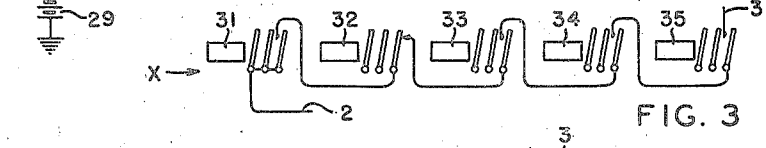


FIG. 3

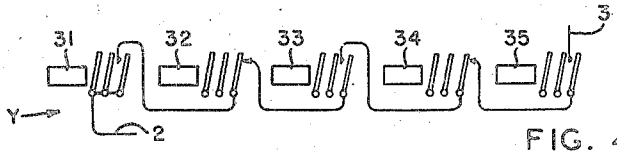


FIG. 4

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STATION SELECTOR SYSTEM

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23 Claims. (Cl. 178—2)

The present invention pertains to telegraphic communication systems and more particularly to telegraph systems involving a plurality of stations arranged with instrumentalities for their selective interconnection for the purpose of telegraphic communication.

An object of the invention is the provision of a simple and a reliable mechanism to enable any station of a telegraph system to select another station or a plurality of stations with which it is desired to communicate.

A further object is to enable an originating station, after selecting a desired station or stations, to establish a condition by which all other stations of the system are excluded from interrupting the established communication without due notice to the communicating stations.

Features of the invention reside in the provision of rapidly operating means for selecting and qualifying stations desired for communication, and means to hold both the station selecting means and the telegraphic equipment of all stations inert except when activity for operation thereof is required.

The above enumerated and other objects are attained by utilizing a plurality of printing telegraph sets of any desired type, each having as parts thereof a motor driven printer-selector and a driving motor therefor, to which a motor driven distributor with associated relays and a separate driving motor therefor are added to effect the method of operation according to the present invention; namely, that an operator at any station may start all station-selector motors to drive all station-selector distributors, then by means of the station-selector distributors operating in response to character code signals, may select and condition all stations desired for communication, then may stop motors of station selectors at all unselected stations so that no further selection of stations can occur during the established connection, and may communicate thereafter between or among the conditioned stations exclusively.

A more complete understanding of the invention will be obtained from the following description, taken in connection with the accompanying drawing, in which

Fig. 1 illustrates fully the circuits of a station associated with a line circuit;

Fig. 2 illustrates the line circuit of Fig. 1 and illustrates three associated stations of the type illustrated in Fig. 1;

Fig. 3 discloses a detail of variation between the circuits of the station of Fig. 1 and circuits of a second station of Fig. 2; and

Fig. 4 discloses a corresponding detail of variation between the circuits of the station of Fig. 1 and circuits of a third station of Fig. 2.

Referring to Figs. 1, 2, 3, and 4 jointly, a line circuit 1 has three associated stations, indicated at W, X, and Y, whose calling code signals of permutation nature are W, X, and Y respectively. Complete circuits of station W are shown in Fig. 1, including local circuit conductors 2 and 3 which appear also in Figs. 3 and 4. In Fig. 1 for station W, certain relay armatures and contacts are arranged in series connection between conductors 2 and 3 in permutation code signal manner to correspond to the permutation code signal W, the call signal for that station. In like manner, in Fig. 3 for station X corresponding relay armatures and contacts are arranged between conductors 2 and 3 of station X to correspond to the permutation code signal X. Similarly in Fig. 4 for station Y, the analogous relay armatures and contacts are arranged to correspond to the permutation code signal Y. In all other details, stations W, X, and Y are identical, including identical wiring for relay windings and armatures shown unconnected in Figs. 3 and 4.

Referring to Fig. 1, winding of a signal responsive line relay 4, contacts of a five-unit permutation code signal transmitter 5, which may be of keyboard type or automatic type, and contacts of a manual break key 6 are connected in series in line circuit 1. A start-stop rotary distributor 7 of electrical commutator type is responsive through relay 4 to control by code signal transmitter 5 of its own station W or by a corresponding transmitter at station X or station Y. Alternatively, through switching functioning of relay contacts, line relay 4 may control a printer selector magnet 8.

According to Patent No. 1,904,164, issued to S. Morton et al., of which structural parts are embodied in Fig. 1 of the present system, it is provided that an electrical contact embodied in the mechanical structure of a printer selector shall be automatically opened upon reception of two code signals "Shift" and "H" successively received, and that the contact thereafter shall be automatically closed upon termination of a received break signal.

A complete recording telegraphic receiver of a type disclosed in the cited patent is symbolized in Fig. 1 by a magnet 8 responsive to received code signals to adjust a plurality of vanes 9 into selective positions in accordance with the received code signals. A selector lever 11 is released by a power bail 12 after receipt of each code signal

and is urged to rotate clockwise upon pivot rod 13 to engage vanes 9 by tension of spring 14. Should vanes 9 be in selective positions such that no vane is engaged by lever 11, then lever 11 will rotate further through an angle sufficient to rotate lever 15 counterclockwise to cause latch 16 to engage lug 17 on arm 18 attached to armature 19 of magnet 8, which thus will retain lever 15 in operated position even though lever 11 returns immediately. Lever 15 rotates lever 21 clockwise on pivot rod 13 to release the contact 22 which now separates its contacts by inherent spring tension of its contact members. To permit the described further rotation of lever 11, a received "Shift" code signal effective upon magnet 8 operates the sixth or lowermost vane 9 clockwise to position its edge opposite a notch in lever 11, and a subsequently received "H" code signal operates the third and fifth vanes clockwise, all of which is clearly and concisely disclosed in the cited patent to Morton et al. To reclose the contact 22, deenergization of magnet 8 moves lug 17 out of engagement with latch 16 and into engagement with latch 23, after which reenergization of magnet 8 moves lug 17 out of engagement with latch 23, thus releasing lever 15 which in turn releases lever 21, permitting spring 24 to operate lever 21 to close the contact 22.

Referring to station-selector distributor 7, the distributor is provided with a starting magnet 30, with five code signal relays 31 to 35 inclusive, with six operating relays 36 to 41 inclusive, and with a driving motor 42.

In "primary" normal condition of an inactive station, Fig. 1, line current flows through line relay 4 while local currents flow through windings of relays 36, 38, and 39, resulting from receipt of code signal from transmitter key "Q" as will be described under "Operation".

Grounded battery 45 supplies current through contacts 22, conductor 46 and winding of relay 36 to ground to energize relay 36, also through contacts 22, conductors 46 and 47, armature 48 and front contact and winding of energized relay 38 and armature and contact of relay 39 to ground to energize relay 38, and through conductor 54, armature and front contact of relay 4, conductor 55, armature 77 and front contact of relay 38 and winding of relay 39 to ground to energize relay 39.

Operation

Operator at station W desiring to transmit a message to station X and desiring to exclude station Y and others, if any, from the communicative connection, operates break key 6 to open the line circuit 1 until motor 42 at station W starts into operation, then recloses line circuit 1 and also operates a locking key 93 to operate printer motor 81, thus providing power for keyboard transmitter 5. By means of transmitter 5, the operator now transmits W, X, Q, representing respectively the calling code signal of originating station W, the calling code signal of desired remote station X and a lockout code signal "Q" for all other stations connected to the line circuit 1. Key 93 then may be restored. These operations by an operator at station W produce the following detailed actions.

Opening the line circuit 1 by break key 6 deenergizes line relay 4 at all stations and thus interrupts the described holding circuits of the slow-to-release relay 39 at each station, and sufficient time is given by the operated key 6 to permit all relays 39 to release their armatures. At each station, release of the armature of relay 39 interrupts the described holding circuit of relay 38, which accordingly releases its armature 48 and closes an energizing circuit including grounded battery 45, contacts 22, conductors 46 and 47, armature 48 and back contact of relay 38, armature 49 and back contact of relay 38, conductor 51, winding of relay 41 and ground, thus energizing relay 41 whose operation energizes motor 42 to drive the distributor 7. Deenergization of line relay 4 also has closed an energizing circuit for magnet 30 of distributor 7, including grounded battery 45, conductor 54, armature and back contact of relay 4, conductor 61, armature 62 and front contact of relay 36, back contact and armature 63 of relay 37, winding of magnet 30 and ground, thus setting distributors 7 into continuous rotation as long as relays 4 thereat remain deenergized. Reclosing of key 6 and consequent reenergization of line relays 4 will interrupt the energizing circuit of magnet 30 and will prepare an operating circuit for relays 31 to 35, but this reenergization of relay 4 may occur when brushes of arm 65 are in any position on the segments of distributor 7 from 83 to 78 and may result in energizing relays 31 to 35 and 40 in any of the combinations, 40, 35—40, 34—35—40, 33—34—35—40, 32—33—34—35—40, 31—32—33—34—35—40, from which it becomes obvious that code combinations 35, 34—35, 33—34—35, 32—33—34—35, 31—32—33—34—35, and "blank" code with no relay energized may not be used as station calling code signals. Energization of relay 40 deenergizes any of relays 31 to 35 which may have been energized thus by chance.

A line circuit condition preparatory to station selection now has been attained.

Transmitting the specified code signal "W" in the line circuit 1 will control line relay 4 first to energize starting magnet 30 over the described circuit in response to a starting impulse of spacing nature and then by combinational code signals of marking nature to energize relays 31, 32, and 35 over circuits including grounded battery 45, conductor 54, armature and front contact of line relay 4, conductor 55, long segment 64, brushes on arm 65, selected short segments in distributor 7 by timed selection and windings of selected relays in set 31—35 to ground, to energize relays 31, 32, and 35, each of which establishes a holding circuit. For relays 31, 32, 33, and 34, a holding circuit will include winding, contact and left-hand armature of an operated relay 31, 32, 33, or 34, conductor 2, back contact and armature 66 of relay 40, back contact and armature 48 of relay 38, conductors 47, 46, contacts 22, switch 44, and grounded battery 45. For relay 35, a holding circuit will include winding, contact and left-hand armature 67 of relay 35, conductor 68, back contact and armature 69 of relay 40, conductors 47, 46, contacts 22, and grounded battery 45.

A station-calling signal circuit is closed at station W to energize relay 37, including battery 45, conductors 46, 47, armature 48 and back contact of relay 38, armature 66 and back contact of relay 40, conductor 2, armature 84 and front contact, armature 85 and front contact, armature 86 and back contact, armature 87 and back contact, armature 88 and front contact, conductor 3 and winding of relay 37 to ground. This circuit is closed only at station W because at no other station do relays 31 to 35 have armatures and contacts connected to correspond to "W" code signal.

Relay 37 operates its armature 49 to form its holding circuit including battery 45, switch 44, contacts 22, conductors 46, 47, armature 48 and back contact of relay 38, armature 49, front contact and winding of relay 37 to ground and also to form a further power supply circuit for printer motor 81 including battery 45, contacts 22, conductors 46 and 47, armature 48 and back contact of relay 38, armature 49 and front contact of relay 37, conductor 89 and motor relay 82 to ground, energizing and operating relay 82 which forms an obvious power circuit for motor 81.

Relay 37 also operates its armature 91 to place printer selector magnet 8 under control of line relay 4, including battery 45, switch 44, conductor 54, armature and front contact of line relay 4, conductor 55, armature 91 and front contact of relay 37, conductor 57 and winding of magnet 8 to ground. Through the operation of armature 63 of relay 31, the described circuit for energization of magnet 30 is interrupted to avoid unnecessary operation of magnet 30 at a selected station.

Transmitting the specified code signal "X" operates, as described above, for transmission of code signal for "W" except that relays 31, 33, 34, and 35 are energized, and except that at station W the electrical impulses of the code signal are effective upon printer selector magnet 8 instead of upon relays 31 to 35, and accordingly a character "X" is printed at station W. At station X, but at no other station because at no other station do relays 31 to 35 have their armature contacts connected in accordance with the character code signal for "X" a station-calling signal circuit is closed to energize relay 37 including battery 45, Fig. 1, conductors 46 and 47, armature 48 and back contact of relay 38, armature 66 and back contact of relay 40, conductor 2, Fig. 3, right-hand armatures and contacts of each of relays 31 to 35 when energized in combinational code for "X", conductor 3, Fig. 1, and winding of relay 37 to ground. Relay 37 at station X operates as described for station W above.

Transmitting the specified code signal "Q" operates as described above, except at the selected stations W and X, where the electrical impulses of the code signal are effective upon printer selector magnet 8 instead of upon relays 31 to 35, and accordingly a character "Q" is printed at stations W and X. At station "Y" and other stations, if any are connected in the line circuit 1, relays 31, 32, 33 and 35 are energized and jointly complete a circuit including battery 45, contacts 22, conductors 46 and 47, armature 48 and back contact of relay 38, armature 66 and back contact of relay 40, conductor 2, armatures 71, 72, 73, 74, 75, and associated contacts in series of relays 31—35, conductor 76 and left-hand winding of relay 38 to ground to energize and operate relay 38, which, in turn, forms a circuit for slow-to-release relay 39 including battery 45, conductor 54, armature and front contact of line relay 4, conductor 55, armature 77 and front contact of relay 38, and winding of relay 39 to ground, and by operation of relay 39 its contacts form a holding circuit for relay 38, including battery 45, switch 44, contacts 22, conductors 46 and 47, armature 48, front contact and winding of relay 38 and armature and front contact of relay 39 to ground.

Operation of relay 38 at the moment of engagement of brush 65 with segment 78 to energize relay 35, has opened its back contact, has opened the described holding circuits of relays 31, 32, 33, and 34, and also has opened the described energizing circuit of relay 41, which releases its armature and opens the power circuit of motor 42. Momentum of motor 42 now propels brushes 65 to engage segments 79 and 80 where an obvious circuit is completed to energize relay 40 and then to engage their normal stop segments as illustrated. Energization and operation of relay 40 interrupts the described holding circuit of relay 35 and interrupts again the holding circuits of relays 31, 32, 33, and 34.

Intercommunication ensues between the selected stations W and X with station Y and others excluded. A sole power of effective operation remaining to an operator at an excluded station is the ability to enter the connection by operation of break key 6 for a period long enough to release armatures on relay 39 at each station, then to transmit the calling code signal of the excluded station now interfering followed by "Q". Motor control signal of spacing nature transmitted by key 6 will interfere with recording in the printers of the intercommunicating stations but will not disrupt the selective communicative line circuit condition. Transmission of the interfering calling code signal will energize relay 37 of that station to qualify the interfering station to record received code signals, and transmission of "Q" has excluded all remaining stations, thus setting up a new communication connection including the stations of the original connection to which the interfering station has been added. An operator at an excluded station thus has emergency power to enter a communicative selective set-up but to do so must break the transmission and identify the interfering station, since transmission of the additional calling code signal will be recorded at all communicating stations.

During intercommunication, operators at active stations may use break key 6 in customary breaking manner, being careful to keep the breaking signals sufficiently short to prevent release of armatures of relays 39.

At close of communication, operator at station W or at any active station, transmits "Shift" code signal then "H" code signal as described in the Morton et al. patent cited, which will operate member 11 momentarily at each active station. Operation of member 11 clockwise rotates member 15 counterclockwise and latch 16 engages lug 17 to retain member 15 in operated position during continued energization of magnet 8 and line relay 4. Member 15 has rotated member 21 clockwise and thus has removed it from engagement with contacts 22, which now disengage from each other by inherent spring tension, opening the described energizing circuit of relay 36, the described holding circuit of relay 37, and the described energizing circuit of printer motor 81.

A "secondary" normal condition of a conditioned but inactive station now has been attained, and will endure until another selective sequence is initiated. Each station which had been excluded from communication remains in a "primary" condition of inactivity as described above, with relays 4, 36, 38, 39 energized, lug 17 free from latches, and contacts 22 closed. Each station which had been included in communication remains in a "secondary" condition of inactivity as now described, with relay 4 energized, magnet 8 energized, lug 17 engaged by latch 16, member 15 restrained by latch 16, member 21 restrained by member 15, and contacts 22 open.

To initiate another sequence of station selection, an operator first will open a break key 6.

At each station in "primary" normal condition as described, deenergization of line relay 4 and slow-to-release relay 39 and energization of magnet 30 will be followed by release of armature of relay 39, deenergization of relay 38, energization of relay 41, and energization of station selector motor 42. At each station in "secondary" normal condition as described, deenergization of line relay will deenergize magnet 8 which, by movement of its arm 18 under power from retractive spring 32, will transfer lug 17 from latch 16 to latch 23. Reclosing the opened break key 6 will reenergize all line relays 4. At each station which had been in "primary" normal condition, reenergization of line relay 4 effects deenergization of magnet 30 and each such station is thus brought into a station condition preparatory to station selection. At each station which had been in "secondary" normal condition, reenergization of line relay 4 effects reenergization of printer selector magnet 8 whose armature, upon being attracted, causes lug 17 to release latch 23, releasing the member 15, which in turn releases member 21 permitting spring 24 to rotate member 21 to engage and to close contacts 22. Closed contacts 22 complete described circuits for energizing relays 36 and 41. Relay 41 energizes station selector motor 42 over an obvious circuit and relay 36 removes printer selector magnet 8 from control of line relay 4 and places station selector starting magnet 30 under control of line relay 4, thus bringing each such station into a station condition preparatory to station selection.

A line-circuit condition preparatory to station selection now has been attained from a "secondary normal condition of the line circuit."

In circuits of distributor 7, relay 35 requires always a marking signal in line relay 4, leaving only relays 31, 32, 33, 34 available for permutation signals, the mathematical permutational powers being sixteen, but six of these permutations; namely, the code signals for "blank," 34, 33—34, 32—33—34, 31—32—33—34, and "Q", may not be utilized for calling code signals, leaving a maximum of ten directory code signals for station selection.

The present invention having been described above in connection with illustration of a specific embodiment thereof now will be considered more generally and from a contemplation of its broader scope, and will be definitely pointed out in the claims without limitation to the specific illustration utilized herein.

What is claimed is:

1. The method of operating a telegraph system having a normally inactive single-line circuit associated with a plurality of normally inactive substations upon a single line circuit which comprises, activating a line circuit into station-selective condition, selecting desired stations by transmission of character code signals and qualifying selected stations to record, disqualifying unselected stations by transmission of a character code signal, and transmitting intelligence by similar character code signals to qualified recording stations.

2. The method of operating a telegraphic system having a normally inactive single-line circuit associated with a plurality of normally inactive substations which comprises, activating a line circuit into station-selective condition, selecting desired stations by transmission of character code signals over the line circuit, terminating the station-selective condition by transmission of a character code signal, transmitting intelligence, and subsequently restoring said line circuit into inactive condition by transmission of further character code signals.

3. The method of operating a station-selective telegraph system which comprises, using a single code set of permutation code signals, transmitting code signals of the set to select stations desired for connection, transmitting a further code signal of the set for excluding unselected stations from the connection, transmitting code signals of the set for telegraphing intelligence, and transmitting at least one code signal of the set for terminating the connection.

4. A telegraph system comprising a telegraph line, a plurality of stations associated with said line, selective means at said stations to establish telegraphic recording connection among a plurality of stations in response to character code signals received over said line, means at said stations operable while one or more of said stations are unselected to disable said selective means, in response to further character code signals received over said line, and means at stations having disabled selective means to restore all disabled selective means to operability in response to a signal transmitted from any station.

5. A telegraph system comprising a telegraphic line, a plurality of stations associated with said line, selective means at said stations to establish a connection for recording among a plurality of said stations by transmitting character code signals over said line, means for excluding unselected stations, and means to include subsequently an excluded station, said last mentioned means controllable from any station.

6. A telegraph system comprising a telegraphic line, a plurality of stations associated with said line, selective means at said stations to establish a connection for recording among a plurality of said stations by transmitting character code signals over said line, means for excluding unselected stations, and means operable from an excluded station for "breaking" said connection.

7. A telegraph system comprising a telegraphic line, a plurality of stations associated with said line, selective means at said stations to establish a connection for recording among a plurality of said stations by transmitting character code signals over said line, means for excluding unselected stations, and means at an excluded station operable under control of the said excluded station for including the said excluded station in the said connection and effective concomitantly to transmit over said line a code signal indicative of the identity of the said excluded station for record at each selected recording station.

8. In a printing telegraph system, a line circuit, a plurality of substations associated with said line circuit, a recording receiver at each substation, a motor for driving said recording receiver, a station selector at each substation, a motor for driving said station selector, means to hold all motors inert, means to activate said motors for station selection, means to stop said station selective motors selectively, and further means common to all stations for stopping unselected station selective motors.

9. In a telegraph system, a telegraph circuit, a plurality of stations associated with said telegraph circuit, a motor driven recording selector and motor therefor at each said station, a motor driven station selector and motor therefor at each said station, means to start all station selector motors, means responsive through said selector motors to start said recorder motors selec-

tively, and means common to all stations to stop all station selector motors at unselected stations.

10. In a telegraph system, a telegraph circuit, a plurality of stations associated with said telegraph circuit, a motor driven recording selector and motor therefor at each said station, a motor driven station selector and motor therefor at each said station, means to start all said station selector motors, means responsive to variant code signals through said station selectors to start said recording motors selectively, and means responsive to a code signal common to all stations to stop all said station selector motors at unselected stations.

11. In a printing telegraph system, a line circuit, a plurality of substations associated with said line circuit, a recording receiver at each substation and a driving motor therefor, a station selector at each substation and a driving motor therefor, means to hold all motors inert, means to activate said motors for station selectors, means effective to start said recording receiver driving motors selectively, means in said station selectors to stop all station selector motors, and further means in said recording receivers for stopping all recording receiver motors.

12. In a telegraph system, a telegraph line circuit, a plurality of stations associated with said circuit, a recording selector and driving motor therefor at each said station, a station selector and driving motor therefor at each said station, a first relay at each said station controlling when energized said recording motor to operate and said station selector motor to stop, a second relay at each said station controlling said selector motor to stop, means for energizing said first relays individually and selectively, and means for controlling said second relays simultaneously as a group.

13. In a telegraphic station selection system, a line circuit, a plurality of stations associated with said line circuit, a motor driven station selector at each station having a commutator and a set of registering code signal relays associated therewith, a series circuit through contacts of said relays closable only by a predetermined code signal individual to the telegraph station and variant for all telegraph stations, and a further series circuit closable through contacts of said relays and closable at all stations in response to a single code signal common to all stations.

14. In a telegraphic station selection system, a line circuit, a plurality of stations associated with said line circuit, a motor driven station selector at each station having a commutator and a set of registering code signal relays associated therewith, a series circuit through contacts of said relays closable only by a predetermined code signal individual to the telegraph station and variant for all telegraph stations, a further series circuit closable through contacts of said relays and closable at all stations in response to a single code signal common to all stations, and means for stopping the motor of a station in response to closure of both said circuits.

15. A method of operating a multi-station telegraph system having stations normally non-responsive to permutation code signals, which includes the steps of rendering all stations responsive to permutation code signals, transmitting permutation code signals to qualify desired stations selectively, rendering unqualified stations non-responsive to selection code signals, communicating among qualified stations by transmitting permutation code signals, and then restoring all stations to non-responsive condition.

16. In a multi-station telegraph system, a line circuit, a plurality of stations connected to said line circuit, normally non-operating motors at said stations, motor starting means responsive to non-permutation signals over said line, motor-driven means responsive to permutation signals over said line to stop motors at some stations, further means to restart said stopped motors, and further means responsive to permutation code signals to stop motors at all stations.

17. In a multi-station telegraph system, motor starting means at all stations responsive to a signal common to all stations to start motors at all stations, motor stopping means at all stations responsive to a signal common to all stations to stop motors, and station selecting means at all stations responsive to selective permutation control signals variant for every station to disable said motor stopping means at each responding station.

18. In a multi-station telegraph system, motor starting means at all stations responsive to a non-permutation signal, motor stop means at all stations, means responsive to variant permutation code signals to disable said motor stop means at a station selectively, and further motor starting means responsive at stations whose motors have been stopped by said second mentioned means and effective to restart said motors.

19. In a multi-station telegraph system, station-selectors at all stations, motors to drive said station-selectors and normally non-operating, means to start all station motors into operation, means to modify desired stations to be non-responsive to received lockout signals, means to transmit lockout signals to lock out all unmodified stations, motor-driven selector means to communicate among modified stations, and means to restore all motors to non-operating condition.

20. In a multi-station single-line telegraph system, stations normally non-responsive to communication code signals, means to render said stations responsive to communication code signals, relays at said stations having contacts to render a station non-responsive to communication code signals, code signal responsive means to disable said relays selectively, and code signal means responsive to operate all remaining ones of said relays.

21. In a telegraph system, a telegraph line, a plurality of stations on said line each having a recording selector and station selector with driving motors normally inert, means to start the motors of the station selectors, means at selected stations to control remotely the station selectors each to start the recording motor of its station, means operable subsequently to stop all motors of station selectors at unselected stations, and means operable subsequently to stop all recording motors.

22. A method of operating a recording telegraph system having a line circuit associated with a plurality of normally inactive stations which comprises, activating the stations of a line circuit into station-selective condition, selecting a plurality of stations by transmission of code signals of a recording-code of signals for purpose of selecting stations, maintaining all unselected stations in station-selective condition through successive operations by which stations are successively selected, terminating said station-selective condition, and thereafter transmitting code signals of said code for purpose of recording.

23. In a recording telegraph system, a line circuit, a plurality of normally inactive stations associated with said line circuit, means for activating said stations into station-selective condition, means at said stations responsive to received code signals of a recording-code of signals to select stations for message-recording, means for maintaining all unselected stations in station-selective condition through successive received code signals in response to which said stations are successively selected, means to terminate said station-selective condition, and means thereafter responsive to received signals of said code to make a message record.

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