

nected through one of its working contacts in series with such first named armature and through its other working contact in series with such third named armature. 18th. As a means for selecting and energizing any desired one of a number of coils, two or more branch relays, each having its armature connected to a source of electric energy and arranged to engage two or more contacts, each contact connected to one terminal of a different one of such coils, all the similarly connected coils to such branch relays having their other ends connected to a common return wire, there being a return wire for each different coil and contact to a branch relay, and means for energizing any desired one of such branch relays and for connecting to such source of electric energy any desired one of such return wires. 19th. As a means for selecting and energizing any desired one of a number of coils, two or more branch relays each having its armature connected to a source of electric energy and arranged to engage or make contact with two or more contacts, each contact connected to one terminal of a different one of such coils, all the similarly connected coils to such branch relays having their outer ends connected to a common return wire, there being a return wire for each different coil and contact to a branch relay, and means for energizing any desired one of such branch relays requiring at least one-half or more of the transmitted impulses necessary to select any desired one of such coils, and means for connecting to such source of electric energy any desired one of such return wires. 20th. As a means for selecting and operating any desired one of a series of levers, a series of bars supporting and carrying such levers, a series of selecting washers or plates opposed to such bars, and having notches and projections so formed thereon that the movements of such washers or plates in each different combination thereof shall allow one and only one of such lever-carrying bars to assume an operative position, causing its lever to assume an operative position such as to be engaged by a moving body arranged to communicate motion to such levers, in combination with means for actuating such selecting washers or plates in such different combinations thereof. 21st. In combination with any suitable rod or equivalent device, as Q^3 , and means for reciprocating the same, a series of lever-carrying bars, as N^4 , carrying levers, as N^7 , a series of selecting washers or plates, as N^3 , opposed to such bars, means for operating such washers or plates N^3 in such different combinations thereof by the movement of such rod, as Q^3 , as shall allow one of such bars and the lever carried thereby to assume an operative position, and means for actuating such lever by such rod Q^3 . 22nd. In combination with any suitable rod or equivalent device, as Q^3 , and means for reciprocating the same, a series of lever-carrying bars, as N^3 , carrying levers, as N^7 , a series of selecting washers or plates, as N^3 , opposed to such bars, means for operating such washers or plates N^3 in such different combinations thereof by the movement of such rod Q^3 in one direction as shall allow one of such bars and the lever carried thereby to assume an operative position, and means for actuating such lever by the return of such rod Q^3 to its normal position, and also for returning to their normal positions, after such lever has been so engaged, such lever-carrying bars and such selecting washers or plates. 23rd. At a central station a series of switch levers, each connected to main line and arranged to engage a single contact, each contact connected with a different series of wires from different local subscribers' circuits, each one of such local subscribers' circuits having its other end connected to a different contact opposed to a different switch lever, in a second series thereof, located also at each central station, and through which a ground or return connection may be made, as shown and described, common to all such local subscribers' circuits. 24th. As means for selecting any desired one of a series of circuits, a series of contacts each opposed to a different lever connected to one terminal of a different group of such circuits, each of the other terminals of such circuits in each of such different groups connected to a different contact opposed to a different lever in a second series thereof, and means for actuating such levers in the different combinations thereof forming terminals to the different circuits to be selected. 25th. A series of type or printing bar actuating coils each located in a separate electric circuit or branch circuit, each closed through a spring contact normally operating, when once closed, to retain such circuit closed until the completion of the operative stroke of that type bar whose actuating coil is located in the circuit closed thereby, means for opening each of said spring contacts at the completion of the operative stroke of that type bar, having its actuating coil located in the circuit closed there-through, individual devices for holding each of such spring contacts open, when once opened at the completion of the operative stroke of a type bar, each of such devices controlled by a separate coil, operating, when energized, to release such spring contacts, and means for selecting and energizing any desired one of such last named coils actuating the devices controlling such spring contacts. 26th. A type bar having a revoluble type wheel in the printing end thereof, a lever swinging on or concentric with the axis of such type bar, a connecting rod between such lever and such type rod. 27th. A type bar having a revoluble type wheel in the printing end thereof, a lever swinging on or concentric with the axis of such type bar, a connecting rod between such lever and such type wheel, and means for swinging such lever so as to bring into printing position any desired one of such type on such type wheel. 28th. In combination with a series of type bars, having two or more type thereon, a shifting mechanism for each type bar, controlling the angular position of the type on such bar, means for communi-

cating motion from a common shifting device to each of such shifting mechanisms, a catch engaging such common shifting device and means for releasing such catch at the completion of the printing stroke of any one of such type bars. 29th. In a telegraphic system, at a transmitting station, a transmitting distributor and means for sending to the line induced impulses alternating at the successive contacts thereof, and for superimposing thereon or not, as desired, transmitting battery impulses synchronizing and harmonizing therewith, at a receiving station, receiving instruments responding only to such battery impulses and a relay responding to such induced impulses and controlling a local circuit containing an alternating current electric motor, such motor containing an armature section and pole piece opposed thereto for each section or contact of such transmitting distributor, at such receiving station, also a receiving distributor similar to the transmitting distributor and actuated from the shaft to such motor, and through the different sections, of which successively such main line impulses are all caused to pass and thereby through the different ones as desired of such receiving instruments connected to different sections of such receiving distributor. 30th. In a telegraphic system, an alternating current dynamo, having its armature coils in the main line and having an armature section and pole piece opposed thereto for each section of a transmitting distributor located directly on, or actuated from the shaft of such dynamo, and means for sending to line or not, as desired, through the successive contacts of such distributor, battery impulses harmonizing and synchronizing with such induced impulses from such alternating current dynamo. 31st. In a telegraphic system, as a means for maintaining synchronism, at a transmitting station, a distributor and means for sending to line impulses alternating at the successive contacts thereof, and at a receiving station an alternating current electric motor, having an armature section and coil for such contact of such distributor, and having its energizing circuit controlled by a relay on the main line responding to such alternating impulses, such motor imparting its motion to a receiving distributor or other apparatus to be synchronized. 32nd. As a means for selecting any desired one of a number of coils a series of branch relays, each controlling two or more branch circuits containing a different one of such coils, all the similarly connected coils to such branch relays connected to a common return wire, there being a different return wire for each coil to such branch relays, such branch relays connected to a source of electric energy, means for selecting and energizing such branch relays and for connecting to such source of electric energy any desired one of such return wires. 33rd. As a means for selecting and energizing any desired one of a number of coils or instruments, a series of circuits or branch circuits, each containing a different one of such coils, means for connecting such circuits or branch circuits, at each end thereof, to a source of electric energy in different groups of two or more such that at each one of such different groupings one of such branch circuits only shall complete the circuit of such source of electric energy. 34th. At a central station, a series of subscribers' circuits, each terminal of each of such circuits entering such station, means for connecting such subscribers' circuits in different groups, at one end, to a common ground or return connection, and at the other end to a wire leading to a station outside of such central station, such that between such wire and such common ground or return connection an unbroken path shall lie through one only of such subscribers' circuits. 35th. In combination with means for sending to line alternating impulses, means for causing any one of such impulses to be an induced impulse or a weak or strong battery impulse as desired. 36th. A series of electric circuits or branch circuits, each containing one or more pair of relay contacts actuated by devices under the control of the successive impulses traversing such circuits or branch circuits, such that any impulse traversing any one of such circuits or branch circuits shall cause at its cessation the opening of that circuit or branch circuit just traversed and the closing of the next circuit in the series. 37th. A series of electric circuits or branch circuits, each containing one or more pair of relay contacts actuated by devices under the control of the successive main line impulses, causing correspondingly successive relayed impulses to traverse such circuits or branch circuits, such that any one of such main line impulses shall cause at its cessation the opening of that circuit or branch circuit just traversed by a relay impulse and the closing of the next circuit or branch circuit in the series. 38th. In a telegraphic system, at any one station therein, two receiving instruments or magnets, each located in a separate electric circuit or branch circuit, and in series with a separate pair of main line relay contacts, one pair of such relay contacts controlled by mechanism actuated by weak currents, the other pair of such relay contacts controlled by mechanism actuated only by stronger impulses, but not actuated by impulse sufficient to actuate the mechanism controlling such one pair of relay contacts, and a current distributor located between such main line relays and such receiving instruments or magnets, such distributor making connection with corresponding ones of a series of receiving instruments synchronously with corresponding main line impulses. 39th. In a telegraphic system, at any station therein, two receiving instruments or magnets, each located in a separate electric circuit or branch circuit and in series with a separate pair of main line relay contacts, one pair of such relay contacts controlled by mechanism actuated only by positive impulses or currents, the other pair of relay contacts controlled by mechanism actuated only by negative impulses or currents, a distributor located between such relay contacts and such receiving