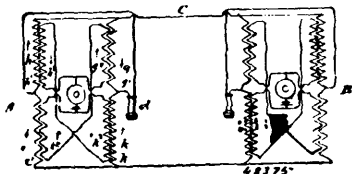


No. 48,375. Telephone Circuit. (*Circuit de téléphone*)

The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignee of Charles Ezra Scribner, Chicago, Illinois, U.S.A., 8th March, 1895; 6 years.

Claim.—1st. The combination in a Wheatstone parallel circuit of sources of electromotive force in the four sides thereof, a bridge wire containing an instrument responsive to electric currents connected between two opposite angles of the parallelogram, and an electric circuit containing other instruments responsive to electric currents connected with the remaining angles of the parallelogram, the said sources of electromotive force being adjustable with respect to each other to produce a condition of no difference of potential between the terminals of the said bridge wire, substantially as described. 2nd. The combination in an electric circuit including an instrument sensitive to electric current, said circuit being divided at one point into two parallel branches, of two sources of electromotive force in each branch, and a bridge wire connecting two branches from points between sources of electromotive force in each, the different sources of electromotive force being adjustable with respect to each other to produce a condition of no difference of potential between the terminals of the bridge wire, and one portion of each branch between the bridge wire and different sides of the circuit being constructed to have high resistance to incoming currents in the circuit, whereby the incoming currents are directed through the receiving instrument in the bridge wire, while outgoing currents generated by the said sources of electromotive force do not send any current through said bridge wire, substantially as described. 3rd. The combination in a telephone circuit divided into two parallel branches, of a bridge wire including a telephone receiver uniting the two parallel branches, and sources of telephonic current, two in each branch upon opposite sides of the connection of the said bridge wire with that branch, the said source of current having their electromotive forces adjusted to produce a condition of no difference of potential between the terminals of the bridge wire, whereby outgoing telephonic current is transmitted to the line without traversing the telephone receiver, as described. 4th. The combination in a telephonic circuit divided into two parallel branches of a bridge wire containing a telephone receiver uniting the two branches, two sources of telephonic current in each branch, one upon each side of the point of connection of the bridge wire with the said branch, one portion of each branch upon opposite sides of said bridge connection, being constructed to have high impedance and the electromotive forces of the different sources of current being adjustable to produce a condition of no difference of potential between the terminals of the said bridge connection, whereby outgoing telephonic currents are generated without affecting the telephone receiver, while incoming currents may be directed through the said receiver, substantially as described. 5th. The combination with a telephone line, of four induction coils having their secondary helices connected in two parallel branches of the telephone circuit, two in each branch, and their primary helices in circuit with a common microphone, a telephone receiver having one terminal connected to each branch between the two induction coils thereof, one secondary helix in each branch upon opposite sides of the telephone terminals being constructed to have high impedance, as described. 6th. The combination in a telephone circuit, of four induction coils having their secondary helices connected in two parallel branches of the telephone circuit, two in each branch, a telephone receiver connected between the different branches from points intermediate of the two helices therein, the primary helices being connected in multiple series with a microphone, the primary helix of a coil in one branch being included in series with the primary helix of a coil in the other branch upon the opposite side of the telephone connection, whereby incoming telephonic currents are directed through the telephone receiver by the reaction of the currents induced in the primary helices thereby, substantially as described.

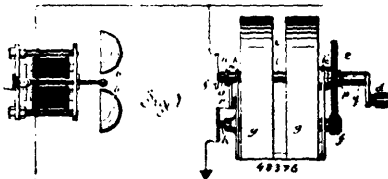
No. 48,376. Telephone Exchange Call Boxes.

(*Boîte à appels pour échanges téléphoniques*)

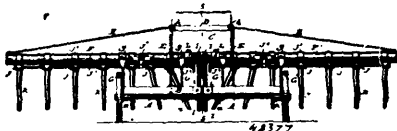
The Bell Telephone Company of Canada, Montreal, Quebec, Canada, assignee of Charles Ezra Scribner, Chicago, Illinois, U.S.A., 8th March, 1895; 6 years.

Claim.—1st. The combination with the calling generator, of the contact disc *n*, the contact anvil *r*, normally in contact therewith, said contacts *r*, *n*, having electrical connections such that they close a short circuit about the armature of said generator, the movable block *o*, the block *s*, and mechanism in connection with the driving

gear of said generator adapted to move said block *o*, into contact with block *s*, and to separate said disc *n*, from said contact anvil *r*, when said generator is in use, substantially as described. 2nd. The combination with a calling generator, of a movable contact



piece and a movable block, a fixed contact anvil and a fixed block, mechanism in connection with the driving gear of the generator allowing said movable block to bear against said fixed block when said generator is in use, but adapted to withdraw said movable block to a slight distance from said fixed block and to close said movable contact piece upon said fixed contact piece when said generator is idle, and circuit connections joining the fixed block to a telephone line, the movable block and the movable contact piece to one end of the armature coil, the fixed contact anvil to the other end of the armature coil and to earth, substantially as described. 3rd. The combination, with a calling generator, of a movable block, a fixed block, mechanism in connection with the driving gear of said generator adapted to allow said movable block to bear upon said fixed block when said generator is in use, but to withdraw said movable block to a slight distance from said fixed block when not in use, and circuit connections joining said fixed block to a telephone line and said movable block to one end of the armature coil of the generator, the other end of said armature coil being connected to earth, substantially as described. 4th. The combination, with a telephone line wire, of a signal bell connected in a branch from said line wire to earth or other suitable conductor, a calling generator having a movable block connected to one end of its armature coil, and fixed block connected to said line, the other extremity of said armature coil being connected to the earth or other equivalent conductor, and mechanism allowing said movable block to bear upon said fixed block when said generator is in use, and adapted to withdraw said movable block to a slight distance from said fixed block automatically when the generator is not in use, substantially as described. 5th. The combination with a telephone line wire, of a signal bell connected in a branch from said line wire to earth or other conductor, a calling generator having a movable block connected to one end of the armature coil, a movable contact piece, a fixed block connected to line, a fixed contact anvil, said movable contact being connected with said movable block and said fixed contact anvil being connected to earth or other conductor, and mechanism adapted to allow said movable block to rest against or very near to said fixed block when said generator is in use, but to withdraw said movable block to a slight distance from the fixed block automatically when the generator is not in use, substantially as described.

No. 48,377. Seeding Machine. (*Semoir*)

Lewis H. Kimball, Iowa, State of Iowa, U.S.A., 8th March, 1895; 6 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, of a sully, a hopper carried thereby, a seed-tube, trough or duct connected with the hopper and arranged above the plane of the carrying-wheels, a feed screw revolving in the duct, and a direct driving connection approximately in the central line of draft, between the screw-shaft and the axle. 2nd. The combination, substantially as hereinbefore set forth, of a main frame, a driving axle, supporting wheels thereon, a hopper above the wheels, a conveyor duct extending over and beyond the plane of the wheels, and a feed-screw revolving in the duct, and geared to the axle, in approximately the central line of draft, for the purpose specified. 3rd. The combination, substantially as hereinbefore set forth, of a main frame, a driving axle, supporting wheels thereon, a hopper carried by the main frame, conveyor-tubes or ducts connected with the hopper and extending in opposite directions therefrom, over and beyond the wheels, and feed-screws in the ducts geared to the axle, in approximately the central line of draft. 4th. The combination, substantially as hereinbefore set forth, of a main frame, the sectional or divided driving axle, a supporting and driving-wheel secured