

**No. 13,635. Improvements on Mills for Manufacturing Meal.** (*Perfectionnements aux moulins à bis.*)

Samuel R. Thompson, Brookline, Mass., U.S., 8th November, 1881; for 5 years.

*Claim*—1st. The method of treating cotton seeds, consisting in passing the seeds between a stationary toothed concave and a rapidly rotating cylinder having fine cutting teeth or points, thereby grinding or reducing the seeds to meal and detaching the lint or cotton from the shells of the seeds, leaving mixed meal and lint or cotton in condition to be separated by bolting. 2nd. The combination of a fixed concave P having longitudinal teeth P<sup>2</sup>, and the rotary cylinder C having minute cutting teeth C<sup>2</sup>, adapted to strip or detach the cotton from the shells of cotton seeds and adapted to reduce particles of grain.

**No. 13,636. Improvements on Telephones.** (*Perfectionnements aux téléphones*)

Michael D. Connolly, Philadelphia, Pa., Thomas A. Connolly, Washington, D.C., and Thomas J. McFiehe, Pittsburgh, Pa., U.S., 8th November, 1881, for 5 years.

*Claim*—1st. In a telephonic exchange having a series of normally disconnected lines grounded at the place of convergence and in circuit with connecting mechanism, the combination, with such mechanism, of a main battery or generator, or equivalent motor, and suitable means for controlling said battery or motor through said lines and for effecting the necessary movement of such connecting mechanism. 2nd. A series of lines or conductors leading to a central station, and in circuit at such station, with connecting mechanism, generators at the local stations or distant termini of said lines for sending electric impulses over said lines, and a main battery or motor at the central station operating responsively to impulses sent over said lines from the local batteries to produce the necessary movements of the connecting mechanism for the connection and disconnection of said lines. 3rd. In a telephonic exchange system comprising a series of normally disconnected lines converging to a central station provided with mechanism for connecting said lines, said mechanism being moved by a main battery or equivalent motor located at the central and controlled by electric impulses sent from the local batteries located at the remote ends or at distant points on said lines and operating through the latter, the combination, with said lines, central connecting mechanism, main and local batteries, of relays located at the central station and operated by said local batteries, to throw on the central station and thereby effect the necessary movements of the central mechanism for connecting and disconnecting the lines. 4th. A series of independent lines converging to a central station provided with connecting mechanism, a main battery for operating said mechanism, relays for throwing on said battery, and local batteries for operating said relays, switched in each line in the circuit between the local batteries and the relays, and capable of being operated from other lines, whereby one subscriber calling another may cut out the relay of the latter. 5th. A series of disconnected lines converging to a common station, means at said station for connecting any two of said lines and controllable from the distant stations, and relays in said lines for admitting current to operative devices at said central station, a switch or shunt located between the relay and the connecting mechanism and operated automatically by a calling or seeking member, whereby the relay of a sought line is temporarily cut out. 6th. The combination, in a telephonic exchange or electric line connecting apparatus, of a series of conductors normally grounded at a central or common station, each of said conductors having in circuit a relay or electric key, an engaging finger sustained on a ring or traveller, a ground and line switch all in circuit, and a moveable section or contact bar normally out of circuit, but carrying said switch, whereby, when a given line is worked for calling or connecting, its finger will be carried into engagement with the contact bar of another line, the grounds of both lines being thereby broken, the calling line through the movement of its finger, and the other through the movement of its switch, the lines connected and a through circuit established over both. 7th. The combination, in a telephonic exchange or line connecting apparatus, of a relay or electric key adapted to respond to currents sent over a line in circuit therewith, a battery connected with said relay so as to be thrown into a short independent line when said key is closed, an electric magnet in circuit with such battery, a progressive movement connected with the armature of said magnet, or wheel, or traveller in circuit with the relay line, but arranged to be moved by said progressive movement, whereby, when a working current is sent over said line through said relay, the battery is thrown onto the short line, and the wheel or traveller caused to move and carry the finger along. 8th. The combination, in a telephonic exchange or electric line connecting apparatus, of a series of relays or keys and switching devices normally in circuit therewith, whereby, when two lines are connected through the medium of such connecting apparatus, the relay of a sought or called line will be cut out, while the relay of the calling or seeking line will remain in circuit. 9th. The combination, in an automatic line connecting apparatus, with the switching or connecting devices and their operating mechanism, of relays constantly in the path or circuit of the calling lines, to provide for the restoration to normal of said calling line. 10th. In a telephonic exchange apparatus, a movable finger normally in circuit with the ground at a central exchange or connecting device, and forming a portion of the circuit of a line leading from a distant station to such central, said finger being mounted on a ring or carrier, and adapted and designed when its carrier is moved to come in contact with sections or bars forming parts of other conductors or lines, and by such contact to break its normal ground and secure circuit to ground at another distant station over the contacted line. 11th. A movable conductor pertaining to a given line and normally out of circuit, in combination with suitable devices, whereby the movement of said conductor, by a calling line, breaks the normal or central ground of its own line, and establishes circuit between the two lines. 12th. A relay in combination with a switching device which normally completes circuit to ground at central, through said relay, and which, upon being duly moved, cuts out such ground and leaves a called line in unbroken or continuous circuit with the calling line. 13th. In conducting fingers, which are caused to travel in the act of establishing coincidence of lines, and to come into contact with movable conductors in the path thereof, means whereby the movable conductor of a given line is

shifted out of said path, when the travelling conductor or finger of the line to which it pertains has left home. 14th. A receiving conductor arranged so that it may be moved by the conducting finger of any line, and isolated thereby from possible contact of other conducting fingers. 15th. A receiving conductor, through which circuit may be made from a calling to a called line, said conductor being constructed as described, whereby, when the line to which it pertains is employed in seeking or effecting coincidence or connection with another line, such conductor will be shifted beyond the reach of the other operating lines or other travelling contact devices. 16th. In a telephonic exchange apparatus adapted for automatic circuiting purposes the combination of the following elements, *viz.* a travelling circuiting finger, stud or contact device normally grounded in circuit with a telephonic line, mechanism for causing said circuiting finger to travel a relay to bring said mechanism into action, a switch between said finger and a distant line terminal, for effecting diversion of circuit from ground through another line, and a movable conductor coinciding with the home or normal position of said finger. 17th. In a telephonic or telegraphic line connecting apparatus, the combination, with a series of parallel travellers carrying conducting fingers normally grounding the respective lines leading thereto, of a corresponding series of respective conductors, traversing said travellers at intervals and adapted for engagement of the fingers, said travellers and fingers, and the receiving conductors being so constructed and relatively arranged, that any finger may engage with any disengaged traversing conductor, but that pertaining to its own line, shift the same out of path of the other fingers, switch said receiving conductor into circuit with the line, and break the central ground of both lines. 18th. The combination of a series of lines grounded at independent or local stations, and at a central exchange for a station common to all batteries at each independent station and at the central station, a switch or connecting mechanism at the central actuated by said main battery and operating responsive to currents sent from the batteries at the independent local stations, to cut out the grounds of any two lines (or of all the lines in pairs) at the central and to restore the same. 19th. In a telephonic exchange, a contact piece or finger normally in circuit with ground or a return, and operating to change said circuit to a different line by impingement against another conductor. 20th. A device for actuating an automatic circuit change, and for receiving and sending alarm signals, consisting of a make and break mechanism, an automatic pole changer or reversing key, and an electrical bell, whereby a central switch mechanism may be operated to effect connection of normally independent lines, and, when such connection is effected, alarms may be sent and received without disturbing such switch mechanism. 21st. The combination, with switch mechanism for effecting connection of normally independent lines, of a polarized relay at a central station, and make and break mechanism, an automatic pole changer or reversing key and an electrical bell at subscribers or local stations, whereby, when such switch mechanism has been actuated to the desired extent for effecting the connection of lines, the direction of current from the make and break mechanism is automatically reversed, to enable an alarm to be sent therefrom over the line without actuating the relay in circuit.

**No. 13,637. Improvements in Car Wheels.**

(*Perfectionnements aux roues des chars.*)

James Rigby, Montreal, Que., 8th November, 1881; for 5 years.

*Claim*—1st. The combination of a central body portion, the removable tire and removable flange, the tire being held between said flange and one plate extended outwards of the central body portion. 2nd. The body portion having the inner and outer plates, the radial arms and the short arms. 3rd. In combination with the body portion and tire having recesses, the flange portion having studs.

**No. 13,638. Improvements on Vinegar Apparatus.** (*Perfectionnements aux appareils à vinaigre.*)

Oscar F. Boomer and Henry R. Randall, Brooklyn, N.Y., U.S., 8th November, 1881; for 5 years.

*Claim*—1st. One or more series of shelves covered with cloth or other fibrous material, and arranged one above another in such manner that the liquid will fall from one shelf, after traversing it and its covering upon the next lower shelf and traverse it and its covering in a like manner. 2nd. The combination, with one or more series of shelves B provided with the ribs C, of the cloth coverings D forming downward projections under the shelves.

**No. 13,639. Improvements in Boots.**

(*Perfectionnements dans les bottes.*)

Ellene A. Bailey, St. Charles, Mo., U.S., 8th November, 1881; for 5 years.

*Claim*—The boot A having the upper made of a front piece B and rear piece C, united by side seams D, of which one is open at the lower end and provided with lacing device.

**No. 13,640. Improvements on Life-Preservers.** (*Perfectionnements aux appareils de sauvetage.*)

Augustus D. Roth, Blackheath, Eng., 8th November, 1881; for 5 years.

*Claim*—The combination of a floating buoy, for life preservation at sea, with a safe for securing valuables or landing mials, the interior of the buoy being subdivided into an air chamber and receptacles for valuables, with the interior fitted with appliances for saving life or bulky goods, and the combination of sound and sight signals, with such description of buoy and safes, all working together.

**No. 13,641. Improvements on Fence Wire Fastenings.** (*Perfectionnements au chevillage des clôtures métalliques*)

Thomas S. Woodruff, Erie, Pa., U.S., 8th November, 1881; for 5 years.

*Claim*—1st. The combination, with the post to which the wire is attached, of a hook headed bolt, and an independent metallic bearing,