tube F connecting said reservoir with a steam-boiler, and air tube H within said tube F, a protecting tube K with an insulated cap L fitted in the upper end thereof, and a current wire *h* passing through said insulated cap and connected with the platinum wires B and C, and a galvanic battery and electric bell, all arranged and constructed as and for the purpose described. 2nd. In an electric low-water alarm, the combination of a gage-cock with the tube F, reservoir E and thermometer-tube A, as and for the purpose described. 3rd. In an electric low-water alarm, the combination of the gage-cock *f* and the pipe F, with a thermometer A, wires B and C inserted in the sides thereof, and a galvanic battery and alarm-bell, as and for the purpose described. 4th. In an electric low-water alarm, the thermometer tube thereof, in combination with a perforated guard D surrounding its bulb, and a reservoir *b* at its upper end, as and for the purpose described. 5th. In an electric low-water alarm, the combination of a tube K and an insulated cap L, with the wires *h* and B and C, a thermometer tube, the tube F and an electrical battery and alarm bell, as and for the purpose described. 6th. In an electric low-water alarm, the combination, with the tubes F and F_1, of the water-gage N held between the ends of the tubes F and F_1, a thermometer projecting upward from the tube F and held in a suitable casing, and wires for connecting the thermometer at different points with an alarm bell, as and for the purpose described.

No. 18,459. Automatic Magneto-Signalling Apparatus for Telephones.

(*Appareil automatique à magneto-signal pour les téléphones.*)

William Painter and Louis R. Weizer, Baltimore, Ind., U.S., 16th January, 1884; 5 years.

Claim.—1st. In a magneto-call apparatus for telephone lines, the combination, with the telephone supporting device and the mechanism for generating the magneto impulse, of means, substantially as described, whereby the act of replacing the telephone on its support shall, without volition to that end on the part of the user, cause said mechanism to generate a magneto impulse and notify the central office that the line is no longer in use, as set forth. 2nd. In combination with a magneto-call apparatus, means, substantially as described, for storing a reserve force by the act of making a call or answering one, which force, upon being brought into action, generates a magneto impulse, as and for the purpose set forth. 3rd. In combination with the armature of a magneto-call, a spring arranged to be brought and held under tension by the act of making a call or answering one, and means, substantially as described, for releasing said spring by the replacing of the telephone, whereby the armature is given the necessary sudden movement, and the magneto signalling impulse is generated, as set forth. 4th. In a magneto-call apparatus, an armature mechanism, substantially as described, for revolving the same through the medium of a force which is stored in the act of making or answering a call, and a telephone supporting device adapted to arrest the movement of the revolving mechanism and to release the same, when the instrument is replaced, whereby a magneto-signal is automatically transmitted, as set forth. 5th. In a magneto-call apparatus, a crank shaft for actuating the call, and independent actuating mechanism, substantially as described, normally in engagement with said shaft which, in the act of sending the call, is thrown out of engagement with the shaft, but falls into engagement again and revolves the shaft and armature, upon replacing the telephone, as set forth. 6th. In a magneto-call apparatus, independent mechanism for actuating the armature, substantially as described, whereby, in the act of sending a call, a reserve force is stored, in combination with a telephone support adapted to arrest the movement of the parts active in storing said force, and to release the same in the act of, or incidental to replacing the telephone on its support, as set forth. 7th. In combination with a magneto-call apparatus, a spring actuated disk normally in engagement with the shaft for revolving the armature, which disk is carried in the act of sending the call and against the resistance of the spring to a position in which its motion is arrested, and its engagement with the armature moving mechanism is suspended pending the making of a call, a stop and releasing mechanism connected with the telephone supporting device, substantially as described, whereby, in the act of replacing the telephone on its support, the disk is released leaving the spring free to actuate the signal, as set forth. 8th. In a magneto-call apparatus, a crank-shaft for actuating the call, a toothed wheel secured thereto and a disk which supports a pawl normally in engagement with said wheel, whereby the shaft and disk are caused to revolve together, in combination with means for arresting the motion of the disk and for disengaging the pawl and mechanism for automatically moving the stop and releasing the disk, as set forth. 9th. In a magneto-call apparatus, a disk normally connected with the armature, in combination with the telephone supporting device constructed as described, whereby it is adapted to engage with the disk, the said supporting device being arranged to maintain engagement with said disk pending the removal of the telephone from its support, and only to release it when the instrument is finally replaced as set forth. 10th. In a magneto-call apparatus for telephone lines, mechanism, substantially as described, for automatically transmitting a signal by the release of a reserve force stored in the act of sending or answering a call, in combination with a shunt device constructed substantially as set forth, and adapted to cut out the armature coil while the apparatus is in its normal condition, to shunt it into circuit while the call is being made, and to retain the connections in circuit until the automatic signalling impulse has been transmitted, as and for the purpose set forth.

No. 18,460. Lawn and Field Mower.

(*Faucheuse de jardin et de prairie.*)

Henry D. Martin and David B. Dodge, Ypsilanti, Mich., U.S., 16th January, 1884; 15 years.

Claim.—The combination, in a lawn and field mower, of a rotating knife-wheel A, guard-teeth spindle L, collar *e*, the bed plate and adjusting screws passed through the table, all constructed and adapted to operate substantially as described.

No. 18,461. Manufacture of Lactic Acid and the Lactates.

(*Fabrication de l'acide lactique et des lactates.*)

Thomas S. Nowell, Boston, (Assignee of George A. Marsh, Littleton,) Mass., U.S., 16th January, 1884; 5 years.

Claim.—The method of manufacturing lactic acid and the lactates by the fermentation of a starch containing vegetable substance in its original form, in the presence of water, and of an active lactic ferment sufficiently charged, a substance to neutralize the acid, substantially as set forth.

No. 18,462. Spike Extractor.

(*Arrache-clou.*)

Phillip A. Hall, Chicago, Ill., (Assignee of John Ebbert, Rockaway Beach, N.Y.,) U.S., 16th January, 1884; 5 years.

Claim.—1st. A spike extractor constructed with two undermeshing toothed sectors, connected at the angles by links or radius bars, to one of which sectors is connected a working lever and a pivoted hook or claw for engaging the spike, the whole adapted to be sustained by a suitable support, substantially as shown and described. 2nd. The combination of sector *a* having handle lever *g* and pivoted hook or claw hh_1, and the relatively stationary sector *b* connected to sector *a* by radius bars *e*, with the fulcrum shoe or support *k l* secured to sector *b*, substantially as shown and described. 3rd, The combination, with sector *a* having handle lever *g* and pivoted hook or claw h h_1, and the sector *b* connected to sector *a* by the radius bar *e*, of the fulcrum rest or support *k l*, and the pivoted foot or rest *m*, substantially as shown and described. 4th. The combination, with the support *k l*, the intermeshing sectors *a*, *b* and connecting radius bars *e*, the lever and claw h h_1, of the stop J on the sector *a*, substantially as shown and described. 5th. The combination, with the support *k l*, the intermeshing sectors *a*, *b*, radius bars *e*, the lever *g* and hooks or claws h_1, of the guards *d* and the sides of the sector teeth, substantially as shown and described. 6th. The claws h_1 made separate from, and adjustable upon the connecting bolt h_2, substantially as and for the purposes set forth. 7th. The rocking sector *a* formed with the socket a_1, for receiving the lever *g*, substantially as and for the purposes set forth. 8th. The combination, with sectors *a*, *b* and connection h_2, of the pivoted jaws h_1, substantially as and for the purposes described. 9th. The combination, with the sector *a* and screw-threaded connecting bolt h_2, of the internally screw-threaded sleeve g_1 having the claws attached thereto, substantially as described. 10th. The combination, with the sector *a*, connecting bolt *h*, sleeve *j* and pivoted claws h_1 formed with the stems h_3, of the cam ring *o* placed upon the sleeve and adapted to act in conjunction with said stems, substantially as and for the purposes set forth. 11th. The claws h_1 formed with the stems h_3 and pivoted to the sleeve j_1, substantially as and for the purposes set forth.

No. 18,463. Machine for Pressing Cloth.

(*Machine à presser les draps.*)

John Shearer, Preston, Ont., 16th January, 1884; 5 years.

Claim.—1st. A hollow bed-plate A heated by steam and resting on the collars *a* formed on the posts B, a hollow plate C heated by steam and resting on the shoulders *b* formed on the posts B, in combination with mechanism for intermittently bringing the plates together, and springs E on the posts B, arranged substantially as and for the purposes specified. 2nd. In a cloth-pressing machine, in which the cloth is pressed between hollow-plates heated by steam, automatic mechanism arranged to draw the cloth intermittently through the space between the hollow-plates, substantially as and for the purpose specified. 3rd. The hollow-plates A, C and D carried, as described, on the posts B and acted upon by the springs E, in combination with the jointed arms F connected, as described, to the bed plate A and acted upon by the cams H, substantially as and for the purpose specified. 4th. The hollow-plates A, C and D carried, as described, on the posts B and actuated by the arms F and cams H, in combination with the steam pipe W and drain pipe *x* connected to the hollow plates A, C and D by independent short-pipes provided with flexible points, so that the plates A, C and D may be vertically adjusted. 5th. In a cloth-pressing machine, in which the cloth is pressed between hollow-plates heated by steam, a frame arranged to carry the cloth over a revolving damping brush and intermittently operated from the gearing of the machine, so that the cloth is raised clear of the damping brush, during the period that pressure is being exerted on the cloth between the plates, substantially as and for the purpose specified. 6th. In a cloth-pressing machine, the rollers T driven by mutilated gearing connected to the main gearing of the machine, in combination with the rollers U connected to the rollers T by the straps or cords V, substantially as and for the purpose specified. 7th. In a cloth-pressing machine, in which the cloth is subjected to pressure between plates heated by steam, the combination of a perforated pipe extending across and in front of the plates, when the cloth, after being pressed, leaves them, the said pipe being connected to a pressure fan for the purpose of forcing a current of cold air against the cloth at the point specified.

No. 18,464. Animal Trap.

(*Trappe à bête.*)

James A. Williams, Fredonia, Texas, U.S., 16th January, 1884; 5 years.

Claim.—The combination of a suitable frame provided with standards, a fire-arm, the lever D having the rod connected to its front end to operate the trigger, a spring and a treadle which forms a trigger, substantially as shown and described.

No. 18,465. Miner's Safety Lamp.

(*Lampe de sûreté de mine.*)

John L. Williams, Shenandoah, Penn., U.S., 16th January, 1884; 5 years.

Claim.—1st. The combination, with a lamp, of a sleeve or tube adapted to slide on the wick-tube, and a wire secured to the said