In an artificial foot, the combination of the heel piece A, with the ball piece C, and the strap J, as described, and as and for the purposes hereinbefore set forth. 6th. In an artificial foot, the combination of the retaining strap O, with the heel piece A, as described, and set forth. 7th. In an artificial foot, the combination of the cap M, with the parts C, and D, as and for the purposes hereinbefore set forth. 8th. In an artificial foot, the combination of the boot T, with the heel piece A, instep piece B, ball piece C, and toe piece D, as and for the purposes hereinbefore set forth.

No. 37,486. Brush. (*Brosse.*)

The Palmetto Fibre Company, (assignees of McClintock Young), all of Frederick, Maryland, U.S.A., 1st October, 1891; 5 years.

Claim.—1st. A fastener for securing tufts in series in a brush block, consisting of a narrow sinuous strip presenting on one edge the projections to enter the tuft holes and bear within the bight of the tufts, and on the other edge the notches or openings, whereby the two sides of each tuft are permitted to close together through the projection by which they are held. 2nd. The improved tuft fastener for use in brushes, consisting of a wire bent as described to present a series of tuft holding projections. 3rd. The tuft fastener for use in brushes, consisting of the sinuous strip, having the projections adapted to enter the tuft holes and bear within the tufts, and having also the teeth or notches c^2, to engage the walls between the tuft holes. 4th. The improved brush, consisting of the block or body provided with a series of holes, the tufts inserted in said holes, and a sinuous fastener having connected portions extending downward into the respective holes within the bight of the tufts, said portions having the openings c^4, whereby the two sides of the tuft are permitted to close compactly together above the fastening device.

No. 37,487. Extractor for Stumps.

(*Arrache-souche.*)

John Cornelius, Oakland, Maryland, and Raymond S. Kailer, Alliance, Ohio, both in U.S.A., 1st October, 1891; 15 years.

Claim.—1st. The improved stump puller herein described, comprising the main wheel having the chain wheel, the worm wheel sections arranged on opposite sides of such chain wheel, and the drums arranged alongside the worm wheel sections and adapted to receive a wire cable, the worm and the necessary framing, all substantially as and for the purposes set forth. 2nd. The improved machine herein described, comprising the side frames curved or sloped downwardly toward their forward ends and provided with bearings for the main wheel, the main wheel journaled in said bearings and formed with the chain wheel, the worm wheel having its sections on opposite sides of the chain wheel, and the drums arranged on opposite sides of the worm wheel and adapted to receive a wire cable, the worm adapted to mesh with the worm wheel, and supports for such worm, all substantially as and for the purposes set forth. 3rd. In a machine, substantially as described, the combination, with the framing and a main wheel having a worm wheel, of the worm adapted to said worm wheel, the frame for said worm wheel having upper and lower plates provided at one end with openings for the pintle rod, and at their opposite ends with openings for the locking rod, and the upright bar connecting the upper and lower plates and having a socket, and the pintle and locking rods, the latter being adapted to the socket of the upright bar of the worm frame, whereby when the locking rod is removed to release the worm frame it may be fitted into the socket of the upright bar to serve as a lever in adjusting the worm frame, substantially as and for the purposes set forth. 4th. In a stump puller, the combination of the shoes, the side frames, the main wheel journaled in the side frames and provided with a worm wheel, the worm, the worm frame, the pintle and locking rods for said frame, and the reenforce plate B^1, secured upon the rear shoe and provided with sockets adapted to receive the lower ends of the locking and pintle rods, all substantially as and for purposes set forth. 5th. The improved stump puller herein described, consisting of the main frame having side frames, or plates curved or sloped downward toward their front ends and provided at their rear ends with hooks for the anchor bail, the main wheel journaled in the bearings of the side frame and provided with the central chain wheel, the worm wheel sections alongside the said chain wheel, the drums alongside the worm wheel sections, the worm and the support for the said worm, all substantially as set forth. 6th. In a stump puller, substantially as described, a main wheel having a central chain wheel J, worm wheel sections on opposite sides thereof, and shaft-like portions projecting from said worm wheel sections, and the drums fitted and secured on the said shaft-like portions, substantially as set forth. 7th. In a machine, substantially as described, the combination of the side frames having bearings for the main wheel and openings concentric with the said bearings, the main wheel journaled at its ends in such bearings and having a worm wheel, a chain wheel and drums, the worm meshing with said worm wheel, and the brace rod L, passed axially through the main wheel and through the openings in the side frames, and secured at its ends outside of such side frames, substantially as set forth. 8th. In a stump puller, the combination, substantially as described, of a main wheel having a worm wheel, a chain wheel, and drums of equal diameter with the chain wheel, the worm meshing with the said worm wheel, and the necessary framing, substantially as and for the purposes set forth.

No. 37,488. Storage Battery.

(*Batterie d'emmagasinage.*)

William B. Hollingshead, Brouxville, and Sydney H. Carney, New York, both in the State of New York, U.S.A., 1st October, 1891; 5 years.

Claim.—1st. The combination, in a voltaic accumulator or storage battery, of a plate or mass of manganese dioxide and a plate or mass of metallic iron, and an electrolyte or conveyor composed of water, having in solution an acid salt, which on decomposition deposits an insoluble compound on the negative or iron element, and a soluble compound on the manganese dioxide element acting as an electrolyte or conveyor during reverse action or discharge. 2nd. The combination, in a voltaic accumulator or storage battery, of a mass of manganese dioxide, a conductor therefor, substantially as described, a plate or mass of metallic iron, and an electrolyte or conveyor composed of water, having in solution an acid salt, which on decomposition deposits an insoluble compound on the negative or iron element, and a soluble compound on the manganese dioxide element acting as an electrolyte or conveyor during reverse action or discharge.

No. 37,489. Hand Drill for Rock.

(*Foret à main pour la roche.*)

Simon Ingersoll and Edward Thomas Bromfield, (assignee) both of Glenbrook, Connecticut, U. S. A., 1st October, 1891; 5 years.

Claim.—1st. In a rock drill, the combination with the drill holder, means for retracting the same, and an actuating spring connected with the holder for driving the same, of a compensating lever mechanism whereby a decreased tension of the spring is partly or wholly compensated for by a more effective application of the power of the spring, substantially as set forth. 2nd. The combination with the sliding carriage, the drill bar, the shaft having a cross arm 18, and lever 13 engaging the drill bar and engaged by the cross arm, of an arm 20 rigidly connected to lever 13, a bell crank lever, a spring, the ends of which are connected respectively to one arm of the bell crank lever and to arm 20, and means, as a rack, engaging the other arm of the bell crank lever, whereby the spring may be adjusted to increase or diminish the power exerted upon the drill bar. 3rd. The combination with the sliding carriage having arms extending therefrom, the drill bar, the shaft journaled in said arms and having a cross arm, and a lever 13 having a cross piece journaled at the outer ends of said arms, of an arm 20 rigidly secured to said cross piece, a rack 25, a bell crank lever having a pin on one arm adapted to engage said rack, and a spring, the ends of which are connected respectively to the other arm of the bell crank lever, and to arm 20, whereby the power of said spring upon the drill bar is increased as the drill bar descends. 4th. The sliding carriage, the drill bar, shaft 9 having cross arm 18 and lever 13 connected to the drill bar, said drill bar, lever and shaft being journaled in the carriage, in combination with an arm rigidly secured to the outer end of lever 13, and a spring, one end of which is connected to said arm, whereby, when the drill bar is raised, said arm is swung outward, which increases the tension of the spring but carries the line of tension downward toward the pivotal point of said lever, so that the power exerted upon the drill bar is increased as the arm swings inward and the drill bar moves downward. 5th. The combination with the frame work, the carriage having ratchet 36, the feed screw threaded to engage the ratchet, and a feed lever carrying a pawl, of a drill bar having a longitudinal groove, gear 32 supported in the carriage and having a spline engaging said groove, lever 13 which actuates the drill bar and the feed lever, shaft 9 having a cross arm which actuates lever 13, a shaft 27 having a worm engaging gear 32, and a belt connecting said shafts. 6th. In a rock drill, a sliding carriage carrying a drill bar and a ratchet 36, in combination with a feed screw threaded to engage the ratchet, a feed lever having a pawl engaging said ratchet, and a pin 40, whereby the feed screw is held against rotation so that movement of the ratchet will feed the carriage downward. 7th. In a rock drill, the combination with the drill holder, and a lever and rock shaft connected therewith whereby said holder is actuated, of a spring connected with said lever operating to force the holder forward, and carried by the forward movement of the lever away from the centre of said rock shaft, whereby the operative leverage of the spring is increased during the stroke of the drill, substantially as set forth.

No. 37,490. Tonic Beverage. (*Breuvage tonique.*)

Edward Sacks, Ann Arbor, Michigan, U.S.A., 1st October, 1891; 5 years.

Claim.—The herein described tonic beverage consisting of ale and peptonized beef extract, in the proportions of about two pounds of peptonized beef extract to one barrel of ale.

No. 37,491. Nut Lock. (*Arrête-écrou.*)

David K. Jackman, Poughkeepsie, New York, U.S.A., 1st October, 1891; 5 years.

Claim.—1st. A nut-lock consisting of a washer adapted to fit over the bolt and constructed with a loop-shaped spring having a lower and an upper flange, the latter containing a slot in the centre of its inner face, whereby the nut may be securely locked with the dropping of one of its angles into this slot and the slightest possible wear of the bolt be taken up, substantially as set forth. 2nd. A nut-lock A, formed from a single piece of metal and consisting of a washer *a*, having a bolt-hole *f*, a lower lip *b*, and an upper lip *c*, depressed between its outer loop and its inner locking-surface *d*, to permit the convenient adjustment of the nut upon the end of the bolt, as and for the purpose specified. 3rd. The combination of a rail, a fish-plate, a threaded bolt passing through both and fish-plate, a nut correspondingly threaded upon the bolt, the projecting flange of the rail or fish-plate, and a nut-lock consisting of a washer to fit over the bolt and under the nut, and constructed with a loop-shaped spring having a lower portion *b*, resting upon the rail or fish-plate flange, an upper portion *c*, engaging at its inner free end *d* with the nut, substantially as and for the purpose described.