

No. 13,411. Improvements on Mechanical Musical Instruments. (*Perfectionnements aux instruments de musique mécaniques.*)

Hiram B. Nickerson, Orleans, Mass., U. S., 17th September, 1881: for 5 years.

Claim.—1st. The combination of the perforated paper C, the lever E, the latch E₁ having a notch E₂, and the hammer H provided with a shoulder E₃, with the bell G. 2nd. The combination of the perforated plate F, the perforated music paper C and the lever E. 3rd. The combination of the perforated paper C having auxiliary openings K₅ K₆ K₇, the lever K₁ K₂, link K₃, and swell valve K₄. 4th. The combination of the paper C having auxiliary openings L₁ L₂ with the levers E₂ E₃ E₄ and their latches E₅, hammer H and bells G. 5th. The combination of the paper C with its auxiliary openings K₅ K₆ K₇ with the notch projection K₁ of the lever K₁ K₂. 6th. The musical paper C provided with the ordinary reed opening perforations and the auxiliary swell opening perforations K₅ K₆ K₇. 7th. The musical paper C provided with the ordinary reed opening perforations, and the auxiliary interlude perforations L₁ L₂. 8th. The combination of the curved passage D₁ in the reed-board, with the reed D and valve d.

No. 13,412. Switch for Telegraphic Signaling. (*Aiguillière pour signaux télégraphiques.*)

Edwin Pope, Québec, Q., 17th September, 1881: for 5 years.

Claim.—1st. In a telegraphic switch and alarm, an armature in its normal position held up by magnets and, when released at a certain point, by the interruption of current to said magnets dropping through the periphery of a revolving wheel, or disc, into a lower position whence it is automatically restored to its normal position by the revolution of the disc or wheel. 2nd. The lever C operated by the armature to throw the instrument in and out of circuit. 3rd. The combination of the lever C, magnet M, armature A and double wheel with openings in outer rim, and indent in inner disc. 4th. The combined wheels W X with fixed opening O and varied opening I in periphery of former, and ratchet teeth and indent on latter. 5th. The combination of the wheel W with projections on periphery of same, key K and spring S. 6th. The combination of the wheel W, key K, spring S and hammer B. 7th. The disc V with perforations corresponding to openings I in the wheels W of the several stations in any circuit, and movable pin for interrupting or changing the current.

No. 13,413. Improvements on Cheese Machines. (*Perfectionnement aux machines à fromage.*)

Stephen B. Ferguson, Hallowell, Ont., 17th September, 1881: for 5 years.

Claim.—1st. The combination of the tub or vat A, lining C, pipes B, knives F H, shaft G, floater J, comb K and strainer L. 2nd. The combination of the tongue N, groove O and sleeve P, with the shaft G.

No. 13,414. Improvements on Electric Clocks. (*Perfectionnements aux horloges électriques.*)

Jakob Schweizer, Soleure, Switzerland, 17th September, 1881: for 5 years.

Claim.—1st. The improved electric clock. 2nd. An electric clock driven by a weight acting directly on the centre wheel. 3rd. A pawl moved alternately in opposite directions by a weight and by electric action, a ratchet wheel loose on the centre wheel arbor, a pin on the ratchet wheel, a spring fixed on said arbor, and a click engaging with the ratchet wheel. 4th. The combination of the weighted lever and the armature lever connected together at a variable angle and acting reciprocally the one upon the other to produce an oscillating movement on the one hand by electric action and on the other by a counterweight. 5th. The mode of regulating the angular distance between the two levers, by means of a regulating screw in order to determine the extent of upward movement on the counterweight according to the strength of the current. 6th. The mechanism for periodically making and breaking the circuit. 7th. The device for breaking the circuit when the battery is too weak to raise the counterweight, said device being operated by the depression of the armature lever by the counterweight lever.

No. 13,415. Improvements on Car-Couplings. (*Perfectionnements aux accouplages des chars.*)

Horace B. Howard and Aaron W. Burnside, Belvidere, Ill., U. S., 17th September, 1881: for 5 years.

Claim.—1st. The combination, with a draw head, of a draft hook pivotally secured to a shaft passing through the draw head, a spring encircling said shaft for retaining the draught hook in place, a shaft and mechanism for revolving the same, and a chain connecting said revolving shaft with the shaft on which the draw head is pivoted. 2nd. The combination, with a spring pressed draft hook pivotally secured in the draw head, of a hand wheel provided with a ratchet wheel, and a pawl engaging therewith, and a rod extending to the top of the car, said rod adapted to actuate the pawl. 3rd. The combination, with a coupling link and a draw head, of a lever and chain located within the latter and adapted by depressing the inner to raise the outer end of the coupling link. 4th. The combination, with a draw head, of a pivoted plate having a rubber spring secured thereto, and a lever chain, and shaft for raising the outer end of the connecting link. 5th. The combination, with a draw head, of a plate pivoted at its outer end to the upper face thereof, the rear end of said plate being connected with a shaft by a chain, said shaft formed with an eye hook joint and adapted to be revolved by a hand wheel located at the side of the car, thereby allowing the chain to be wound upon or unwound from it. 6th. The combination, with a draw head, of a plate pivoted at one end thereto, and a protecting rubber spring secured to the under face of the plate, said spring operating to depress the inner end and raise the outer end of the connecting link, when the chain attached to the rear end of the plate is wound upon the shaft.

No. 13,416. Improvements in Metallic Fencing. (*Perfectionnements aux clôtures métalliques.*)

Edward Steer and John Sheldon, Birmingham, Eng., 17th September, 1881: for 5 years.

Claim.—1st. The improvement in constructing and fixing the barbs of metallic fencing described, that is to say, making the same barbs from pieces of wire preferably, nearly of a semi-circular figure in cross section, pointed at their ends, and bending the middle of the wire into a nearly circular loop or eye, also fixing the said barbs to the wire fencing, by compressing the nearly circular loops or eyes of the barbs upon flattened parts of the wire fencing, or upon parts bent or cranked into a nearly semi-circular or other figure, or upon plain wire fencing. 2nd. The improved fastenings for joining wires and strips or bands for metallic fencing, and for other purposes, that is to say, making of two similar cranked wires or strips, one end of each part being furnished with a loop or eye, the two parts of the fastening being passed through loops in the ends of the lengths of wires, strips or bands and the said two parts of the fastenings engaged together.

No. 13,417. Improvements in Boot and Shoe Lasts. (*Perfectionnements aux formes des chaussures.*)

Léon O. Dion, Natick, Mass., U. S., 17th September, 1881: for 5 years.

Claim.—1st. A last for a boot or shoe having a portion of its lower or "sole" surface composed of a series of points, ridges or projections made of metal, or similar hard material and adapted to support the inner sole of a boot or shoe being pegged thereon, against the action of the awl, and allow the awl to pass between them. 2nd. A last for a boot or shoe, having a portion of its lower or "sole" surface composed of a series of metallic points, ridges or projections, which are so elastic as to be capable of resuming the position from which they may be bent by the action of the awl or pegs, as used in pegging a boot or shoe sole thereon, when such awl or pegs are withdrawn. 3rd. A last for a boot or shoe, having a portion of its sole surface cut away, and having substituted therefor a series of upright wires or pins, made of metal or other hard material and adapted to support the inner sole of a boot or shoe being pegged thereon, against the action of the awl, and allow the awl to pass freely between such wires or pins. 4th. A last for a boot or shoe, having a groove in its sole surface containing a strip of leather, rubber or similar flexible material, in which are set upright nails or wires.

No. 13,418. Improvement on Boiler Grates. (*Perfectionnements aux grilles des chaudières.*)

William B. Malcolm, Toronto, Ont., 17th September, 1881: for 5 years.

Claim.—1st. A cone-shaped grate A, with a dead centre piece B, and bars radiating from this centre piece to the periphery of the grate, having strengthening rib pieces D D, a strengthening ring E and cross bar E₁, with pivot c. 2nd. The cone-shaped grate A, in combination with the bottom G, with cross bar K and sockets f, fire chamber I and notched ring L.

No. 13,419. Improvements in Machines for Punching Metal Plates. (*Perfectionnements aux machines à poinçonner les plaques métalliques.*)

John B. Armstrong, Guelph, Ont., 17th September, 1881: for 5 years.

Claim.—1st. In connection with a punching machine, a punch A having a conically-shaped punching and in combination with a punch block B, sufficiently large to admit the punch and around it the stock carried by the punch from the hole it forms in the plate. 2nd. In punching holes through metal bars or plates, the forming around each hole of a solid projecting sleeve out of the stock punched from the hole, for the purpose of strengthening the metal at the point which would otherwise be weakened by the said hole, and also to constitute a projection which may be used for holding the plate in position.

No. 13,420. Improvements in Vehicles. (*Perfectionnements dans les voitures.*)

John B. Armstrong, Guelph, Ont., 17th September, 1881: for 5 years.

Claim.—1st. As a new article of manufacture, a steel axle tempered between the shoulders formed on the inside of the journals and flattened in the centre, to form a bearing for the heel plate. 2nd. A tempered steel axle flattened in the centre to form a bearing, in combination with a tempered steel head plate having a downwardly projecting sleeve, formed by the stock punched from the king bolt hole and fitting into a hole made in the axle or metal head plate, when used for the purpose of sustaining the lateral strain which would otherwise be exerted on the king bolt. 3rd. A buggy or carriage gear having tempered steel axles, and a metal or tempered steel head plate pivoted upon the front axle, the tempered steel reaches C rigidly connected at one end to the hind axle B, and at the other to the head plate D, the C-springs E situated at the ends of the reaches C and provided with the free shackles H, in combination with the single plate tempered steel side springs G, carried by the shackles and supporting the spring bars I. 4th. In a buggy or carriage gear made entirely of metal, a single plate tempered steel reach provided with C-shaped springs at each end, the combination of a brace M rigidly fastened to the axle and extending therefrom to the reach, where it is secured by a bolt passing through a sleeve formed by the stock punched from the hole, to receive the connecting bolt, the said sleeve projecting into the hole made in the stay, for the purpose of relieving the bolt from the lateral strain which would otherwise be exerted against it. 5th. In a buggy or carriage gear, the metal saddle plate having semi-circle recesses, to hold in position the round clips F forming a finish on either side thereof.

No. 13,421. Improvements on Vehicles. (*Perfectionnements aux voitures.*)

John B. Armstrong, Guelph, Ont., 17th September, 1881: for 5 years.