No. 1670. EDWIN C. SEELY, Port Medway, N. S., 18th October, 1872, for 5 years: "A Mast Ball." (Une Pomme de Mât.)

A case of glass covering mast rendering it non-electric and blown or cast with a hollow space or groove for working ordinary signals

Claim.—1st The ball *a*, hollow space *b* and recess *c*. 2nd The ball *a*, hollow space *b*, recess *c*, groove *e*, passages *d*

No. 1671. CHESTER H. POND, Kenosha, Wis., U. S., 18th October, 1872, for 5 years: "A Telegraph Insulator." (Un Isoloir de Télégraphe.)

Protected by metal cap, &c, attached to stem and coated with a non-conducting compound of equal parts of distilled coal-tar and shale, or charcoal amalgamated by heat and mechanical force.

Claim.—1st. The form for a telegraph insulator consisting of the head A, caps C, stem B collar E, chamber J, J, with or without centre pin or rod F and shield G; 2nd. The non-conducting coating for the insulator, consisting of the ingredients mentioned, in the proportions set forth.

No. 1672. HUNTER BRADFORD, Assignee of A. CHASE, New York, U. S., 18th October, 1872, for 5 years: "Art of Stereotyping." (Art de Stéréotyper.)

Claim.—1st. A plastic coating on the face of a papier-maché or similar stereotype matrix composed of dextrine, whiting and water, or their equivalents, in the proportions set forth, 2nd. Drying a papier-maché, or similar stereotype matrix apart from the form of type under a super-imposed weight or mass of sand, or its equivalent.

No. 1673. FREDERICK H. STEIGMEYER and ADAM REICHERT, Attica, O., U.S., 18th October, 1872, for 15 years: "Seats for Waggons, Cars, &c." (Siéges de Voitures, Chars, &c.)

Spring seats constructed with iron rods and compensating links at inner ends thereof attached under centre of seat

Claim.—1st. The rods A, and the links B, connected and operated as set forth, 2nd. The combination of the rods A, the links B, and spiral springs C, with a seat of any form.

No. 1674. JOSHUA L. ABELL, Northampton, Mass., U. S., assignee of Owen Bryant, West Chesterfield, Mass., 18th October, 1872, for 5 years: "Improvement on Water Wheels." (Perfectionnement des roues hydrauliques.)

Relates to the mode of discharging water to the wheel and controlling its flow, and consists in a series of moveable chutes operating in connection with stationary chutes and the mechanism by which the discharge apertures are regulated.

Claim—The spider H, with the rim K, chutes E and L, combined and arranged to operate in connection with a water-wheel.

No. 1675. HORACE H. BIGELOW, Worcester, Mass., U. S., 18th October, 1872, for 15 years: "Machine for heeling boots and shoes." (Machine à talons de chaussures.)

Claim—1st. A spring holding die, for retaining the heel in proper position while it is being secured to the boot or shoe; 2nd The combination with the holding die G, of the driving stud I, provided with a head plate *c*; 3rd The combination with the holding die G, and driving stud I, of the spring *d*, 4th. The combination with the holding die G, and driving stud I, of the relieving spring device M, M¹, M², and adjusting screws N¹, and *g*; 5th. The combination with the driving stud I, and disc F, of the adjusting screw *g*; 6th. The combination with a series of holding dies G, and driving studs I, of the rotating plate or disc F, 7th. The combination with the spring die G, of the depressing lever Q, rod S, and treadle T. 8th The combination with the holding die G, driver stud I, and operating plunger E, of the swinging jack spindle L; 9th. The combination with jack spindle L, of the hand lever L¹, and handle L²; 10th. The combination with the operating plunger E, and power dog H, of the bell-crank shipping lever H², connecting rod O, and treadle P; and 11th. A machine for heeling boots and shoes, the parts of which are constructed and combined together.

No. 1676. PIERRE E. JAY, St. Jean-Baptiste, Que., 18th October, 1872, for 5 years: "Process of making wrought iron from cast iron." (Procédé pour faire du fer forgé avec la fonte.)

Claim—The process of purifying cast iron by placing it, in a liquid heated state, in contact with a mixture of bioxyde of manganese nitrate of soda, and oxyde of iron, in the detailed proportions, so as to cleanse the metal of its extraneous substances, making it equal in quality, to the best of wrought iron used for horse shoe nails.

No. 1677. THOMAS ROUTLEDGE, Ford Works, New Sunderland, Eng., 18th October, 1872, for 5 years: "Art of treating fibrous substances for textile purposes and paper stock." (Manière de traiter les substances fibreuses pour les matières textiles et la pâte à papier.)

Claim—1st. Preliminary preparation of raw vegetable, fibrous substances, in order to reduce them into a fibrous condition, suitable for textile purposes, and for paper stock, by steeping the same in an alkaline bath, and subsequently subjecting them to fermentative steeping. 2nd The continuous system of boiling in a series of vessels connected together; 3rd. The continuous system of bleaching vegetable fibrous substances; 4th. The peculiar construction and arrangement of apparatus for steeping, boiling, bleaching and washing vegetable fibrous substances; and 5th. The utilization of the by or secondary products, resulting from vegetable fibrous substances when treated in the manner described.

No. 1678. GEORGE H. PENCOCK, Webster, N. Y., 18th October, 1872, for 5 years: "A Keyless Lock" (Une serrure sans clef.)

Consists in connecting the bolt, lever and finger bars in such a manner as to allow the bolt to be shot back by a proper manipulation of the finger bars.

Claim.—1st. The bolt A, having the incline X, and the lever consisting of the cross plate C and arms D, in combination with the finger bars E, E, E, and E¹ 2nd The bolt A, having the incline X, spring B, cross plate C, arms D, and guards F, in combination with the finger bars E, E, E, and E¹, provided with slots G, G, shoulders H, H, and indenture K.

No. 1679. ALBERT H. HILL, St. Johnsbury, Vt, U.S., 18th October, 1872, for 5 years: "A clothes drier." (Un séchoir à linge.)

Claim.—The bracket *a*, the rods *g*, the adjustable staple *j*, the rigid pin *h*, with the socket *e*, and the hole *i*, each as described.

No 1680. WILLIAM SMITH, ALEXANDER REEKIE AND CHARLES HUGH JAY, all of Beaverton, Ont., 18th October, 1872, for 5 years: "Improvement on the 'Sprague Mower.'" (Perfectionnement à la faucheuse dite 'de Sprague.')

Consists in imparting, by the raising or lowering of the main lever, a rolling or tilting motion to the cutter bar, which in the original machine is kept in a rigid position by a solid bar.

Claim—1st The main lever *g*, *g*, so connected to the casting *c*, *c*, to which the cutter bar is hinged, that by raising or lowering the said lever, a rolling or tilting motion is given to the cutter bar of this particular mower "The Sprague," as shown by the dotted lines 1 and 2, in the drawings; 2nd The ratchet casting *f*, *f*, against which the main lever moves; 3rd The spring lever *h*, *h*, which holds the main lever in position by means of the notches in casting *f*, *f*, and small spring K; 4th. The small spring K, connected to the handle of main lever and acting against the handle of the spring lever, to force it into position and hold it there when released by the hand of the operator: and 5th. The casting *i*, on back of main lever by which said lever is held close to and connected to the casting *f*, *f*, and longitudinal motion in the main lever overcome.

No. 1681. DAVID MC. C. SMYTH, Orange, New Jersey, U. S., 19th October, 1872, for 5 years: "Improvements in Sewing Machines." (Perfectionnements aux machines à coudre.)

Claim.—A pattern cam E, moved progressively by the ratchet and pawl K, and link *l* (or the pinion) in combination with the feed bar *f*, and pin *i*, for communicating a lateral movement to the feeding device of a sewing machine in addition to the ordinary progressive movement.

No. 1682. PIERRE E. JAY, St. Jean-Baptiste, Que., 19th October, 1872, for 5 years: "Process for making cast iron from ore and machine for same." (Procédé pour faire la fonte et machine pour cet objet.)

Claim—1st. Using slag being the residue of the burning of cast iron with bioxyde of manganese, nitrate of soda and oxyde of iron in the proportions of three pounds of a mixture of ten parts of bioxyde of manganese, ten parts of nitrate of soda and six parts of oxyde of iron, to one hundred pounds of cast iron for melting iron ore arranged in layers in combination with the addition of cast iron. 2nd. Using the blast pipe *d*, for the purpose set forth.

No. 1683. ELWIN G. WILLEY, Hoosack Falls, N. Y., U. S., 19th October, 1872, for 5 years: "Machine for transmitting power." (Mécanisme de transmission de la puissance.)

Consists in transmitting power from the motive force or any pulley rotated by such force to the main or fly wheel of any machinery.

Claim—1st. The combination of the pulley *i* friction wheel *h*, shafts *a*, and plates C and *d*, in combination with shaft *b*, and fly wheel *a*, 2nd. The combination of shafts *a*, toothed wheels *h*, circular rack *i* and pinion on shaft *b*, in combination with shaft *b*, and wheel *a*.