

The carbon-holder D having a spiral thread or worm *dt*, in combination with pinion *k*, substantially as shown and described. 3rd. The hollow carbon-holder D in combination with pellet regulating weights *a*, substantially as described.

No. 17,128. Improvements in Bed Bottoms.
(*Perfectionnements aux sommiers élastiques.*)

Horace B. Howard, Belvidere, Ill., U. S., 2nd July, 1883; 5 years.

Claim.—1st. The combination, with the main supporting frame provided with curved ratchet-bars, of a head-supporting frame made vertically adjustable, said head-supporting frame having a pivotal and linked connection with the main frame by means of side braces, and its lower end having a detent connection with the curved ratchet-bars below its pivotal connection with the side braces, substantially as and for the purpose set forth. 2nd. The combination, with the adjustable head-frame, the side braces or links to which the head-frame is pivoted, and the curved ratchet-bars fixed to the main frame, of a supporting roller mounted upon the adjustable head-frame, below its pivotal connection to the side braces, to engage the stationary curved ratchet-bars, for the purpose set forth. 3rd. The combination of the main frame, the adjustable head-frame, the pivoted side-brace links, the stationary ratchet-bars, the rollers secured to the lower end of the head-frame, to rest upon the ratchet-bars, and the detent to engage the ratchets, substantially as set forth. 4th. The combination, with the main frame and with a vertically adjustable head-frame, of a flexible or an elastic mattress, said mattress having a suitable end connection with the main frame and with the adjustable head-frame, and a central transverse connection with the main frame at a point independent of the connection of the main and head frames, substantially as and for the purpose set forth. 5th. The combination, with the spring-actuated detents employed to engage the ratchet-bars, of a lever to simultaneously disengage the spring-actuated detents arranged upon opposite sides of the frame, substantially as and for the purpose set forth. 6th. The combination, with the detent operating lever and main frame of a catch-hook to receive the free end of the lever to fix the adjustable head-frame in a horizontal position, for the purpose set forth.

No. 17,129. Improvements on Fence Posts.
(*Perfectionnements aux pieux des clôtures.*)

Alexander A. Arthur, Eben F. Spaulding, Boston, Mass., and William Davison, Hoboken, N. J., U. S., 2nd July, 1883; 5 years.

Claim.—1st. A solid or hollow cast iron fence post A having a helical base or foot B terminating in a taper screw point C also having an integral base flange E, and a wrench collar on head D and being provided with buttons for the connection of the fence wires, substantially as described. 2nd. The combination of pronged buttons G having a T or equivalent shank I, with a hollow fence post having slot J, notch K and lug L, substantially as described.

No. 17,130. Device for Lacing Gloves.
(*Appareil pour lacer les gants.*)

William F. Foster, New York, N. Y., U. S., 2nd July, 1883; 5 years.

Claim.—1st. In combination, the head *a* attached to the glove, the glove material *b*, the lacing *f* and the plate *e*, substantially as and for the purpose set forth. 2nd. In combination, the head *a* attached to the glove, the glove material *b*, the lacing *f*, the plate *e* and the tape *c*, substantially as and for the purpose set forth. 3rd. In combination, the head *a* having the tubular stem *g*, the glove material *b*, the lacing *f* and the plate *e*, substantially as and for the purpose set forth.

No. 17,131. Improvements in the Manufacture of Fuel. (*Perfectionnements dans la fabrication du combustible.*)

George Yale, Hochelaga, Que., 2nd July, 1883; 5 years.

Claim.—1st. A fuel produced by pressing the remains of food found in the guts of animals, after they have been slaughtered, and forming said remains into a solid mass, substantially as described. 2nd. Fuel formed by pressing the remains of food found in the guts of animals, after they have been slaughtered, compressed, but retaining the glutinous matter contained in the said substance, substantially as described.

No. 17,132. Improvements in Bed Bottoms.
(*Perfectionnements aux sommiers élastiques.*)

Edwin W. Grafton, Chicago, Ill., U. S., 2nd July, 1883; 5 years.

Claim.—1st. The combination of the parallel cross-bars A A', detachable spring B, cross-bar C connecting the middle set of springs, longitudinal slats D having apertures at opposite ends, bands or cross-straps E having stirrups J and perforated for the insertion of the buttons, buttons F having transverse holes I and fastening-cords H, the whole constructed and combined substantially as and for the purpose set forth.

No. 17,133. Improvements in Shingle Machines. (*Perfectionnements aux machines à bardeau.*)

Moïse Marcoux, St. Eugène de Grantham, Que., 2nd July, 1883; 5 years.

Claim.—1st. In an automatic shingle cutting machine, the combination of a large circular slicing saw mounted upon the overhanging end of a horizontal spindle for slicing the block, two small cross-cut circular incision saws combined with bevel cutters mounted upon a vertical spindle placed in front and in advance of the slicing saw, and at a distance apart from each other equal to the length of the shingle, a reciprocating carriage mounted in a suitable frame at the rear of, and close to the large slicing saw, the carriage being provided with a fixed and a movable jaw having claw-bars, and feed rollers turned by ratchet wheels actuated by pawls pivoted to radial arms centred

upon the rollers and provided with cam fingers, which come in contact with a roller held in adjustable arms, a foot motion for raising the upper jaw in the carriage consisting of a treadle depressing a lever which is connected by a draw rod to an upper double lever provided with a hook engaging a catch on the jaw, when the carriage is in its rearmost position, the hooked end of the said lever being held down for engagement by means of a spring, a carriage starting and stopping motion consisting of a bent lever guiding a clutch box fettered to the shaft, which drives the crank movement producing the reciprocating motion of the carriage and engaging the loose spur wheel upon the said shaft, the quick return reciprocating movement for the carriage consisting of an intermediate shaft driven by a belt from the main saw spindle, and driving another shaft by a pinion into a loose spur wheel and fettered clutch box, which latter shaft gears by a pinion into a circular spur wheel mounted eccentrically to a lever allowing the eccentric centre to rise and fall so as to keep the pinion and wheel in gear by the weight of the latter and said lever, the said wheel carrying a crank pin to which the pitman connected with the carriage is journaled. 2nd. In an automatic shingle cutting machine, the combination of a circular slicing saw C mounted upon a shaft S, two small circular cross cut incising saws C', combined with bevel or chamfer cutters C₂ C₃ mounted upon a vertical spindle S₂ in front and advance of the slicing saw C suitably guarded, and at distances apart equal to the length of the shingle, the said spindle S₂ receiving motion by belt from an intermediate vertical spindle S₁ driven by half crossed belt from the main saw spindle. 3rd. The combination, with the slicing saw C and the cross cut and bevelling cutters C₁ C₂ C₃, of a table T set close to C and having an inclined portion / provided with a slide T, adjustable on bolts passing through slots for setting close to the face of the saw blade C. 4th. A carriage H mounted in the main frame F₁ F₂ and consisting of upper and lower runners h₁ h₂, the latter provided with grooved castors, the said runners connected by uprights h₃ h₄ carrying jaws consisting of fixed claw-bars J, and journaled feed rollers R provided with ratchet wheels W₁, which are actuated by pawls K pivoted to radial arms K, which are centred on the rollers by sleeves k₁, and the arms K provided with cam fingers k₂, which come in contact with the roller r, the latter being held in brackets r₁ r₂ adjustable in the frame F₃, the upper jaw being heavy and movable in slots in the frames pieces h₃ h₄. 5th. The combination, with the framing and the carriage H, of a foot motion for raising the upper jaw consisting of a treadle L connected to a lever 3 communicating, by means of a draw rod l₂, with a double lever L, the end connected with the latter being held up by a spiral spring, and the lever L having at its other end an open hook l arranged to engage a catch l₁ on the jaw bar h₅. 6th. A quick return reciprocating movement consisting of a shaft S₄ suitably journaled and driven at the required speed and carrying on its overhanging end a pinion gearing into an ordinary spur wheel W₄ acting as crank disk and provided with crank pin e, the said wheel W₄ pivoted eccentrically to a lever E centred upon a shaft S₅ and kept in gear by its own weight and that of the lever E, which latter allows the eccentric centre to rise and fall as the distance of the centre from the spur rim increases or decreases in the course of each rotation. 7th. The combination, with the reciprocating movement, of a starting and stopping device consisting of a lever X₁ guiding a clutch box X fettered to the draft S₄ and engaging the loose spur wheel W₂. 8th. The construction and arrangement of an incising cross-cut saw C₁ combined with a chamfering cutter C₁ or C₂ set close together face to face, the cutter having coarse undercut saw teeth of a cross-section sloped forward from the face touching the saw C₁ in the direction in which it is intended to cut, the circumferential edge of the cutter receiving the required sloping toward the centre bevel and an outlet for cutting waste being provided in the blade C₁ by openings or holes, each hole corresponding to a space between two cutter teeth, all substantially as described and for the purpose set forth.

No. 17,134. Process and Apparatus for Freezing Liquid Compositions.
(*Procédé de congélation des compositions liquides et appareil pour cet objet.*)

Edward Kells and Henry L. Church, Cleveland, Ohio, U. S., 2nd July, 1883; 5 years.

Claim.—1st. The described process for freezing and cooling paraffine and all other liquids and liquid substances, the said process consisting of forcing the material through pipes enclosed in a refrigerating body, substantially as and for the purpose specified. 2nd. The tank or vessel A enclosing a refrigerating body and provided with a number of small pipes C C through which the substance is forced or otherwise conducted by or from the large pipe B, substantially as and for the purpose specified. 3rd. The small pipes C C passing through a refrigerating body enclosed in a vessel or tank A, and conducting the substance under treatment through the said refrigerant, substantially as and for the purpose specified. 4th. In combination with the tank or vessel A and pipes C C, the larger pipe B through which the substance is forced or otherwise conducted, substantially as shown and specified.

No. 17,135. Improvements in Tubular Lanterns. (*Perfectionnements aux lanternes tubulaires.*)

Thomas Davidson, Montreal, Que., 2nd July, 1883; 5 years.

Claim.—1st. The combination, with the cap and glass globe, of the hield *g* and rotating ring *i* with pin or catch *k*, all constructed and operating substantially in the manner and for the purposes set forth. 2nd. In combination with a tubular lantern the guard *l* formed in two halves, one of which is secured to both draft tubes *b*, and the other hinged thereto and secured in place by a catch *n*, all substantially as and for the purpose described.

No. 17,136. Drive Chain. (*Chaîne sans fin.*)

James H. Weaver and Martin Beem, Chicago, Ill., U. S., 2nd July 1883; 5 years.

Claim.—1st. In a detachable chain, a link provided at one end with