

No. 30,710. Composition of Liquids for use in Generating Vapours through Heated Water, etc., and Condensed direct through Cold Water, to work Vapour Engines or Motive Power Apparatus. (*Composition de liquides pour servir à produire la vapeur au moyen d'eau réchauffée, etc., et directement condensée au moyen d'eau froide, pour faire fonctionner les machines à vapeur et les appareils moteurs.*)

Max Blumrich, Philadelphia, Penn., U.S., 5th February, 1889; 5 years.

Claim.—The mode, herein described, of operating motive power apparatus or vapour engines with bisulphide of carbon, said method consisting in mixing with the bisulphide of carbon at least 5 per cent. of any soluble hydro-carbons (series) of which I preferably use 20 per cent., or as much as the bisulphide is capable of taking up, and for the purpose of destroying its inflammability to almost any extent on exposure to the atmosphere or in a vaporized state during the working of the vapour engines, while at same time not interfering with its volatile properties, the vapors of which may also be generated inside the boiler through the action of heated water, and condensed direct through cold water inside the condenser, substantially as and for the purpose set forth.

No. 30,711. Refrigerating and Freezing Apparatus. (*Appareil frigorifique et congélateur*)

Loftus Perkins, London, Eng., 5th February, 1889; 5 years.

Claim.—1st. A freezing or refrigerating apparatus consisting of a system of hermetically-closed pipes or chambers, in combination with pipes or chambers at a higher level than such system, rising pipes connecting the same and overflow pipes from such higher level pipes to those of said system, as and for the purposes described. 2nd. In freezing or refrigerating apparatus, the combination, with pipes or chambers G, for containing solution to be heated, of hot water pipes H extending through said pipes or chambers, as and for the purpose described. 3rd. Freezing or refrigerating apparatus constructed in two or more similar divisions, each composed of a closed heating pipe or chamber, a condensing pipe, an overflow pipe, a rising connecting pipe, and a sleeve or jacket communicating with condensing pipe and enclosing said connecting pipe, as and for the purpose described. 4th. Freezing or refrigerating apparatus constructed in two or more similar divisions, as above described, and with independent branch connections to each heating tube from heat supply pipe, as and for the purpose described.

No. 30,712. Combined Fire and Burglar Alarm. (*Avertisseur d'incendie et de voleur*)

Ira S. Bunker, Nevada, Mo., U.S., 5th February, 1889; 5 years.

Claim.—The combination, with the casing 1 containing clock mechanism, and the alarm bell 22 on said casing, of the spring-actuated vertically-movable rod 10, having the plates 10^a secured to its horizontal member, and the detent 11 secured to one of its vertical members, and adapted to engage the escapement 20 of the clock-work mechanism, the series of spring-actuated vertically-movable rods 7, arranged above the plate 10^a, the cords or wires 25, 25^a, connected respectively to and with the rods 7, and connections, substantially as shown and described, between said cords or wires, and the various parts of a house, or other similar structure, as and for the purpose herein set forth.

No. 30,713. Cash Till. (*Caisse de comptoir*.)

George R. Stokes, William Loney, Hanley, and Thomas M. Favell, Etruria, Eng., 5th February, 1889; 5 years.

Claim.—1st. In a cash checking till, the application of the device J j j, substantially as and for the purposes herein set forth. 2nd. In a cash checking till, the application of the brake wheel H, substantially as and for the purposes herein set forth. 3rd. In a cash checking till, the employment of the three brackets s, s, s, for keeping the paper band at a constant degree of tension, substantially as herein set forth. 4th. The employment in a cash till, as herein described, of a metal plate or spring U, in combination with a ratchet wheel g, as a substitute for the brake wheel H, and spring M, substantially as and for the purposes herein set forth. 5th. The adaptation to a cash checking till, of a spike T, for filing the duplicates of bills or accounts, substantially as herein set forth.

No. 30,714. Horse Blanket Fastener.

(*Courroies de couverture de cheval.*)

Naomi Coburn and Elizabeth J. Martin, Toronto, (assignees of Joseph L. Coburn, Newmarket), Ont., 6th February, 1889; 5 years.

Claim.—The combination, with a blanket A, of adjustable straps B, B¹, and adjustable straps E, E¹, designed to fasten onto rings or catches D, D¹, and rings or catches G, G¹, substantially as described and for the purpose specified.

No. 30,715. Machine for Making Paper Bags. (*Machine à faire les sacs de papier.*)

Arthur Bolduc, Ste. Cunégonde, and Edward St. Cyr., Montréal, Que., 6th February, 1889; 5 years.

Claim.—1st. In a machine for making paper bags, the bracket h¹, h¹, provided with the shaft H, and adjustable bracket h², band h², pul-

ley h⁵, weight h⁶, movable pieces B, provided with the rollers I and J wheels L, L, standards L², L², pieces L³ and L⁶, template M, piece M⁴, adjustable pieces N, wheels F, F, rollers O, S, V and V¹, gear wheels R¹, R², R⁶, cog wheels R³ and R⁴, and chain R⁵, substantially as described and for the purposes set forth. 2nd. In a machine for making paper bags, the bevel pinions R⁹ and R¹⁰, shaft R⁸, pulley R¹³, fly wheel R¹², gear wheel R¹⁴, pinion R¹⁵, wheel R¹⁷ provided with the eccentric slot R¹⁹, slot S³ and T, slot S⁴, shaft R¹⁶, movable block R²⁰, radial arms E¹ and E², guide Z¹ provided with the piece Z² having the projection Z, and substantially as described and for the purposes set forth. 3rd. In a machine for making paper bags, the lever a¹, shaft a³, lever a⁵, spring a²³, pulley a⁹, chain a⁸, lever a¹⁰, pieces a¹³ and a¹⁵, fillers a²⁴, a²⁴, springs a²², a²², plate a¹⁹, guides a²⁰ and a²¹, and pieces G² and G³, substantially as described and for the purposes set forth. 4th. In a machine for making paper bags, the spring D⁴, lever D¹, pieces C³, C³, cross-head c⁴, channel C¹³, piece C⁵, space c⁸, band C⁶, space C⁷, pulleys C¹⁰ and C¹⁴, substantially as described and for the purposes set forth. 5th. In a machine for making paper bags, the combination of the frames A and R¹⁸, paste applicator K and transfer W, with the brackets h¹, h¹ and h⁴, shafts H, R⁸, R¹⁰ and a³, bands h² and C⁶, pulleys h⁵, R¹³, a⁹, C¹⁰, and C¹⁴, weight h⁶, movable piece B, rollers I, J, O, S, V and V¹, wheels L, L and F, F, standards L², L², pieces L³, L⁶, M⁴, a¹³, C⁵, a¹⁵, G², G³ and C³, C³, adjustable piece N, gear wheels R¹, R², R⁶ and R⁴, template M, cog wheels R³ and R⁴, chains R⁵ and a⁸, bevel pinions R⁹ and R¹⁰, fly wheel R¹², pinion R¹⁵, wheel R¹⁷, provided with the eccentric slot R¹⁹, slot S³, T, slot S⁴, movable block R²⁰, radial arms E¹ and E², guides Z¹ provided with the piece Z² having the projection Z, levers a, a⁵, a¹⁰ and D¹, springs a²³, a²², a²² and D⁴, fillers a²⁴, a²⁴, plate a¹⁹, guides a²⁰ and a²¹, cross-head C⁴, channel C¹³ and space C⁸, substantially as described and for the purposes set forth.

No. 30,716. Cut-off for Steam Engines.

(*Détente de machine à vapeur.*)

Thomson Kingsford, (assignee of John J. Tonkin), Oswego, N.Y., U.S., 6th February, 1889; 5 years.

Claim.—1st. In combination with the cylinder and steam chest, the reciprocating main valve having steam ports extending through it, a valve case provided with steam ports coinciding with the ports of the main valve, steam induction ports in said valve case between the aforesaid steam-ports, and a reciprocating governor-valve in the said valve case, substantially as set forth and shown. 2nd. In combination with the steam cylinder and steam chest, the main valve A formed with the steam chest B, and with the receiving ports a, a, a and discharge ports a¹, a¹, the valve case C secured to the interior of the steam chest, and provided with the ports b, b, b coinciding with the ports a, a, a, and provided also with the steam induction ports b¹, b¹, and the reciprocating governor valve I provided with bridges c, c¹, having perforations c¹, c¹, substantially as described and shown. 3rd. In combination with the steam chest and the main valve A provided with ports a, a, a, the valve case C provided with the ports b, b, b and b¹, b¹, the governor valve I provided with the governing bridge c and safety stop bridge c¹, respectively, at opposite sides of the port b, substantially as described and shown. 4th. In combination with the steam chest, and main valve A, the valve case C provided with the ports b, b, b, and b¹, b¹, and the governor valve I provided with the governing bridges c, c, c, at one side of the respective ports b, b, b, and having the stop bridges c¹, c¹, c¹, adjustably in their position at the opposite side of said ports, substantially as and for the purpose set forth. 5th. In combination with the steam chest, the reciprocating main valve A provided with the ports a, a, a, the valve case C secured to the steam chest, and having a cavity O extending through it at right angles to the movement of the main valve, steam ports b, b, b, extending from the cavity C to the ports a, a, a, valve seats d, d, at opposite sides of each port b, and steam receiving ports b¹, b¹, between the seats of valve-seats d, d, the governor valve I extending longitudinally through the cavity O, and provided with the bridges c, c¹, the governor P mounted on the steam chest, and the stem s connecting the governor with valve I, substantially as described and shown. 6th. In combination with the steam chest, main valve and governor valve inside of said steam-chest, the governor P mounted on the steam-chest, the governor stem s connecting the governor with the aforesaid governor valve, and a catch adapted to temporarily retain the governor stem in its depressed position, substantially as and for the purpose set forth.

No. 30,717. Self-Locking Automatic Device for Opening and Closing Valves to Air Brake Hose Coupling.

(*Appareil automatique pour ouvrir et fermer les valves des joints de tuyaux des freins atmosphériques.*)

John H. Porter, Jackson, Edward A. Grosvenor and Edward L. Boyd, Detroit, Mich., U.S., 6th February, 1889; 5 years.

Claim.—In a hose coupling, section A, valve K, interlocking arm B, all arranged and combined substantially as and for the purpose set forth.

No. 30,718. Vestibule Car. (*Char à vestibule.*)

Thomas E. Thomson and Charles Gardner, Chicago, Ill., U.S., 6th February, 1888; 5 years.

Claim.—1st. In a railway-car, a rack-plate with horizontal teeth pivotally connected to the end of the buffer-bar, to intermesh with a corresponding rack-plate on the buffer-bar of an adjoining car, substantially as described. 2nd. In a railway-car, a rack-plate with horizontal teeth pivotally connected to the end of the buffer-bar and rigidly secured in place, as regards vertical and torsional movement, to intermesh with a corresponding rack-plate on the buffer-bar of an adjoining car, substantially as described. 3rd. In a railway-car, a rack-frame having horizontal teeth mounted upon the end of the car, and rigidly secured thereto, against vertical and torsional movement, to intermesh with a corresponding rack-frame on an adjoining car,