

tons B B, with the orifice H, also the frame E E and the crank wheel C with the arbour, and chain wheel D with the endless chain F, and the belt I with the hammer and spring J, also the points S S, all combined.

No. 12,418. Improvements on Smoke Consumers. (*Perfectionnements aux appareils fumivores.*)

John B. Ball, Putney, Eng., 26th February, 1881; for 5 years.

Claim.—1st. The bent plate and hollow mid-feather, the space within both communicating with the water space of the boiler, and forming together a channel through which air is directed into the fire box.

No. 12,419. Improvements in Nutmeg Graters. (*Perfectionnement aux râpes à muscade.*)

Albert B Hill, Boston, Mass., U.S., 26th February, 1881; for 5 years.

Claim.—1st. A circular block A with the stationary disc a and collar d operating in combination with the revolving disc at and spring pressure p d c.

No. 12,420. Improvements on Moulding Machines. (*Perfectionnements aux machines à mouler.*)

Thomas Cowan and John Ballantine, Galt, Ont., 26th February, 1881; for 5 years.

Claim.—1st. A horizontal shaft supported on the table of a moulding machine, and arranged to operate simultaneously all the spring guards. 2nd. The table of a moulding machine having spring guards I supported in spindles G adjustably held within sleeve E provided with worm pinions F, in combination with the worm D on the horizontal shaft C provided with a handle J.

No. 12,421. Improvements on Machines for Packing Barrel Headings. (*Perfectionnement aux machines à emballer les fonds des barils.*)

John Greenwood, Rochester, and Emerson Cole, Brooklyn, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The combination with the platform E and follower G separated by springs k k, of the arms H H pivoted to bearings of the platform, the short end of the arms resting under the edges of the headings as they are placed upon the follower, so that as the follower is raised the springs will allow it to yield, causing the headings to strike the arms and raise them into a vertical position. 2nd. The combination of the platform E, the follower G, the spring k k resting between the platform and follower, the arms H H pivoted to bearings of the platform and the stationary head block D. 3rd. The combination with the follower G resting upon springs, of the pivoted arms H H arranged in position with the platform, to receive and hold the ends of the crossed bands which rest upon the follower. 4th. The combination with the arm H, of the spring attached to its back and provided with lugs r r projecting forward of the arm. 5th. The head block D consisting of the segmental plates b b separated from each other, and having slots c between them, for the passage of the binding bands when turned over the top of the package.

No. 12,422. Process and Apparatus for Extracting Metals from Ores. (*Procédé et appareil pour extraire les métaux des minerais.*)

Thurston G. Hall and George H. Van Vleck, Buffalo, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The process of extracting the precious metal from refractory ore which consists in heating the ore in a blast furnace by means of a combined air and gas blast, until the precious metal is sublimated, and in precipitating the sublimated metal in an open condensing volume, by means of a water spray. 2nd. An apparatus for extracting the precious metal from refractory ore, consisting of a closed top blast furnace A provided with a combined air and gas blast and a condensing column D open at top and bottom, connected with the upper portion of the blast furnace by a gas trunk c, and provided with a water spray and one or more receptacles for the precipitated metal. 3rd. In combination with the sublimating furnace a, gas conduit c having steam jet g, the condensing column D provided with water spray h i and formed at its lower end with two or more branches D₁, gate or valve d and two or more separate receptacles E. 4th. The combination, with the sublimating furnace a, of the condensing column D provided at its lower end with two or more branches D₁, gate or valve d and two or more separate receptacles E.

No. 12,423. Apparatus for Extracting Metals from Ores. (*Appareil pour extraire les métaux des minerais.*)

Thurston G. Hall and George H. Van Vleck, Buffalo, N.Y., U.S., 26th February, 1881; for 5 years.

Claim.—1st. The combination, with a distillation furnace, of the separating column D receiving the gas and vapour from the furnace, and the condenser O surmounting the column D. 2nd. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I, and the condenser O surmounting the column D. 3rd. The combination, with the furnace A and gas pipe F, of the column D, water sealed at its foot and provided with a blast pipe I, and the condenser O surmounting the column D, and provided with a spray nozzle p and escape pipe S. 4th. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I, steam jacket G surrounding the column, steam pipe H entering the column, steam pipes m entering the column, and condenser O surmounting the column. 5th. The combination, with the furnace A and gas pipe F, of the column D provided with blast pipe I and having its foot liquid sealed by the receiving tank K, steam jacket G, steam pipes H M m, condenser O, water spray p and escape pipe S.

No. 12,424. Improvements on Clothes Washers. (*Perfectionnements aux laveuses à linge.*)

David E. Taylor, Charleiton, Mass., U.S., 26th February, 1881; for 10 years.

Claim.—1st. The combination, with case A and looped head I, of the wire loop springs G. 2nd. The combination, with case A, looped head I and loop springs G, of the sucking and water lifting head E.

No. 12,425. Apparatus for Sulphuring Matches. (*Appareil pour soufrer les allumettes.*)

Ezra B. Eddy, (Assignee of Nathan Butler), Hull, Que., 26th February, 1881; for 5 years.

Claim.—1st. The combination of furnace A, pan B having shallow portion H with rails I I at one end, exterior heating surface D with rails E d contiguous to the opposite end of the pan, sprocket wheels d and endless apron or chains Et, wholly within the pan, and a pushing device for feeding the racks or rolls of matches from the heating surface D to the endless apron Et, whereby the matches are dried, dipped, delivered and drained at one continuous operation. 2nd. The combination of the heating surface D having rails E d, pan B having shallow portion H with rails I I and endless apron or chains Et, wholly within the pan. 3rd. In combination with the pan B and a plate or raised heating surface D, a pushing device for feeding the matches to the apron or chains Et, consisting of arm K, slotted lever K, fulcrum M and gear wheels O having a wrist pin connection with slotted lever L and driven by bevelled pinion O.

No. 12,426. Improvements in Furnace Grates. (*Perfectionnements aux grilles des fourneaux.*)

Walter Gillespie and James G. T. Cleghorn, Montreal, Que., 26th February, 1881; for 5 years.

Claim.—A furnace grate composed of panels carried by chains moving from front to back.

No. 12,427. Improvements on Combined Broilers and Fryers. (*Perfectionnements aux grils poêlés à frire.*)

Alexander Anderson, London, and Walter Arnold, Toronto, Ont., 26th February, 1881; for 5 years.

Claim.—1st. A bottomless case, tapered so as to fit various sizes of pot holes and provided with a hinged cover having an air hole in it, in combination with a frying pan or other similar cooking utensils, set within the case so that there shall be an air passage between the two. 2nd. A tapered bottomless case A, provided with a handle B and having its interior surface corrugated or fluted, a cover C hinged to the said case and pierced by a hole G, in combination with a trying pan or other cooking utensils supported on the lugs J and provided with a handle fitting into the notch H.

No. 12,428. Improvements in Lanterns. (*Perfectionnements dans les lanternes.*)

Evan F. Cash, Alfred L. Baron and David Rankin, Bellaire, Ohio, N.S., 26th February, 1881; for 5 years.

Claim. 1st. In a single globe lantern, the passage or passages for feeding air to the flame situated between the outside of the globe, and a vertical plate or plates placed against the same. 2nd. The lantern globe A having one or more exterior grooves a a which are constructed to form air passages when the globe is mounted in the lantern. 3rd. In a lantern, the combination of the grooved globe with vertical plates covering such grooves. 4th. The plates B B forming part of the air passages and supporting the top D. 5th. The combination of the grooved globe A, supporting plate C, plates B B and top D. 6th. The combination with the plates B B forming part of the air passages, of the top D hinged to one plate and secured by a spring catch to the other. 7th. The combination of the ground globe A and plates B B supporting on the plate C carrying the cone and hinged to the shell of the burner.

No. 12,429. Improvements on Seal Locks. (*Perfectionnements aux serrures scellées.*)

John Dewe, (Co-inventor with George Bailey), Ottawa, Ont., 28th February, 1881; for 5 years.

Claim.—1st. The slotted plate K in combination with a fixed stud J, looking pin I and spring bolt D with unlatching lever E, concealed by the closed door A. 2nd. The hinged bow handle F having shoulder H and terminating in a locking pin I, in combination with spring bolt D, plate K and stud J.

No. 12,430. Improvements on Cabinet Bedsteads. (*Perfectionnements aux lits-buffets.*)

John W. Stanton and Alfred J. Wolf, New York, U.S., 28th February, 1881; for 5 years.

Claim.—1st. A cabinet or folding bedstead, the corner braces E Et hinged at one of their ends to the base a, and at their other end to the said rails D D, in combination with the side rails D D and base a adapted to strengthen and support the rails centrally. 2nd. The pivoted links K K₁ fastened respectively at each of their ends to an opposite end of the side rails D D crossing each other obliquely and the pivoted link K₂ coupled to the link K₁ and to the hind part L, all in combination with the side rails D D and hind part L adapted to operate and move the several parts with which they are connected into proper position when the bed is opened or closed. 3rd. The locking flaps C₁ in combination with the projecting brackets D₁ and the folding side rails D D. 4th. A cabinet or folding bedstead having folding side rails D D connected by pivoted links K K₁ K₂, in combination with base a supporting braces E Et, and dropping back I carrying legs L, all operated by a single movement.

No. 12,431. Apparatus for Driving Bogie Axles of Locomotives. (*Appareil à chasser les essieux des trains des voitures-locomotives.*)

Joseph Apsey, London, Eng., 28th February, 1881; for 5 years.

Claim.—An apparatus for driving bogie axles, wherein one or more