14, the conductor 15 into which said discharge orifices open, and the smoke stack 6, substantially as described and for the purpose specified. 3rd. In an evaporator, the heating device consisting of the air chambers 7, 7, forming the sides of the heater, the ash space under the grating at one end, and the slanting bottom at the rear of said ash space, provided with the bottom air chamber 10 which opens into the side air chambers, substantially as described and for the purpose specified. 4th. The combination of the transverse partitions 13, having the flanges *n* at their upper edges, with longitudinal connections for said partitions and the doors *d*, the side edges of which doors close upon said flanges, substantially as described and for the purpose specified. 5th. The herein described cover for an evaporating pan having a series of connected partitions or diaphragms extending downwardly below its rim, and separate doors for the chambers between said partitions, substantially as described and for the purpose specified. 6th. An improved frame for the cover of an evaporating pan, which consists of the ridge-piece *a*, partitions or diaphragms 13 secured thereto, and the rods *c*, *c*, combined substantially as described and for the purpose specified. 7th. In an evaporator cover, the ridge piece *a*, the doors *d* hinged thereto, and having the flange *o* to shut under the edge of said ridge-piece, substantially as described and for the purpose specified.

No. 32,960. Drawing Roll for Drawing Heads and Spinning Frames.

(Cylindre étireur pour les bancs d'étirage et les machines à filer.)

Joseph M. Dunham and John McKemmie, Holyoke, Mass., U.S., 2nd December, 1889; 5 years.

Claim.—1st. A pair of drawing rolls for fibrous materials having longitudinal ribs and grooves normally interlocking with each other during their rotation, combined with bearings for one of said rolls, whereby the axes thereof are held at such degree of separation that the edges of the ribs of one roll have no contact with the bottom of the grooves of the opposite roll, substantially as set forth. 2nd. A pair of ribbed and grooved drawing rolls for fibrous materials normally interlocking with each other during their rotation, combined with interchangeable bearings for one of said rolls, whereby the axes thereof are held at varying degrees of separation, substantially as set forth. 3rd. A pair of drawing rolls for fibrous materials, having longitudinal ribs and grooves normally interlocking with each other during their rotation, combined with circular collars, substantially as described, secured on the ends of one of said rolls, whose peripheries engage with the opposite roll, whereby the edges of the ribs of one roll have no contact with the bottom of the grooves of the opposite roll, substantially as set forth.

No. 32,961. Ledger Index Device.

(Châssis d'index de grand livre.)

Knut Buland, Linn Grove, Iowa, U.S., 2nd December, 1889; 5 years.

Claim.—1st. The within-described ledger index device, consisting of a series of double-faced tablets pivoted one below the other upon the sloping front of an upright frame, and alphabetically marked in the corners of their opposite spaced surfaces, said tablets being also provided with ledger-page spaces to correspond with said alphabetical marks, substantially as specified. 2nd. The combination with the back portion A, of the frame and inclined front portions B thereof, of the double-face tablets C pivoted at their lower ends one below the other to the inclined portion B of the frame, said tablets being intermediately divided on their opposite faces or surfaces transversely of the axial lines of their pivots into separate entry-spaces, and said spaces being differently alphabetically lettered in the upper corners of the opposite sides of the tablets respectively, essentially as shown and described.

No. 32,962. Metallic Railway Tie.

(Traverse métallique de chemin de fer.)

James Francis, Sydney Mines, N.S., 2nd December, 1889; 5 years.

Claim.—1st. The lower part or body of the tie, which is formed of one piece flanged downward on each side with V or semicircular pieces, pressed upwards on inside of rails to receive and hold fast the rails to the proper gauge. 2nd. The end covers or sleeves, with pieces pressed upwards on outside of rails, and bolted or keyed to the body of the tie, for the purpose of having double thickness of material under rails and keep them secure in their place.

No. 32,963. Compound for Cleaning Carpets. (*Composition pour nettoyer les tapis.*)

Robert N. Hyde, Des Moines, Iowa, U.S., 2nd December, 1889; 5 years.

Claim.—A fluid for cleaning carpets and preserving them from moth, consisting of water, borax, soap, ammonia, bay rum, oil of sassafras, and alcohol, in the proportions stated.

No. 32,964. Potato Scoop. (*Pelle à patates.*)

Joseph Vowles, Milford, Mich., U.S., 2nd December, 1889: 5 years.

Claim.—1st. A scoop, consisting of tines united at the scooping edge and extending back to the heel, and a cross bar or bars made integral therewith between the said edge and heel, substantially as and for the purposes described. 2nd. A scoop, consisting of tines, united at the scooping edge and extending back to the heel, and a cross-bar integral therewith extending across the intermediate tines near the point where they curve upward, substantially as described. 3rd. A scoop, consisting of a malleable iron coating, and having tines united across the scooping edge extending back to the heel of the scoop, and a cross-bar B cast integral therewith and extending across the tines, along the curved portion, near the heel, substantially as described.

No. 32,965. Process for the Removal and Prevention of Scales in Steam Boilers. (*Procédé pour enlever et empêcher les incrustations des chaudières à vapeur.*)

Richard H. Cooper, Omaha, Neb., U.S., 2nd December, 1889; 5 years.

Claim.—The herein described process of using a saturated water solution of the fluid extract of oak bark or the wood thereof, of the bark or wood separately for the purpose of removing and preventing the formation of scales in steam boilers, substantially as described.

No. 32,966. Combined Binding Post and Thermal Cut-Out. (*Poteau et interrupteur thermal combinés.*)

Howard C. Root and John C. Reilly, Brooklyn, N. Y., U. S., 2nd December, 1889; 5 years.

Claim.—1st. The combined connector and safety catch, comprising two metallic binding posts, insulated from each other, but rigidly in line, a non-conducting fuse carrier having metal tips connected by a fusible strip and held between said posts by a spring at one end, and at the other by a removable abutment screw passing through one of said posts in line with the fuse carrier. 2nd. The combined connector and safety catch, comprising a sleeve of insulating material interposed between two metal binding posts, and forming a rigid structure therewith, a metal spring in contact with one binding post, a removable abutment projecting from the other, and a non-conducting fuse carrier having metal tips connected by a fusible strip placed between said spring and abutment. 3rd. The combined binding post and safety catch, comprising, in combination, the shank 1, provided with clamping devices, spring 11, tubular nipple 9, insulated fuse 16, screw cap 17 and pressure screw 18 adapted to force the fuse 16 against the spring 11 and compress the latter, said shank 1 and nipple 9 being held in fixed position in a solid insulating material.

No. 32,967. Steam Engine Governor.

(Gouverneur de machine à vapeur.)

John W. Brown and William W. Sutcliffe, New Orleans, La., U.S., 2nd December, 1889; 5 years.

Claim.—1st. In a steam governor, the combination, with the wheel chamber having the passage P^1 and the wall therein, having the obliquely directed apertures P, of the wheel having blades Q, and a rotative tube connected with the governor balls and secured to the wheel, and the valve stem also connected with one of the movable heads of the governor balls, and carrying a valve at its lower end within the chamber A, substantially as specified. 2nd. In a steam governor, the combination, with the chamber A, of the wheel chamber, having a wall therein forming a passage P^1 and provided with the obliquely directed apertures P, the wheel arranged in said chamber, the vertical tube secured to the wheel, the spiral spring surrounding the tube, the governor balls secured to heads arranged on the tube, the upper head having the yoke, as shown, the sleeve arranged in the yoke, the valve stem externally threaded and secured to the sleeve, and the nut arranged on the upper end of the sleeve, and the nut arranged on the upper end of the valve stem, substantially as specified.

No. 32,968. Water Heater. (*Calorifère à eau.*)

James Pullen (assignee of George Wells), Montreal, Que., 2nd December, 1889; 5 years.

Claim—1st. The combination, in a water heater, of the fire-pot or furnace having ports 2, with vertical sections *f* and *g* and water-top 6, constructed and arranged substantially as described. 2nd. The combination, in a water-heater, of the fire-pot or furnace having ports 2, with vertical sections *f* and *g*, and water-top 6, having ports 15 and damper 20, the whole substantially as described. 3rd. The combination, in a water heater, of the fire-pot or furnace *a*, having ports 2 with sections *f* and *g* having throats 5 and 9, and air space *k*, with the water-top 6, having ports 15 and damper 20, the whole substantially as and for the purposes set forth.

No. 32,969. Centrifugal Machine for Separating Cream from Milk. (*Machine centrifuge pour séparer la crême du lait.*)

John Laidlaw (co-inventor with James W. Macfarlane), Glasgow, Scotland, 2nd December, 1889; 5 years.

Claim.—1st. In centrifugal machines for separating cream from milk, the construction of the drum in three parts, namely, the upper conical part A, the lower part B and the diaphragm C, D, secured together and connected to the shaft by means of the boss D, substantially as described and shown in the drawings. 2nd. The distributing cup F, constructed so as to prevent the passage of air along with the milk into the separating chamber, substantially as described and illustrated in Figs. 1 and 2. 3rd. The discharge guides for the cream, constructed with a vertical or slightly inclined channel, along which the cream flows to the discharge orifice, substantially as described and shown on the annexed drawings. 4th. The annular collecting chamber T on the underside of the drum, into which the separated liquid passes, and from which it can be drawn off by means of a bent tube or its equivalent, substantially as described and shown on the annexed drawings. 5th. The combination of the spindle E, having pinion u^5, the sleeve *u* having arm u^1, the gear wheel u^4 carried by the arm, the fixed circular rack u^3, the bevel pinion S^2 on the sleeve and the shaft having bevel gear-wheel S^1, substantially as described. 6th. The combination of the spindle E, having pinion u^5, the sleeve *u* having arm u^1, the pinion u^2 and gear wheel u^4 carried by the arm, the fixed circular rack u^3, the bevel pinion S^2 on the sleeve and the shaft, having bevel gear wheel S^1, substantially as described.