with a suitable source of steam, substantially as described. 2nd. In a steam and air feeding device for smoke consumers, the combination of the apertures D formed in the side wall of the ash pit, the partitions E, inlets F, perforated tubes G, drip-cocks I, one for each tube G, cross-head H, supply pipe J, and valve K in such supply pipe, the parts being arranged and constructed to operate substantially as described.

No. 29,948. Nut Lock. (*Arrête-écrou.*)

William Sleicher, Jr., Troy, N. Y., U. S, 3rd October, 1888; 5 years.

Claim—1st. As an improved article of manufacture, a nut-locking washer made of a single piece of flexible metal consisting of a plate provided with a central bolt-hole, and means for preventing the washer from turning on the bolt, and having a peripheral lug projecting from the nut side of the washer, and on the same side a boss around the bolt-hole raised above the base of the lug, substantially as described. 2nd. A nut-locking washer composed of an integral malleable casting having a central bolt-hole, and means for preventing the washer from turning on the bolt, and provided with a peripheral lug projecting from the nut side of the washer, and having the end of the lug thicker than the body part, and inclined outward from the centre of the washer, substantially as described.

No. 29,949. Spring Clip Holder for a Pencil, Penholder, etc. (*Serre-joint à ressort pour crayon, porte plume, etc*)

William J. Downes, London, Eng., 3rd October, 1888; 5 years.

Claim.—An improved spring clip holder for a pencil, penholder, or other similar article, such clip holder being made of spring steel, or any other suitable metal, and consisting of a central socket *a*, furnished at the top with two lips *b* which form a clip, and at the bottom with a base plate *c* having perforations *d* therein, through which it is rivetted or otherwise fastened to the back of a pocket book, note book, memorandum book, or purse, or to a blotting or writing case, pen, or pencil rack, or other article, all substantially in the manner and for the purposes hereinbefore described and shown.

No. 29,950. Bustle. (*Tournure.*)

Amos H. Jackson, Fremont, Ohio, U. S., 3rd October, 1888; 5 years.

Claim—1st. As an improvement in bustles having a vertical frame, and a series of outward downwardly curved coil springs, the separate coil-supporting springs disposed within a bag or covering and adjustably secured under said outer springs in an approximately vertical position, substantially as shown and described. 2nd. The herein described improved bustle comprising the vertical frame, the series of outer curved coil springs connected thereto, the bag or covering therefor, the separate coil-supporting springs disposed in an approximately vertical position, together with their bag or covering, and the adjusting or holding tapes for securing said supporting springs to said frame beneath said outer springs, substantially as shown and described.

No. 29,951. Safety Shoe for Car Trucks.

(*Sabot de sûreté pour les châssis de char.*)

Abram M. Woodruff, Superior, Neb., U.S., 3rd October, 1888; 5 years.

Claim.—The combination, with the central transverse timbers B, and the longitudinal brace D of a truck, of the head blocks E secured to said timbers and brace, and the shoes F bolted to the said head blocks, timbers, and brace, the said shoes being provided with downwardly extending longitudinal flanges *a*, and having a central and horizontal flat bearing surface *a*¹ and inclined flaring under surfaces *b*, *b*¹ between the said flanges, substantially as shown and described.

No. 29,952. Piston Rod Packing.

(*Garniture pour tiges du pistons.*)

Chauncey W. Mills, Rochester, N.Y., U.S., 3rd October, 1888, 5 years.

Claim.—1st. The combination of the piston rod stuffing box and the gland bushing, with the sleeve on said rod, the head F conically recessed on its front face and radially slotted through the walls of such recessed portion to permit the expanding thereof, and the interposed packing between said head and bushing, all constructed and arranged substantially in the manner and for the purpose described. 2nd. The herein described annular head *f* having a conical central opening, and a series of longitudinal slots in its outer face, for the purpose and constructed substantially as described. 3rd. The combination of the piston rod stuffing box, and gland plate or bushing having an outwardly inclined inner face, substantially as described, with the slotted head F, spring and packing, all constructed and arranged substantially as described. 4th. In a piston rod packing, the combination, of the gland bushing, stuffing box and piston rod, with the spring controlled conically recessed and slotted head F, the sleeve E and packing I, all constructed and arranged substantially in the manner and for the purpose specified. 5th. The combination of head A, box B, rod C, and the gland bushing, substantially as described, with the sleeve E projecting into the cylinder, the slotted expansive head F conically recessed in its front face and united to said sleeve, the spring G and packing I, all constructed and arranged to operate substantially in the manner and for the purpose described.

No. 29,953. Reed Organ. (*Orgue harmonium.*)

George W. Scribner, Chatham, Ont., 4th October, 1888; 5 years.

Claim.—1st. In combination with a reed organ having the usual reeds, keys and bellows, the socket board G placed back of the keys D and over the wind chest F, containing two alternating rows of reed cells H^1, H^2 under the alternate openings H, at about double the usual distance apart in the row, substantially as and for the purposes hereinbefore set forth. 2nd. In combination with the socket-board G containing the alternating reed-cells H^1, H^2, and openings H, a set or series of reeds or vibrators placed alternately in the chromatic scale in the reed-cells H^1, H^2, under the openings H, and over the valves that operate them, as and for the purposes specified. 3rd. In combination with the socket-board G, and the alternating reeds of the chromatic scale placed in the reed-cells or sockets H^1, H^2, set or series of resonant pipes or chambers I of suitable dimensions, form and material, the mouths J being placed over the openings H, substantially as and for the purposes hereinbefore described.

No. 29,954. Machine for Chipping Ice.

(*Machine à casser la glace.*)

Joseph McClure, Winnipeg, Man., 5th October, 1888; 5 years.

Claim.—An ice chipper composed of handle A, sole leather or spike holder B, and spikes C, all formed and combined substantially as and for the purpose hereinbefore set forth.

No. 29,955. Washing Machine.

(*Machine à blanchir.*)

Louis Ducharme and Gilbert Erard, Woonsocket, R.I., U.S., 5th October, 1888; 5 years.

Claim.—1st. The combination, with a boiler or suds-case, of a rotative cylinder therein, buckets arranged transversely on the periphery of the cylinder, and tubes connected with the opposite ends of the buckets alternately and leading to the interior of the cylinder, substantially as specified. 2nd. A rotative cylinder having spray chambers in its side walls, divided partitions, and tubes leading from the respective compartments of the said chambers, and connected with buckets secured to the periphery of the cylinder, substantially as specified.

No. 29,956. Butter and Cake Print.

(*Moule à beurre et à gâteau.*)

Stephen B. Smith, St. John, N.B., and Andrew T. Porter, Montreal, Que., 5th October, 1888; 5 years.

Claim.—As a new article of manufacture, butter and cake prints composed of glass, substantially as and for the purpose hereinbefore set forth.

No. 29,957. Condensing Duplex Heater.

(*Réchauffeur d'eau*)

Alvin L. Draper, Ellsworth, Es., U. S., 5th October, 1888; 5 years.

Claim.—1st. In a condenser, the combination, of water receiver B, outer jacket A, and cold-air pipes O, substantially as set forth. 2nd. In a condenser, the combination, of the tanks C and B, outer jacket A, and cold-air pipes O, substantially as set forth. 3rd. In a feed water heater, the combination of the outer jacket A, upper tank B, lower tank C, cold-water pipe W, winding shelf D located in the lower tank C, and exhaust-steam pipe I discharging into the lower tank C, substantially as set forth. 4th. In a feed water heater the combination, of case A, receiver B, a lower tank C, wind-shelf D, a valve G, and a steam pipe I, substantially as and for the purpose set forth. 5th. In a feed-water heater, the combination, with a receiver B, and a pipe W, of a winding-shelf D, substantially as and for the purpose set forth. 6th. In a feed-water heater, the combination, with receiver B, and tank C, of a valve G, a winding shelf D, in the lower tank C and a steam pipe I, substantially as and for the purpose set forth. 7th. In combination with an outer jacket A, an upper tank B, and lower tank C, a pipe I, a cold-water pipe W, and a spray-nozzle W^1, substantially as set forth. 8th. In a feed-water heater, the combination, with tank B for containing the heated water, of the water chamber X^1, the pipe R leading therefrom, the screen X placed over said water-chamber, and the man-hole Y, all constructed and arranged substantially as set forth.

No. 29,958. Lock for Twisting Tackle.

(*Serrure pour poulie d'ascenseur.*)

Alexander M. Kerr and The Fulton Iron and Engine Works, Detroit, Mich., U.S., 6th October, 1888; 5 years.

Claim.—1st. The combination, with a pulley block having two sheaves arranged one behind the other to turn in opposite directions, of a vertically movable wedge suspended between the two sheaves, and adapted to wedge between the opposite portions of a rope passing around the respective sheaves, substantially as described. 2nd. The combination, with a pulley block having two sheaves arranged one behind the other to turn in opposite directions, of a vertically movable wedge suspended between the two sheaves, and adapted to wedge between the opposite portions of a rope passing around the respective sheaves, a rocking shaft journalled on the sheave frame, and having a cam engaging the wedge, and a lever D for rocking the cam shaft, substantially as described.

No. 29,959. Asphaltic Pavement.

(*Pavage en asphalte.*)

Thomas Bryce, Toronto, Ont., 8th October, 1888; 5 years.

Claim.—The herein described pavement consisting of asphaltum made from petroleum, gas, tar, cement-gypsum and gravel, in substantially the proportions specified.