

the suction fan L; 9th. The wind chamber N, and wind spouts N₁, N₂, N₃, in combination with the blast fan K, and suction fan L.

No. 2830. JOSEPH P. BASS, assignee of EMILE R. WESTON, Bangor, Me., U. S., 31st October, 1873, for 5 years: "Improvements on polished photographs." (Perfectionnements aux cartes photographiques polies.)

Claim.—1st. A photograph, the surface of which has been polished by the process of burnishing accomplished by a machine for which the said Emile Riens Weston has obtained a patent under the Patent Act of 1872, dated the twenty-second day of January, in the year one thousand eight hundred and seventy-three, and numbered 1995.

No. 2831. MALCOLM MACVICAR, Potsdam, N. Y., U. S., 7th November, 1873, for 15 years: Apparatus for objective teaching in arithmetic and reading." (Appareil pour l'enseignement démonstratif de l'arithmétique et de la lecture.)

Claim.—1st. The independent slides arranged on the sides of the opening frame a; 2nd. The slides c adapted for presenting either cards or objects before the opening in frame a; 3rd. The object frame b; and 4th. The frame a, independent slides I, slide c and frame b, when the parts are combined arranged to operate as described.

No. 2832. ROBERT BROWN, Dayton, Ohio, U. S., 7th November, 1873, for 10 years: "Improvement in hubs for carriage wheels." (Perfectionnement des moyeux de roues de voitures.)

Claim.—1st. The male and female hub bands A A, correspondingly mortised and bevelled; and 2nd. The combination of the male and female mortised bands A A', and the grooved hub B.

No. 2833. ROLLIN A. LEE, Cleveland, Ohio, U. S., 7th November, 1873, for 5 years: "A combination lock." (Une serrure à combinaison.)

Claim.—1st. The combination and arrangement of the discs F, G, H, with the adjusting plate I, and means for securing the same, for changing the combination of numbers; 2nd. In combination with the discs F, G, H, and adjustable plate I, the tumbler c, with projections c₁, c₂, c₃; 3rd. Three or more ratchet or counting wheels O, P, Q, provided with spaces or teeth and spring pawls p, q, r, operating conjointly as set forth; 4th. The pivoted tumbler C, bolt or dog B, and arbor D, with projections d₁, d₂, constructed and arranged as set forth; and 5th. The combination of the discs F, G, H, devices I, J, K, ratchets, O, P, Q, pawls p, q, r, tumblers c, bolt B, and arbor D, d₁, d₂, all constructed and operating as set forth.

No. 2834. JAMES G. MOORE, Lisbon, N. H., U. S., 7th November, 1873, for 15 years: "Improvement on machinery for grinding wood for paper pulp." (Perfectionnement des appareils à triturer le bois pour la pâte à papier.)

Claim.—The rotary carrier B, in combination with the stationary grinding case A, provided with the abrasive peripheral surface or such and the receiving and discharging trough, all being arranged to operate as specified.

No. 2835. JETHRO B. HUSTED, Vergennes, Vt., U. S., 7th November, 1873, for 5 years: "Improvements on machines for finishing horse shoe nails." (Perfectionnements aux machines à finir le clou à cheval.)

Claim.—1st. The rotating die P, in combination with the stationary support R, for trimming horse shoe nails; 2nd. The rack C, with the slide and weight, or their equivalents, arranged to feed the nails to the operating mechanism; 3rd. The slotted feed wheel L, for feeding the nails to the die, and holding them in position being operated upon; and 4th. The hammer H, and anvil O, in combination with the automatic feeding devices arranged to operate as set forth.

No. 2836. JOHN E. LEEPER, Godfrey, Ill., U. S., 7th November, 1873, for 5 years: "Improvements on Iron Freight Cars." (Perfectionnements aux wagons à fret en fer.)

Claim.—1st. An iron car composed of a double casing or shell of sheet metal of the form and construction described; 2nd. The running board G; 3rd. The combination of running board G, and the balustrade H; 4th. The air passage Q, between the two shells along the top of the car, in combination with the air channels

between the ribs and at the ends and sides of the car, as shown in Fig. 2, by the arrows L, M, N; 5th. The casing or shells A, B, in combination with the timbers I, P, ribs D, and bolts F, for firmly securing all together as shown in Fig. 2; 6th. The shells A, B, in combination with the compartment J, and suspended chambers or vessels K, for refrigerating purpose.

No. 2837. WILLIAM S. HOUGH, Port Royal, Ont., 7th November, 1873, for 5 years: "Composition of Matter for the destruction of Thistles." (Composition pour la destruction des charbons.)

Claim.—A compound made of chloride of sodium, nitrate of potash and protoxide of calcium in about the proportions specified with or without the addition or admixture of ochrous earths and alkaline ashes, for application either in a dry, or liquid state with water to the leaves and stalk of the noxious weed or thistle for destroying vegetable life as set forth.

No. 2838. FRANKLIN LEONARD, Cleveland, Ohio, U. S., 7th November, 1873, for 5 years: "Improvements on Link Machines." (Perfectionnements aux machines à mailles.)

Claim.—1st. The link C, and spring D, in combination with the arms B, B; 2nd. The pillow block T, arranged in relation to, and in combination with the rollers a, b, and arms J, K; 3rd. The gauge V, as arranged in relation to the standard L, rollers a, b, and arms J, K; 4th. The dies or prints c, d, of the hammer and block constructed as described and co-operating in the manner specified.

No. 2839. ISAAC BROWN, Edinburgh, Scot., 7th November, 1873, for 5 years: "Improvements on Irrigating and Manuring Land and in Hurdle Grazing it for Effectually Utilizing the Grass upon that known as Pasture Land, and in the Treatment and utilization of Sewage for Agricultural Purposes." (Perfectionnements dans l'irrigation et l'engrais des terres, le parage alternatif, pour mieux utiliser l'herbe des pâturages et dans le traitement et l'emploi des vidanges pour les fins agricoles.)

Claim.—1st. The system or mode of applying moisture in the form of fine showers or spray to land by the use of finely punctured pipes A, (Figs. 1, 2, 3, 4 and 5), in connection with mains supplied with water under pressure either by force pumps direct or by gravitation. 2nd. The protecting from injury the perforated pipes A, employed in manuring, irrigating or watering land by laying the same in a grooved furrow made in the soil and by placing suitable shields B, (Figs. 1, 2, 3, 4 and 5), over the perforations; 3rd. The peculiar construction and modes of applying slotted shields or covers B, to perforated pipes A, employed in irrigating or manuring land as illustrated in the drawings; 4th. The application and use to and in the straining or filtration of liquid sewage or diverting it of its solid matter whether for the purpose specified or for its being passed by a continuous flow in a sufficiently purified condition for its entering rivers without polluting them, of filters or strainers composed of wire gauze and faggot work of withes or other suitable materials; 5th. The application and use to and in the straining or filtering of liquid sewage matter for the purpose specified or for its being passed by a continuous flow into rivers without polluting them, of fine wire gauze, arranged in moveable frames, so as to cleanse what is known as town sewage or other liquids from their solid constituents by a continuous flow; 6th. The combination of a depositing tank with brindles or faggots of withes or their equivalents and with fine wire gauze screens; 7th. The modes of cleansing the said wicker filter or faggot work and wire gauze filter screens; 8th. The conversion of the sludge or solid deposited matter of sewage into a free and portable manure by the thorough admixture therewith in any convenient manner of ground phosphate of lime and sulphuric or other suitable acid in suitable proportions; 9th. The system or mode of manuring or applying fertilizing agents to land for their more certain utilization by first spreading a dry manure or fertilizing agent on the surface of the land and then causing a fine rain shower or water spray to descend thereon from finely punctured pipes; 10th. The system or mode of protecting grass for pasture grazing or other grown crops upon land to be eaten off by sheep or cattle from waste by means of a hurdle or hurdles composed of a main beam A, and arms B, B, projecting therefrom as described and illustrated on Fig. 6, of the drawings.

No. 2840. LLEWELLYN E. AINSWORTH, East Bolton, Que., 7th November, 1873, for 5 years: "A Fire-escape." (Un appareil de sauvetage.)

Claim.—The combination of the pronged and bent bar G, tooth a, and lever J, with a ladder A, B, all constructed as set forth.