

form a passage through which the smoke can escape, will divert the smoke from one side to the other, or will stop or check its escape as specified; 3rd. The combination of the pipe A, the radiator and partitions F, F', with the hollow damper H, having and extension H', H'', at each end, as set forth.

No. 4386. EDWARD M. LAW, Bell-Ewart, Ont., 11th February, 1875, for 5 years: "Improvements on the Millar Car-coupler." (Perfectionnements à l'attelage de wagons dit "de Millar.")

*Claim.*—1st. The angular compression bar H, in combination with a hooked draw bar A, and the lateral pressure spring C, described; 2nd. The angular compression bar H, in combination with the buffer bar E, and spring G, operating as set forth; 3rd. The cross bar O, in combination with the interposed sliding plate p, as shown in Fig. 3.

No. 4387. JAMES G. TAYLOR and HENRY F. TAYLOR, Brusher-Falls, N. Y., U. S., 12th February, 1875, for 5 years: "Improvements on Horse-powers." (Perfectionnements aux manèges.)

*Claim.*—1st. The vertical shaft F, and longitudinal shaft G, and their respective gears—wheels supported by the beam C, in combination with the frame D, and the shaft A, having a gear wheel and sweeps or levers, all constructed to operate as described; 2nd. The counter shaft J, horizontal and vertical shafts G, F, and their connecting gear-wheel, in combination with the frame D, beam C, and driving shaft A, all constructed to operate in the manner described.

No. 4388. WILLIAM W. LEWIS and JOHN MITCHELL, Cincinnati, Ohio, U. S., 12th February, 1875, for 10 years: "Horse-shoe Blank Rolling Machine." (Machine à laminier les flancs des lers à chevaux.)

*Claim.*—1st. A pair of rolls for rolling horse-shoe blanks of which one is grooved and has a creaser in the groove, and the other has an inclined face opposite the groove in the first for producing a blank with an under cut crease, as described; 2nd. A pair of rolls for rolling horse shoe blanks of which pair one has a groove with a creaser in it, and a bevelled or rounded side to the groove and next the creaser for producing a horse shoe with a bevelled edge, so that the horse will not cut himself when he interferes; 3rd. The process in rolling a horse shoe blank with a crease in it of forming the blank by means of rolls, one or both of which are grooved and one of which has a creaser in its groove, and the other an inclined face, or when grooved an inclined bottom to its groove, opposite the creaser in the groove of the first for the purpose described.

No. 4389. ALFRED WILLSON, PRINCE E. DRAKE and EDWARD M. LAW, Belle-Ewart, Ont., 12th February, 1875, for 5 years: "Car-coupler." (Attelage de wagons.)

*Claim.*—1st. The draw head A, with inclined link seat A', and solid top A'; 2nd. The draw head A, with groove a, pivoted pin B, in combination with the movable jaw E, lever F, and spring J, or its equivalent, arranged and operating as described; 3rd. The hinge i counter-balanced weights C, or their equivalents, in combination with the draw head A, as described.

No. 4390. JAMES LAING, Dundee, Scot., 15th February, 1875, for 5 years: "Improvements on Overhead Sewing Machines." (Perfectionnements aux machines à coudre en dessus.)

*Claim.*—1st. The general arrangement and combination of mechanism constituting the "overhead" sewing machine; 2nd. The solid cylindrical spiral hock or needle a, and the mechanism F, H, I, and J, for supporting confining and driving the same as described; 3rd. The thread barrel J and drag or tension t, and mechanism I, K, L, M, N, O, connected with the same whereby together with the needle a, they are caused to make the overhead stitch or seam as described; 4th. The arrangement and construction of apparatus consisting of the receptacle G, tension T, thread arm I, lever 4, plate 5, and spring 8, whereby the attendant is enabled to thread the needle a, as set forth; 5th. The arrangement of thread reel E, and pendulous tube C, and apparatus b, c, d, F, G, H, I, K, in connection therewith whereby the feeding or supplying of thread, cord or string to the needle and thread barrel is rendered self-acting as described; 6th. The employment of the spiked pitch claim K, as described.

No. 4391. FRANK C. PORTER, Buffalo, N. Y., U. S., (Assignee of S. T. Waggoner) 15th February, 1875, for 5 years: "Folding Table." (Table pliante.)

*Claim.*—1st. The combination with the bed and hinged leg of a table of the guides t, of brace C, provided with a spring catch e, as set forth; 2nd. The combination with the hinged legs and braces B, C, of the pivoted button s, for securing the legs in a folded position, as set forth.

No. 4392. CHARLES W. SELINNS and ASHBEL A. STIMSON, Montpelier, Vt., U. S., 16th February, 1875, for 5 years: "Door Spring." (Ressort de porte.)

*Claim.*—1st. A door spring-pulley-wheel having its groove formed of curved lugs e, placed on one side thereof, as described, so as not only to answer the ordinary purpose of a groove, but to allow the tension of the spring to be adjusted by passing the cord or chain over a different number of lugs; 2nd. A bent pin or catch G, combined with a door spring wheel E, having notches at or near the periphery, as set forth, to hold it while the tension of the springs is being adjusted for the purpose set forth.

No. 4393. JOHN T. B. BENNETT, Birmingham, Eng., 16th February, 1875, for 5 years: "Manufacture of Coke and Illuminating Gas." (Fabrication du coke et du gaz d'éclairage.)

*Claim.*—The combination of one or more coking furnaces C, D, with one or more gas retorts C, H, I, or with the hydraulic main of gas works in the manner described, that is to say, for utilizing the volatile unburned matters given off during the coking process by conveying the said volatile unburned matters either to the gas retort or direct to the hydraulic main, the arrangement of coking furnaces C, D, oven F, gas retorts G, H, I, and their passages, flues, dampers and connecting pipes, be used in the combined manufacture of coke and illuminating gas, a coke furnace C, D, having a pipe T, in addition to the ordinary escape flue for the products of combustion to connect with the hydraulic main of a gas manufactory, or with a blast furnace or other furnace in which metallic ores are to be reduced, as described.

No. 4394. JOSEPH C. TILTON, Pittsburgh, Pa., U. S., 16th February, 1875, for 5 years: "Wash-Boiler." (Chaudière de buanderie.)

*Claim.*—The false bottom B, having the tubes F, F', secured to the boiler by the angle bolts G, G', as set forth.

No. 4395. JOHN CARPENTER, Mariners' Harbour, N. Y., U. S., 16th February, 1875, for 5 years: "Waggon Spring." (Ressort de voiture.)

*Claim.*—A carriage spring formed of the lever pieces C, rubber springs E, L, bolts H, and axle or bolster A, F, combined as described.

No. 4396. THOMAS SHAW, Philadelphia, Pa., U. S., 16th February, 1875, for 5 years: "Steam, Air and Hydraulic Cushion Seated Valve." (Soupape à coussinet atmosphérique, hydraulique et à vapeur.)

*Claim.*—1st. The plunger and piston heads u, and t, projecting from the seat of valve c, in combination with the cylinders r, and e, for the purpose of forming the cushioned seat as described; 2nd. The combination of a flexible disc h, with valve c, for the purpose set forth.

No. 4397. HFEZKIAH HARRIS, Seaforth, Ont., 16th February, 1875, for 5 years: "Stove-Pipe Damper and Spark-Arrester." (Clef de tuyau de poêle arrête-étincelles.)

*Claim.*—A damper and spark arrester, for stove-pipes, having two openings B, B, in the plate A, the openings being covered with cups or hoods C, C, one on each side of the plate A, the whole being constructed and arranged as set forth.

No. 4398. BENJAMIN ARNOLD, East Greenwich, R. I., WILLIAM E. HOOPER, WILLIAM J. HOOPER, THEODORE HOOPER and JAMES E. HOOPER, Baltimore, Md., U. S., 16th February, 1875, for 5 years: "Machine for Making Netting for Fishing and other purposes." (Machine à faire des filets pour la pêche et autres fins.)

*Claim.*—1st. A machine for making nets for fishing and other purposes in which a knot is made, a series of stationary flat bobbins arranged side by side on their edges in combination with knot forming mechanism as described; 2nd. The combination of the feed-rolls G, H, and e, operating as described in combination with the lever j, clamp p, rack h, gear wheel i, and ratchet wheel l, as set forth; 3rd. The combination of the plate K, and its pins