No. 25,211. Steam Engine. (*Machine à Vapeur.*)

James J. Morrison, Oliveria, Texas, U. S., 25th October, 1886; 5 years.

Claim —1st. In a steam engine, the combination, with a cylinder having two inlet ports entering the interior of the cylinder, at one third the length of the same from each end, of three pistons operating in the said cylinder, substantially as shown and described. 2nd. In a steam engine, the combination, with a cylinder having two inlet ports entering the interior of the cylinder, at one third the length of the same from each end, of three pistons operating in the said cylinder, and a frame connecting the two outer pistons with each other, substantially as shown and described. 3rd. In a steam engine, the combination, with a cylinder having two inlet ports entering the interior of the cylinder, at one third the length of the same from each end, of three pistons operating in the said cylinder, a frame connecting the two outer pistons with each other, and means for connecting the said frame and the central piston with the main shaft, so as to impart a revolving motion to the latter from the reciprocating frame and the central piston, substantially as shown and described. 4th. In a steam engine, the combination of the cylinder A having the ports *a*, *b* and *c*, and the valve C, with the three pistons F, G and H, operating in the said cylinder, substantially as shown and described. 5th. In a steam engine, the cylinder A having the ports *a*, *b* and *c*, and the valve C operating from the main driving shaft with the pistons F and G, connected with the sliding frame I, having suitable connections with the main driving shaft D, and the pistons H connected in the usual manner with said driving shaft D, substantially as shown and described. 6th. In a steam engine, the cylinder A having the ports *a*, *b* and *c*, the steam chest B and the slide valve C, operated from the main shaft D, in combination with the pistons F and G, the sliding frame I attached to the said pistons F and G, by the piston rods F1 and G1, the pitmans M and M1, the crank arms N and N1 on the main shaft D, and the piston H operating between the pistons F and G, and provided with the piston rod H1 attached to the cross-head J, connected by the pitman K with the crank arm L on the main shaft D, substantially as shown and described.

No. 25,212. Car-Coupler. (*Attelage de Chars.*)

James Tyzick, Portland, N.B., 25th October, 1886; 5 years.

Claim —1st. The bail-shaped link-lifter E, attached at the end of the car near the sides, and provided with handles G, at the sides of the car, substantially as shown and described. 2nd. The combination of the link-lifter E, attached near the sides of the car and provided with handles G, and the stops H fixed in the path of the handles G, substantially as shown and described. 3rd The combination of the link-lifter E, attached near the sides of the car and provided with handles G, and the stops H fixed in the path of the handles and the link ends of handles G, substantially as shown and described. 4th. The bail-shaped pin-lifter D attached to the end of a car near the sides, and provided with handles F at the sides of the car, in combination with a coupling pin having an eye to receive the lifter, substantially as shown and described. 5th. The combination of the pin-lifter D attached to the end of the car near the sides, and provided with depending handles F, the pin C having an eye to receive the said lifter, and the stop J fixed to the car at the upper limit of the path of the pin, substantially as shown and described. 6th. The combination of the pin-lifter D, attached to the car near the sides, and provided with depending handles F, the pin C having an eye to receive the said lifter, and the stop J fixed to the car at the upper limit of the path of the pin, and the rod H, in combination with coupling pin, substantially as shown and described. 7th. The combination of the link-lifter E, attached at the end of the bar near its sides, and provided with handles G and adapted to swing up in front of the draw bar, the pin-lifter D attached to the end of the car near the sides, and provided with handles F, and the link pin C, stop J and rod H, substantially as shown and described.

No. 25,213. Car-Coupling. (*Attelage de Chars.*)

Charles E Michaud, Yamaska, Que., 25th October, 1886; 5 years.

Claim —1st. A car-coupling, consisting of a hooked post B1 on the top of the draw-head, a stirrup E pivoted to the draw-head and adapted to engage the opposite post B, and levers F, F1, F11, engaging the stirrup and adapted to control the same. 2nd. The combination of a draw-head A, collar B, hooked post B1, bar C, pivot D, stirrup E, levers F, F1, F11, and bracket H. 3rd. The combination of the draw-head A, hooked post B1, stirrup E, forked arms F11, shafts F and handles F1. 4th. The combination of the draw-head A, post B1, forming part of a collar B, fitted and secured upon the draw-head, bar C, pin P, pivot D, stirrup E, bracket H, levers F, F1, F11, segment F and rod G. 5th. The combination of the collar B, screwed shanks B, bar C, nuts T, inclined top B, hooked post B1 and pin P, all substantially as shown and described, and as and for the purpose set forth.

No. 25,214. Ox Yoke. (*Joug à Boeuf.*)

Charles A. Brown, Pittsfield, Vt., U.S., 25th October, 1886; 5 years.

Claim —1st. An improved ox yoke, having its under side cut on substantially the segment of a circle, beginning at the upper rear edge of the yoke and ending in front of the middle width of the same, and continuing from the latter point in a curve of less convexity, substantially as and for the purpose set forth. 2nd. The combination of the connecting bar, provided with the beveled rear edge and a shoulder, and the movable yokes connected with the connecting bar, and having a rib *d*, bearing against the bevelled side of the bar, and having the yielding surface *e*, substantially as and for the purpose set forth. 3rd. The combination of a slotted connecting bar, provided with the bevelled rear side and a shoulder, the movable yoke having a rib working in the slot of the connecting bar and provided with the projecting rib bearing against the bevelled side of the connecting bar, and a yielding bearing surface, and the cap-plate secured to the rib that works in the slot of the connecting bar, substantially as described, for the purpose set forth. 4th. The combination, with a yoke having the curved under surface of the form described, the yielding or elastic pad forming the bearing surface, substantially as described. 5th. The combination of the connecting bar having the bevelled edge, and the movable yoke secured to the bar and having the rib *d*, bearing snugly against the rear bevelled edge thereof, substantially as described, for the purpose set forth.

No. 25,215. Feeding Mechanism for Carding Machines. (*Appareil d'Alimentation de Machine à Carder.*)

John L. Kendlehart (Administrator to the estate of Jean T Lemaire), Philadelphia, Pa., U.S., 25th October, 1886; 5 years.

Claim.—1st A feed drum, and means, substantially as described, for imparting an intermittent rotary motion thereto, in combination with two combs having means for imparting an elliptical motion to the same, one of the said combs having a support above and in front of the said drum, and the other comb being also above, but in the rear thereof, substantially as described. 2nd The comb P, in combination with the comb Q, having a shaft Q, a holder, a drum, a frame having curved slots, a rod pivotally secured to said shaft, and means, substantially as described, for imparting a rising and falling motion to said rod and for operating the said comb P, substantially as and for the purpose set forth. 3rd. The drum F, with means for rotating the same, in combination with the comb Q, comb P located between the comb Q and drum F, a support for the material below said comb Q, means, substantially as described, for oscillating said comb P, and means for imparting a rising and falling motion to said comb Q, substantially as and for the purpose set forth. 4th. A discharge apron, in combination with a holder, a comb, and means, substantially as described, for imparting a rising and falling motion to said comb, and for imparting motion to said apron, substantially as and for the purpose set forth. 5th. The comb P, and means, substantially as described, for oscillating the same, and for imparting a variable speed during each oscillation thereof, in combination with the stripping comb Q, a holder, a delivery apron, and means, substantially as described, for imparting a rising and falling motion to said comb Q, and for operating said holder and apron, substantially as and for the purpose set forth. 6th. The holder R, having a lip link R1 connecting one end of the holder with the frame A, and means, substantially as described, connected with the other end of the holder for imparting a rising and falling motion to the same, substantially as and for the purpose set forth. 7th. The comb P, in combination with the stationary comb S, stripping comb Q and drum F, and means, substantially as described, for operating the combs P and Q and drum F, substantially as and for the purpose set forth. 8th. The stationary comb S, in combination with the stripping comb Q, holder R and apron L1, and means, substantially as described, for operating said comb Q, holder and apron, substantially as and for the purpose set forth 9th. A supply apron and feed drum, in combination with a rotary rush, and mechanism, substantially as described, for operating said apron drum and brush, substantially as and for the purpose set forth. 10th The comb P, in combination with the frame A, the toothed segments p^1, p^2, of elliptical form, and mechanism, substantially as described, for operating the said segments, substantially as and for the purpose set forth. 11th. A comb, provided with teeth, having a body or shank of a single piece, and bifurcated working ends, substantially as and for the purpose set forth. 12th. A feed drum, provided with teeth having a body or shank of a single piece, and bifurcated working ends, substantially as and for the purpose set forth. 13th. A tooth, formed of a shank with bifurcated ends, substantially as and for the purpose set forth. 14th A supply or feed apron, in combination with a feed drum, two combs having means for imparting elliptical motions thereto, a comb having means for oscillating the same and for imparting a variable speed thereto during each oscillation thereof, a stripping comb, a stationary comb, a holder, a discharge apron and mechanism, substantially as described, for operating said feed apron, drum, stripping comb, holder and discharge apron, substantially as and for the purpose set forth. 15th. A feed apron and a heater therefor, in combination with a drum and means, substantially as described, for imparting an intermittent motion thereto, straightening combs, stripping and holding devices, a discharge apron and a brush for the return of escaping material, and means, substantially as described, for operating the said movable parts, substantially as described.

No. 25,216. Manufacture of Matches. (*Fabrication des Allumettes.*)

Gilford Flowwelling and Gilbert J Harris, Hampton, N. B., 25th October, 1886; 5 years.

Claim.—1st. The process of making match-cards directly from the block, which consists in first forming the sides of the match points by grooving the end of the block of stock, and partially cutting the side of the same in parallel lines by cutters operating in the direction of the grain, and then completing by slicing off the side portion or layer, which thus forms the card of matches connected by the unslit portion, substantially as shown and described. 2nd. In a match machine, the combination of the trough F and feed rollers G, G, with the gang of cutters H, as shown and described. 3rd. The combination of the trough F, the feed rollers G and the gang of cutters H, with the guiding ridges I 4th. The combination of the trough F, the feed rollers G and the gang of cutters H, with the movable strips L, M, or either, as and for the purpose described. 5th. The combination of the lining strips M, carrying the gauging tongues I, with the trough or set of guides F and pressed against the stock by spring S, or other suitable means, as and for the purpose described. 6th. The combination of the stock-feeding trough or guides F, the rollers G, the gang of cutters H and the guides I, with the reciprocating plate P carrying the gang of incisors knives *k*, acting in the plains of the saws or cutters, across the end of the trough F, substantially as specified. 7th. The combination of the stock-feeding trough or guides F, the rollers G and the gang-cutters H, with the reciprocating plate P, carrying the sheer knife O, acting across the plain of the saws or cutters at the end of the trough F, substantially as specified. 8th. The combination, in a machine, of the trough F, the rollers G,