

No 31,083. Heating Furnace and Stove.*(Foyer et poêle de chauffage.)*

Gottlieb Schreyer, Columbus, Ohio, U.S., 9th April, 1889; 5 years.

Claim.—A stove, having the superposed parts A and B forming a contracted oblong passage B₁ at their junction, and having lateral air flues A₂ and B₂ formed by grooved flanges on said parts fitting together and supporting the upper part, said flues communicating laterally with the contracted passage B₁, and being open at the ends, substantially as and for the purpose described.

No. 31,084. Process and Apparatus for Burning Oil and Tar by Hydraulic Pressure. *(Procédé et appareil pour brûler l'huile et le goudron par la pression hydraulique.)*

John White, London, Ont., 10th April, 1889; 5 years.

Claim.—1st. The above described process for burning oil and tar by hydraulic pressure, consisting of confining the oil or tar in a tank, and submitting it to the pressure of a body of water beneath, which causes it to be ejected in a vaporized condition, substantially as shown and specified. 2nd. An oil supply and pressure tank A, containing a body of oil or tar B, which is raised in the tank by an under body of water C, and forced therefrom through pipe J, substantially as shown and specified. 3rd. An oil or tar burner, consisting of an oil or tar tube K, surrounded by a steam tube L, which is surrounded by an air tube N, all three terminating in a common opening or nozzle P, and supplied with oil or tar, steam and air, by means of pipes H, J, M, O, substantially as shown and specified. 4th. The shut-off valve R in oil or tar tube K, operated by rod Q and screw handle S, substantially as shown and specified. 5th. The combination of the above described oil or tar supply and pressure tank A, with a burner containing oil or tar tube K, steam tube L and air tube N terminating in a common opening or nozzle P, substantially as shown and specified.

No. 31,085. Railroad Mileage Ticket.*(Billet de péage par mille de chemin de fer.)*

William A. Megrath, Macon, Ga., U.S., 10th April, 1889; 5 years.

Claim.—1st. A railroad ticket, consisting of a series of coupons having distinguishing characters, each coupon being provided with a series of numbers, each number indicating a mile of travel, and corresponding numbers being arranged in a line one above the other upon the several coupons, and at such a distance from the dividing line between the coupons that, on folding the coupons back to back upon said dividing line, a punch mark through the number upon the upper coupon will be reproduced exactly above and in immediate proximity to the corresponding number on the lower coupon, substantially as set forth. 2nd. A railroad ticket, consisting of a series of coupons bearing distinguishing characters, each coupon being provided with a series of numbers, each number indicating a mile of travel, said series being arranged immediately below the longitudinal centre of its coupon, and corresponding numbers in the several series being arranged in a line, one above the other, substantially as and for the purposes set forth. 3rd. A railroad ticket, consisting of a series of coupons, provided with numbers indicating miles of travel, and each coupon being provided with additional numbers representing hundreds, tens and units, whereby, on the last undetached coupon an indication may be given of the number of miles just honored by the conductor, substantially as set forth. 4th. A railroad ticket, consisting of a series of coupons bearing distinguishing characters, each coupon being provided with a series of numbers, each number indicating a mile of travel, said series being arranged immediately below the longitudinal centre of its coupon, and corresponding numbers in the several series being arranged in a line, one above the other, and additional rows of numbers representing hundreds, tens and units upon each of said coupons, substantially as set forth.

No. 31,086. Hydro-Carbon Furnace.*(Foyer à hydrocarbures.)*

William Lawrie and John McMillan, Petrolia, Ont., 10th April, 1889; 10 years.

Claim.—1st. In combination with a furnace, having a mixing chamber P, an injector burner extending into the front end of said chamber, and openings around the injector burner for the admission of air, substantially as specified. 2nd. A furnace, with central inlet passage K, return passages L, L, communicating with passage K at the front of the furnace, flues or passages N, P and N, directly above the flues L, K and L, openings M and M connecting the rear ends of the flues L, L and N, N, and openings O, O, connecting the passages N and N with the chamber P at the front end of the latter, and an outlet R at the rear end of chamber P, substantially as specified. 3rd. A furnace, provided with hot air flues L, K and L, N, N, connecting at alternate ends and causing a circuitous travel of air, and the mixing chamber P receiving the injected fuel and the heated air, whereby the air, steam and oil or gas are thoroughly mixed, and perfect combustion secured, substantially as specified. 4th. In a furnace, the combination, with the main body, having an air inlet J, of short partitions dividing the floor space into flues L, K and L, the latter L, L, communicating with the former K, by passages, covers for said flues L, K and L, partitions dividing the space above the flues L, K and L into similar flues N, P and N, two of which N and N communicate with the chamber P and the flues L and L, an outlet in flue or chamber P and an injector burner extending into the chamber P, all substantially as shown. 5th. In a furnace for burning hydro-carbons or other liquid, or gas fuels, the combination, with the mixing chamber P, of the closed pockets V, Y, and the steam pipes passing through said pockets and serving to deliver superheated steam to the injector burner, substantially as specified. 6th. In a furnace, the combination of the communicating passages L, K and L and N P and N arranged in two series, one above the other, and having their walls made of fire clay or other heat-resisting sub-

stance, of the pockets V, Y and the injector burner extending into the chamber or passage P, substantially as specified. 7th. In a furnace of the class described, the combination, with the recessed front wall, of the mixing chamber P provided with an opening in the front end and a discharge opening at its rear, the air flues on each side of the mixing chamber communicating therewith, and an injector burner extending into the open end of the mixing chamber, substantially as specified. 8th. In a furnace of the class described, a long, narrow mixing chamber P, having an inlet and outlet, in combination with an injector burner arranged at the inlet end of the chamber to cause the flame to impinge upon the walls of the said chamber, substantially as specified.

No. 31,087. Tension Releasing Device for Sewing Machines. *(Appareil pour relâcher la tension pour les machines à coudre.)*

Walton Haydon, Cochrane, Alta., N.W.T., 10th April, 1889; 5 years.

Claim.—1st. As a new article of manufacture, an attachment for sewing machines, consisting of the plate or bar G, the body e of which has thin longitudinally-extending prongs i, i, formed by the slot g at one end, one or more longitudinally-extending inclines h projecting from the bar or plate at right angles thereto, at the side or sides of the slot g, and inclined from their outer to their inner ends, the opposite end of the bar or plate having an opening to receive the presser foot screw, substantially as set forth. 2nd. The combination, with the sewing machine head B, the presser foot bar, the presser foot and the tension device C secured to the outer face of said head above the presser foot, of the tension releasing bar or plate having its lower end connected with the presser foot, and having its upper end extending between the tension plates provided with an incline to separate them when raised by the presser foot, substantially as set forth. 3rd. The combination, with the sewing machine head, the presser foot bar, the presser foot, its set screw and the tension device comprising the two disks, their adjusting screw and spring, of the plate or bar G slotted at its lower end to receive the presser foot screw, formed with thin prongs i, i at its upper end and extending between said discs straddling the tension adjusting screw, and provided with one or more inclined wings near its upper end at right angles to its outer face and just under the edge of the outer tension disk, substantially as set forth.

No. 31,088. Reaming Machine.*(Machine à percer.)*

Harrison H. Taylor, Detroit, Mich., U.S., 10th April, 1889; 5 years.

Claim.—1st. The combination, with a supporting bed, of a rotatable and reciprocating reamer spindle provided with a reamer tool, a rotatable cam to force the spindle to the work, and a retracting device to return the spindle to its normal position, substantially as described. 2nd. The combination, with a supporting bed, of a rotatable and reciprocating reamer spindle provided with a reamer tool, a driving shaft geared with said spindle, a cam to force the spindle to the work and a work gear to operate the cam, substantially as set forth. 3rd. In a reaming machine, the combination with a supporting bed, of a driving shaft geared with a shaft C, a reamer spindle geared with a shaft C₁, said spindle having a reciprocatory movement upon said bed, substantially as described. 4th. In a reaming machine, the combination of the supporting bed and driving shaft, a shaft C₁ geared with the driving shaft, a reamer spindle provided with a reaming tool geared with the shaft C₁, said latter shaft provided with a worm, a worm gear meshing with said worm, and a cam driven by said worm gear to reciprocate the reamer spindle, substantially as described. 5th. The combination, with a supporting bed, of a pair of reamer spindles having a reciprocatory movement upon said bed toward and from each other, and a driving shaft geared with said reamer spindles, substantially as described. 6th. The combination, with a supporting bed, of a pair of reamer spindles having a reciprocatory movement thereupon toward and from each other, a driving shaft geared with a shaft C₁, and said shaft C₁ geared with the reamer spindles, substantially as set forth. 7th. The combination, with a supporting bed, of a pair of rotatable reciprocatory reamer spindles located end to end, a driving shaft geared with said spindles, and a rotatable cam to reciprocate the reamer spindles respectively, substantially as set forth. 8th. The combination, with a supporting bed, of a pair of rotatable reciprocatory reamer spindles, a driving shaft geared with said spindles, and a cam shaft geared with the driving shaft to force the reamer spindles respectively to the work, substantially as set forth. 9th. The combination, with a supporting bed, of a pair of reamer spindles having a rotatable and reciprocatory engagement thereupon, a driving shaft geared with said spindles, mechanism to feed said spindles forward to their work, said spindles made self-retracting, substantially as described. 10th. The combination, with a supporting bed, of a pair of rotatable and reciprocatory reamer spindles located end to end to admit the work between them, a driving shaft geared with said spindles, cam shafts geared with the driving shaft to feed the spindles to the work, and on automatic retracting device substantially as set forth. 11th. The combination, with supporting beds A, A, of a pair of reamer spindles having a rotary and reciprocatory engagement upon each bed respectively, to simultaneously ream the two extremities of a radiator loop, a driving shaft geared with each pair of said spindles, and feeding mechanism to force the spindles forward to the work, substantially as set forth. 12th. The combination, with beds A, A, of a pair of rotatable and reciprocatory reamer spindles located upon each bed, said beds having an adjustable connection the one with the other, substantially as described. 13th. The combination, with supporting beds A, A, of a pair of reamer spindles engaged upon each bed, a driving shaft geared with each pair of spindles, cam shafts G, G₁ to feed the spindles to the work, said shafts respectively geared with the driving shaft, substantially as set forth. 14th. The combination, with a supporting bed, of a rotary and reciprocatory reamer spindle, a driving shaft geared with a shaft C₁, feeding mechanism to feed the spindle to the work, said feeding mechanism and spindle geared with said shaft C₁, and a retracting device to restore the spindle to its normal position, substantially as described.