brine upon its surface, a dryer which agitates and conveys the salt: 6th. In the combination of a series of hollow screws E, E, or equivalents, made hollow for the passage of heat, and so arranged as to agitate and convey the salt in drying. 7th In the utilization of the heat that passes through the cylinder or cylinders, by employing the same in saturating the brine, drying the salt, or otherwise, in the production of salt; 8th. The stop-cock *b*, or its equivalents and the stuffing box *i*, either or both, in combination with a cylinder for evaporating salt and used at either or both ends thereof, for retaining and controlling the heat.

No. 1798. BENJAMIN T. TRIMMER, Rochester, N. Y., U. S., 19th November, 1872, for 5 years: "A Smut Mill and Grain Cleaner." (Un cylindre émotteur.)

Claim.—1st. The stationary beaters P, and revolving beaters P1, when so arranged as to give a continuous action or circuit of the grain from one set of the beators to another, 2nd. Providing the stationary beaters P, and revolving beaters P1, with ribs or corrugations *o*, *o*, and *p*1, *p*1, alternately in a vertical and circumferential direction; 3rd. The revolving beators constructed as described, with the rings *p*, *p*, fans *g*, *g*, with or without the wings or fans *r*, *r*, when operating in connection with the stationary beaters; 4th. The arrangement of the revolving beaters P1, provided with the hubs *m*, and rings *p*, *p*, in combination with the fans *g*, *g*, and beaters P1; 5th. The arrangement of the exhaust fan D, air tube *e*, floor *s*, spouts *t*, *u*, and scraper or fan E; 6th. The arrangement of the brush-bars *g*, *g*, springs *v*, *v*, and their holding screws and flanges *w*, of the scraper E; 7th. The arrangement of the perforated cylinder B, made up of a series of sections and carrying the beaters P, in combination with the rods *g*, and tube sections *h*; 8th. The angle irons *k*, *k*, in combination with the perforated cylinder B, made up of a series of sections or rings and united together by the rods *g*, and tube sections *h*: 9th. The arrangement of the air trunk, the same made of two parts H. T. communicating at top and bottom, the interior part being also divided by the double inclined chute *b*1, *b*2, and having the swing-valve *d*1, and the whole communicating at the top by port *f*, with the jacket space between the perforated cylinder and outer casing: 10th Coating the acting surfaces of the beaters with emery, or equivalent material

No. 1799. ALFRED WILLSON, Bell Ewart, Ont., 19th November, 1872, for 5 years: "A Car-Coupler with Compressed double or single Buffer Combined." (Un attache-char à double ou simple tampon comprimé.)

A self-acting coupling—the buffers and draw-bars working conjointly and operating together in such a manner as to produce increased rigidity in proportion to the draught, thereby obviating in a certain degree the ordinary lateral and swinging motion of the train.

Claim.—1st. The combination of the buffer B, spring F, and cotter or key H, with the draw-bar C, back end C1, of draw-bar, web I, and spring G, arranged within or supported by the casting A 2nd The combination of the draw-bar C, and back end C1, of draw-bar, connected together by the knuckle-joint D, 3rd. The combination of the draw-bar C, spring J, and front casting E; 4th. A double or forked shaped buffer such as shewn in figure 4. The combination of elliptic spring F, spiral spring G, back end C, casting or shoe A, as shewn in figs. 5 and 6.

No. 1800. JOHN S. BROOKS, Rochester, N. Y., U. S., 19th November, 1872, for 5 years: "A Stove-Board." (Un sous-poêle.)

Consists in a covering of zinc or other non-conducting metal with a base of sheet iron secured together at the edges and combined with a paper lining.

Claim.—1st. The stove-board composed of the zinc or other non-conducting metal covering *a*, and sheet iron or other metal base *b*, combined together. 2nd The combination with the zinc or other non-conducting metal covering *a*, and sheet iron or other metal base *b*, of the paper-lining *f*

No. 1801. GEORGE W. HOWELL, Covington, Ky., U. S., 19th November, 1872, for 5 years: "A Corrugated Elbow" (Un coude de tuyau ridé.)

Consists in corrugating, graduating and forming into sections pieces of metal in such a manner as to admit of their being made into stove-pipe elbows, and nested or packed together.

Claim.—1st The parts A, B, adapted to packing for shipment: 2nd The parts A, B, when constructed to form sections of stove-pipe elbows; and 3rd. The elbow composed of the parts A, B.

No. 1802. ALEXANDER H. CARYL, Groton, Mass., U. S., 19th November, 1872, for 5 years: "Machine for Punching Horse-Shoe Nail Blanks." (Matrice à clou à cheval.)

Relates to a method of cutting up rolled nail-plates to form therefrom nail-blanks, and to the manner of punching same

Claim.—1st The method of punching nail-blanks by means of a gang of simultaneously acting punches, the first of which punches the first nail of a plate, the second of which punches the third nail of the same plate, at the next descent of the punches (the first cutting the first nail of another plate) the third of which punches in succession the second nail of each plate, the fourth the fifth nail of each plate in succession, and so on, the plates having a regular intermittent feed movement, after each action of the punches, that shall carry each plate to the action of the next punch; 2nd. In combination with the gang of simultaneously acting punches the feed-mechanism arranged to feed the ratchet bar for the action of the successive punches.

No. 1803. ALEXANDER H. CARYL, Groton, Mass., U. S., 19th November, 1872, for 5 years: "A Horse-Shoe Nail Machine." (Machine à clou à cheval.)

The invention relates to the manufacture of horse-shoe nails from punched blanks by compressing, spreading and bevelling the point end of the shank or body and removing the redundant side metal by a punch and die.

Claim.—1st. The pair of compressing, spreading and bevelling dies at the ends of toggle arms *e*, *f*, pivoted and operating as described; and 2nd. In combination with the dies *m*, *n*, the punch and die *y*, *z*, arranged and operating with relation to the dies *m*, *n*.

No. 1804. WILLIAM B. GEDDES, Rochester, N. Y., U. S., 19th November, 1872, for 5 years: "A Furnace." (Un calorifère.)

Claim.—1st. The method of passing the partially heated air from the air space G, inward through the passages *g*, *g*, into the air heating chamber F, and thence through the thimbles *o*, *o*, outward and upward into to dome D, 2nd. The radial thimbles *o*, *o*, when arranged in the upwardly inclined direction and serving to connect the interior air heating chamber with the space outside leading to the dome, 3rd. The combination with the air heating chamber F, of the reverse cones E, I, located respectively at the bottom and top of said chamber, and serving to give a direction to the currents; 4th The combination with the cone E, and air heating chamber F, of the angular passages *g*, *g*, 5th The combination with the fire-pot c, of the hollow ring L, having a series of perforations *t*, *t*, opening into the fire pot, when said ring is located at a point above the fire sufficient to bring the contents of the ring in contact with the escaping gases to ignite them; 6th. The combination with the hollow ring L, provided with the series of perforations *t*, *t*, of the tube *u*, funnel *v*, and water pan M; 7th. The introduction of a jet of steam either alone or in connection with a jet of air, into the fire-pot above the fire for increasing the combustion; and 8th. The construction of the water-pan M, with a closed-body for containing water and with one or more open-mouthed feeders Z, Z.

No. 1805. ANTHONY KLINE, Bond Head, Ont., 21st November, 1872, for 5 years: "A Chain Straw-carrier for Threshing Machines." (Un chariot à paille de machine à battre.)

Consists in making the straw carrier in a more portable form and in the constructing and connecting of all the parts thereof.

Claim.—1st. The combination of the connecting pieces D, saddles E, and cross-slats B, 2nd. The combination of the chain F, carriers G, bolts H

No. 1806. CHARLES WINSLOW, Boston, Mass., U. S., 21st November, 1872, for 10 years: "An Elastic Goring for Boots and Shoes." (Un élastique de bottine.)

Claim.—An article of manufacture, in the elastic goring for boots and shoes, consisting of two surfaces of elastic fabric having an elastic material introduced between the two edges, and their meeting surfaces coated with a vulcanized rubber compound, the article being completed by the process of vulcanization.

No. 1807. JOHN ABELL, Woodbridge, & ASHBY D. COLE, Toronto, Ont., 21st November, 1872, for 5 years: "An Adjustable Chute." (Un coursier mobile.)

A contrivance whereby the supply of water to a turbine wheel can be regulated without approaching the wheel, the chutes being so arranged as to be opened and closed at will.

Claim.—The combination of the hinged plate B, stud C, and moveable annular casting E.

No. 1808. ELIAS BURNHAM, Peterborough, Ont., 21st November, 1872, for 5 years: "A Process of Roofing." (Composition de toiture.)

Claim.—The infusion into boiling coal-tar of coarse sharp sand so as to form a preparation to be applied to the roofing of houses.

No. 1809. JOHN D. LAWLOR, Montreal, Que., 21st November, 1872, for 5 years: "Improvements on Sewing Machines." (Perfectionments aux machines à coudre.)

Consists in the construction and adjustment of lock-plates acting on the slide covering the shuttle.

Claim.—1st The plate *b*, in combination with lock-plate *c*; 2nd. The plate *b*, in combination with lock-plate *c*, with spur *i*; 3rd. The plates *b*, in combination with lock-plate *c*, and projection *m*.