

No. 2822. EDMUND W. ELMSLIE, London, Eng., 30th October, 1873, for 5 years: "Improvements in the Means of an Apparatus for Opening Hermetically Closed and other Cases, Boxes and Cans." (Perfectionnements dans la manière d'ouvrir les caisses, boîtes et bidons fermant hermétiquement et autrement, et dans les appareils à cette fin)

*Claim.*—The placing of the wire in the case, box or can in such manner with the end or ends exposed so as to be able by pulling the same to cut through the skin or plate in the manner described and illustrated by the drawings; also the use of an opening instrument in combination with the inserted wires in the manner described.

No. 2823. JAMES LAIDLAW & JAMES KIDD, Paisley, Ont., 30th October, 1873, for 5 years: "Sickle Cushion for Mowers and Reapers." (Coussinet pour les lames des faucheuses-moissonneuses.)

*Claim.*—The application of the two cushions or springs O, O, slant locally on the spring bar K, which is slotted to receive the lug s, which passes through the said lug being instoned on the sickle, the cushions or springs accelerating the momentum of the sickle and retaining the otherwise lost power to expedite the return of the same, the sickle B, passing rapidly between the fingers W, the lug s, strikes alternately, the spring O, O, at each end of the stroke thereby operating as set forth.

No. 2824. GEORGE A. RUMRILL & JAMES F. PHIPPEN, Kingston, Ont., 30th October, 1873, for 5 years: "Improvements on Forge Bellows." (Perfectionnements aux soufflets de forges.)

*Claim.*—1st. The combination with the air chest A, of a forge bellows constructed as set forth, the nozzles J, J, J, each provided with a sliding valve K, whereby a series of continuous blasts can be regulated and ejected; 2nd. Providing the bellows B, with a hinged trap M; 3rd. The removable roof G, and removable diaphragm D, and guide rods I, operating as set forth.

No. 2825. EDWIN C. SEELY, Port Medway, U. S., 30th October, 1873, for 5 years: "A Compression Pump." (Une pompe à compression.)

*Claim.*—1st. The combination of the cylinder A, piston or head B, having openings H, and valves I, rod D, cross head F, and discharge pipe K; 2nd. The combination of the cylinder A, (provided with openings and valves) piston B, rod D, cross-head F, and discharge pipe K.

No. 2826. ANDREW J. ROBERTS, Boston, Mass., U. S., 30th October, 1873, for 5 years: "Improvements on a Machine for making Horse Shoes." (Perfectionnements à une machine à fer à cheval.)

*Claim.*—1st. A longitudinal former X, arranged to travel backward and forward on a suitable supporting frame, connected with one end of a horse-shoe machine and having on the rear a curved cam t, and curved downward on the forward part to allow the passage over it of the bar, and curved inward on the sides and flanged and curved on the front end to conform to the inner contour of the shoe; 2nd. In combination with the above travelling, longitudinal former, a slotted frame Y, formed on its forward portion with an aperture J, and provided with vertical flanged rollers r, r; 3rd. Levers Z, Z, pivoted to the former frame Y, and formed on their rear with lateral projecting rollers, and curved and formed on their forward ends respectively, with jaws and with a cutter, in combination with the cam K of a travelling former X; 4th. A horse-shoe machine, a transverse feeder formed to receive a pivoted ratchet or other suitable bar holder and arranged to travel on a frame G, having a cut-off block A, in combination with a former X, frame Y, and levers Z, Z; 5th. Adjustable transverse formers, U, formed on the inner ends at the back to conform each to the half contour of a horse-shoe, curved and otherwise formed to fit in and be readily attached to or removed from recessed portions in the top of annular plates T, formed with lateral inner projecting bifurcated ears i, and pivoted so as to oscillate on a horse-shoe machine table; 6th. A horse-shoe machine, a plunger m, having an upper socket to receive a plunger-piston to which it is held by a transverse bolt, or otherwise, and recessed and curved on the front and sides to receive a die, and formed on its sides with vertical grooves or channels q, for the introduction of water to the bottom of the die, and provided with screws o, turning in its bottom and bearing upon so as to adjust the die; 7th. An adjustable die m' curved in the contour of a horse-shoe and formed on its bottom with flanges, and prongs to form the grooves and nail holes of the shoe and having a horizontal curved yoke z, formed with screw ends extending through a cross u, and held by screw nuts w, turning on said ends; 8th. A driving shaft

Q, formed with cams N, P, Q, formed by grooves running parallel for a certain distance, or distances and there inclining in opposite directions; 9th. The combination of the former A, plate X, table C, lever W, off set-bar V, roller p, cam P, and driving shaft O; 10th. The combination of the plunger-piston J, frame Q, table C, levers or beams H, lever-arms K, K, platform A, lever L, off set-bar M, roller p, cam N, and driving shaft O; 11th. The combination of the formers U, plates T, table C, arms S, plate E, off set-bar R, roller k, cam Q, and shaft O; 12th. A revolving elongated tapering cam J, connected with one end of a rotating longitudinal shaft in combination with a roller r, lever-arm H, platform A, lever K, frame G, and travelling feeder D; 13th. The formers U, in combination with the former X, and feeder D; 14th. The plunger m, provided with a suitable die, in combination with the formers U, X, levers Z, Z, and feeder D; 15th. A rotating shaft Q, connected at one end with a cam J, and formed with cams P, Q, N, and provided at the other end, with a gear wheel L, operated by a gear wheel L', attached to a driving wheel M, turning on an axle connected with the table of a horse-shoe machine, or arranged to be operated by any other suitable mechanism for imparting motive power to it, in combination with the several mechanical devices described connecting with and operated by the said cams J, P, Q, N, to produce an automatic reciprocating, intermittent movement to the feeder D, formers X, U, and plunger m, 16th. A horse-shoe machine provided with a transverse travelling feeder, a longitudinal travelling former, oscillating transverse formers, and a plunger having a suitable die, each connected by suitable operating mechanical devices, respectively with a cam connected with and cams formed on a rotating shaft, so that by the rotation of the said shaft, an automatic reciprocating intermittent movement is produced to the said feeder, formers and plunger by which a bar is at the proper time and in a suitable manner fed along by the said feeder through a cut-off block, held, borne down and severed by a bar-holder lever and a cut-off lever, pivoted to the sides of the longitudinal former frame and operated by a curved cam on the rear of the longitudinal former, by which former it is advanced, bent and slung between vertical flanged rollers and carried forward and shaped between properly curved ends of the said oscillating transverse formers and grooved and punched with nail holes beneath the plunger die, which by the return movement is raised to release the finished shoe which is carried back by the retrograde movement of the longitudinal former, knocked off by a stem, or other knock off device on the holder lever and dropped through an aperture formed in the frame of the longitudinal former, which former at the termination of its return movement is at once advanced to repeat the operation for the formation of a new shoe as specified.

No. 2827. CREASY J. WHELLAMS, Toronto, Ont., 30th October, 1873, for 5 years: "A Dowel Nail." (Un goujon.)

*Claim.*—1st. The dowel nail A, constructed as shown in Figs. 1 and 3; 2nd. The punch D, used for the purpose of driving the dowel nail A.

No. 2828. WILLIAM H. CORY & EDWARD CORY, London, Eng., 30th October, 1873, (Extension of Patent No. 2572), for a 3rd period of 5 years: "Fuel Moulding Machine." (Moule à combustible.)

*Claim.*—1st. A pressing and moulding machine, the combination of the revolving moulding table A, containing mould cavities B, with the cover G, and feed hopper K, and with the plungers C, working on the helical tramway D; 2nd. The use for moulds of such apparatus of sliding covers L, L', fitted with rollers L', and L'', which work in cam grooves in the cover G; 3rd. The mode of fitting the plungers C, which form the bottoms of the moulds B, with rims and inner plungers M, worked by rods N, so as to lift the moulded blocks clear of the said rims; 4th. The combination with the pressing and moulding apparatus of the wipers S, and travelling band T, for removing the moulded blocks from the revolving table; 5th. The method of adjusting the charge of the moulds and regulating the pressure to which the material is subjected in moulding by means of the moveable parts V, and W, of the inclined tramway and the springs w, which support the latter.

No. 2829. FRANCIS W. GLEN & GEORGE J. BARCLAY, Oshawa, Ont., 30th October, 1873, for 5 years: "Improvements in Middlings and Flour Purifiers." (Perfectionnements aux purificateurs des gruaux et de la farine.)

*Claim.*—1st. The wind spout N, placed above the screens C, in combination with the feeding spout T, or hopper O, arranged so as to cause a blast of air to pass through the middlings before it reaches the screens C; 2nd. The wind spouts N', placed between the return boards H, and screens C, above the latter arranged so as to cause a blast to pass through the middlings while falling from the return boards H, to the screens C, below; 3rd. A vibrating shoe B, containing two or more screens C, in combination with the suction fan L; 4th. A vibrating shoe B, containing two or more screens C, in combination with the blast fan K, and suction fan L; 5th. Covering the exterior mouth of the blast fan K, with bolting cloth or any suitable material that will admit air to the fan, but will prevent any dust passing through; 6th. The combination with the bottom of the vibrating shoe of two or more way spouts R, with a hinge valve r, for the purpose of distributing the different grades of middlings purified by the machine to separate bins; 7th. The combination of the knockers I, and the strips with studs J, and J', actuated by the motion of the vibrating shoe B; 8th. The wind-chamber N, and wind spouts N, N', N', in combination with