

No. 4162. WILLIAM H. CURTIS and ROYAL MORRIS, Buchanan, Mich., U. S., 11th December, 1874, for 5 years: "Carpet Stretcher." (Tendeur de tapis.)

*Claim.*—1st. The combination of the toothed bar A, lever B, balls b, c, and the bar C, provided with the ratchet e, and hook d; 2nd. The bar A, provided with teeth a, for holding the carpet, while being stretched as set forth.

No. 4163. FRANCIS McGUIRE, Toronto, Ont., 11th December, 1874, for 5 years: "Improvements in Boiler Feeders." (Perfectionnements aux alimentateurs des chaudières à vapeur.)

*Claim.*—1st. The upright case B, having water gauge I, and "ry-cocks" J, attached with detachable bottom B, in combination with, and connected to the boiler A, by the pipes U, and C, arranged as set forth; 2nd. The float G, with connecting rod g, lever E, hinged to the standard E, connecting links F, and lever F, pivoted on the standard E, and having the shorter arm F, enlarged to form a disc f, in combination with the supply plug D, arranged as described; 3rd. The plug H, in combination with the case B, arranged as described.

No. 4164. JAMES P. TAYLOR, Elizabethtown, Tenn., U. S., 11th December, 1874, for 5 years: "Battery Guns and Repeating Ordnance." (Canons de batterie et bouches à feu à répétition.)

*Claim.*—1st. The oscillating cylinder 8, and sliding cylinder 10; combined to operate as set forth; 2nd. The construction of the sliding cylinder 10, with spiral grooves having terminal notches or recesses adapted to lock the said cylinder in its forward position by the action of studs or projections on an outer cylinder engaging in such grooves and recesses as explained; 3rd. A lock cylinder carrying plungers which contain firing pins, and through the medium of a suitable charging block force the cartridges forward into their places within the barrels; 4th. The hooked retracting rods carried by the sliding cylinder and adapted to engage with the charging block as explained; 5th. The charging block consisting of a pair of plates held together by a clamp screw as set forth; 6th. The spring lips 32, to bear on the flanges of the cartridges; 7th. The guide pins or rods applied to the charging block for the purpose set forth; 8th. The firing mechanism consisting of guiding pins driven forward by springs and one or more revolving cams which retract and release said pins; 9th. The attaching nut 27, screw stem 23, and pin or splice 26, permitting the removal of the handle 25, or its ready attachment in operative position.

No. 4165. JOEL WILSON, Dover, N. J., U. S., 11th December, 1874, for 5 years: "Furnace for Reducing Iron Ores." (Fourneau pour réduire les minerais de fer.)

*Claim.*—1st. The arrangement and combination of the circular series of upright rotors B, and intervening flues C, the internal chamber E, within said series for the products of combustion, and the collecting chamber I, for receiving said products after they have traversed the intervening flues; 2nd. The arrangement and combination of the said internal chamber E, the circular series of upright rotors B, surrounding that chamber and the flue F, for delivering products of combustion from the balling furnace; 3rd. The arrangement and combination of the internal chamber E, the circular series of upright rotors, surrounding that chamber, the flues intervening between the said rotors and the internal annular flue-space b, surrounding said rotors; 4th. The arrangement and combination of the internal chamber E, the circular series of upright rotors surrounding said chamber, the flues C, intervening between said rotors, the annular flue-space b, surrounding said rotor; 5th. The flue F, placed below the annular collecting chamber I, and communicating with the internal chamber E, which is surrounded by rotors and flues; 6th. The flue passages n, under the rotors B, leading from chamber E, into the annular space b, surrounding the rotors; 7th. The external conduits c, forming communications between the chamber E, and the upper ends of the descending flues C, as described.

No. 4166. JOHN A. GROVE, Bluffton, Ind., U. S., 11th December, 1874, for 5 years: "Differential Pulley." (Poulie différentielle.)

*Claim.*—The tooth X, arranged on the peripheries of the sheaves A, B, of differential pulley blocks and employed as set forth.

No. 4167. STEPHEN WHITE, Belleville, Ont., 11th December, 1874, for 5 years: "Suspended Whiffletree." (Palonnier suspendu.)

*Claim.*—The combination of the whiffletree C, sheaves D, trace chains E, guards F, staples G, and girths H, as set forth.

No. 4168. E. LAWSON FENERTY, Halifax, N. S., 11th December, 1874, (Extension of Patent No. 180), for 5 years: "Method of Making and Fastening Skates." (Manière de faire et assujétir les patins.)

*Claim.*—The method of securing the skate to the boot by drawing the skate lock on the sole of a boot at the same time clamping the heel of the skate firmly to the heel of the boot by means of a lever at the heel of the skate and without any connection between back and front other than the runner, in the parts and combination of parts by which results are obtained as described, the method of so making the heel plate by turning up a portion in front to form a jaw to hold the front part of the heel of the boot that the heel plate and front heel jaw shall be in one piece, the sliding heel plate running and sliding over the heel-plate with portions turned up at the back to form back heel jaws, and a portion turned down at the front for the lever head to work against in the method of adjusting the heel of the skate to different sized boots by moving the boot forming the fulcrum of lever in a slot; the runner, and the method of securing the toe and heel plates to the runner of the skate by cutting and turning down portions of said plates and fastening these portions, thus turned down to the runner, at the same time, forming slots in the toe plate.

No. 4169. GEORGE FOURNIER, Ste. Julie de Somerset, Que., 15th December, 1874, for 5 years: "Improvements on Clothes Buttons." (Perfectionnements aux boutons de hardes.)

*Réclame.*—Un bouton d'habit composé d'une platine B, portant une tige filetée C, avec une rondelle D, et la tête taraudée E, tel que décrit.

*Claim.*—A clothes button composed of a plate B, having a threaded stem C, with a washer D, and a screw head E, as described.

No. 4170. SAMUEL C. REDGRAVE, Lyons, N. Y., U. S., 15th December, 1874, for 5 years: "Liquid Measure." (Mesure liquide.)

*Claim.*—1st. The combination of the interior vessel A, and exterior holder B, the said vessel being made of glass and transparent over its whole surface and capable of an adjustment in the holder for pouring either at the front or side as described; 2nd. The combination with the transparent vessel A, and skeleton holder B, of the fastening consisting of the hinged clamp c, and sliding loop f, for securing the vessel in the holder at any adjustment as described.

No. 4171. HUGH HOLLINGSHEAD, Howick, Ont., 15th December, 1874, for 5 years: "Land Roller." (Rouleau d'agriculture.)

*Claim.*—1st. The combination of the double bars in front part of the frame of the roller, as set forth; 2nd. The combination of coupling the reach and iron brace to the front part of the frame of the roller, as set forth.

No. 4172. EDWIN O. BRINCKERHOFF, New-York, U. S., 15th December, 1874, for 15 years: "Steam Condenser." (Condensateur de vapeur.)

*Claim.*—The combination of the concentric cases A, B, having a water space between their tops, bottoms and sides, the pump C, provided with supply pipes D, and discharge pipes E, the U-pipes G, one or more, the coil I, the waste pipes H, h, and the condensed steam-pipes L, with each other and with the exhaust steam pipe K, of an engine; 2nd. The combination of the box or hollow table J, with the coil I, the inner case B, the U-pipe G, and the branch waste pipe h, of the condenser; 3rd. The outer case A, surrounding the mechanism of a steam condenser, in such a way as to form a water space upon the top, bottom and sides of said condenser as described.

No. 4173. FREDERICK W. TUERK, Jr., Berlin, Ont., 15th December, 1874, for 5 years: "Improvements in Water Wheels." (Perfectionnements aux roues hydrauliques.)

*Claim.*—1st. The curved buckets b, provided with a cylindrical rib, at their inner edge, in combination with the recessed rim of the wheel B; 2nd. The wedge shaped recesses b', formed in the rim of the wheel B, beneath the upper part of the brackets d, in connection with the curved slots f, in the partition plate F; 3rd. The partition plate F, provided with the openings g, and h, and the ring flange i, in combination with the parts A, D, of the case, and with the wheel B, b; 4th. The combination of the lignum vitae step H, the metallic cup I, screw K, with the spider J, and with the shaft C, that carries the wheel B, b; 5th. The combination of the sliding plates or gates L, the cross-arms M, the curved and toothed cross-head N, the gear wheel O, and the shaft and hand wheel P, Q, with the case A, D, for regulating the size of the discharge orifices of said case as described.