

No. 5074. MORRIS L. ORUM, and CHARLES H. MELLOR, Philadelphia, Pa., U. S., 16th August, 1875, for 5 years: "Mandrel for Bending Pipes." (Mandrin pour plier les tuyaux.)

*Claim.*—1st. A flexible mandrel for bending metallic pipe, consisting of a spiral coil of wire presenting a flat or flattened surface upon the exterior of the spiral; 2nd. The combination of a spiral wire mandrel and flexible plates interposed between the mandrel and the sides of the tube to be bent.

No. 5075. ORRIN B. THOMPSON, White Ash, and WILLIAM W. GRIER, Hutton, Pa., U. S., 19th August, 1875, for 5 years: "Improvements on Carriages." (Perfectionnements aux voitures.)

*Claim.*—1st. The combination of the springs D, D, with the centre brace G; 2nd. The combination with the springs D, D, of the links H, H, rigidly attached to the back axle and front cross-bar; 3rd. The combination of the springs D, D, central piece G, and links H, H; 4th. The cross bar I passing between and connecting the upper ends of the links H, H; 5th. The nuts d, provided with flanges e, in combination with the cross-bar I, and links H; 6th. The combination of the springs D, D, braces or centre pieces G, cross-bars J, J, and the slotted frame K; 7th. The combination of friction plates C, C, with the axle and spring bar of a vehicle; 8th. The combination with the axle A, and upper spring-bar I, of the braces R, R, with projections f, f, clips b, b, and the bearings in the plate h; 9th. The combination of the upper friction plate C, with arms p, p, the braces S, S, plate h, and hub n.

No. 5076. HENRI E. CASGRAIN, Quebec, Que., 19th August, 1875, for 5 years: "Gas Machine." (Machine à gaz.)

*Résumé.*—1o. La combinaison du cylindre D, et tubes E, E, E; 2o. Le tube régulateur B, combiné avec l'écouloir G.

*Claim.*—1st. The combination of the cylinder D, and tubes E, E, E; 2nd. The regulating tube B, combined with the screw G.

No. 5077. EDWARD V. WINGARD, Pittsburgh, Pa., U. S., 24th August, 1875, for 5 years: "Brick Burning." (Cuisage de la brique.)

*Claim.*—1st. The method of introducing the oxygenizing air into the kiln by descending currents through the combustion chambers, to insure the combustion of the gas and the air before its introduction into the kiln; 2nd. In burning bricks and other clay wares, the method of mixing the air and inflammable gases, before allowing them to come in contact with the green ware in the kiln, so that they are always at a regular temperature, and introducing into the kiln a supply of the tempered air, sufficient to make combustion perfect, or a greater or less supply as required by the means described; 3rd. The combination with a kiln, and furnace of gas combustion vaults C; 4th. The combination with a kiln of the passage d, for the introduction of sand or other comminuted refractory material, for the purpose of partially or wholly closing the opening C, communicating with the vault and kiln; 5th. The combination of the kiln furnace D, with the air chamber f, jet holes i, and the gas distributing vaults C; 6th. The combination with the gas distributing-vault C, of air induction passage, opening into its upper portion.

No. 5078. JOHN HEWITT, Hamilton, Ont., (Assignee of A. Alexander), 24th August, 1875, for 5 years: "Improvements on Ore-crushers." (Perfectionnements aux machines à broyer les minerais.)

*Claim.*—1st. The sliding or swinging yoke N, in combination with the rubbers B, B; 2nd. The rubbers B, B, provided with the corrugated dies F, straight or spiral C, C, in combination with the yoke N, and pitman P.

No. 5079. ASA NYE, Jr., Boston, Mass., U. S., 24th August, 1875, for 5 years: "Improvements on Feed Bags for Horses." (Perfectionnements aux sacs-crèches à chevaux.)

*Claim.*—A telescopic bag C, with oval hole d, and ring e, in combination with bag B, ring A, and string J.

No. 5080. JOSEPH STEGER, New-York, U. S., 24th August, 1875, for 5 years: "Air Brake." (Frein atmosphérique.)

*Claim.*—1st. In combination with the cylinder of a vacuum air brake, pistons G, each provided with heads h, h, an intervening air-chamber i, and a channel j; 2nd. The pistons G, G, each

constructed with heads h, h, in combination with the cylinder D of a vacuum air-brake, the steam pipe E, nozzle F, the piston rods C, and brake mechanism.

No. 5081. EDWARD H. GRATIOT, Plattsville, Wis., U. S., 24th August, 1875, for 5 years: "Wheat Steamer." (Étuve à blé.)

*Claim.*—1st. A wheat steamer and dryer composed of two cylindrical shaped coils of piping A, and B, one placed within the other and leaving a space between the two, through which the wheat being prepared passes; 2nd. The cone F within the hopper E, in combination with the cylindrical coils A, and B; 3rd. The perforated coils d, d, in combination with the steam pipe K.

No. 5082. GEORGE R. MOORE, Westford, Mass., U. S., 24th August, 1875, for 5 years: "Improvements on Propellers." (Perfectionnements aux propulseurs.)

*Claim.*—The combination of a carrier for the scull, fan or other device to be worked crossing the axis of the driving shaft by which it is carried, and an oscillating guide or regulator, said regulator preventing the rotation of the carrier and having oscillatory motion to accommodate the carrier, the two propellers coupled together and the engines coupled to the propellers in the arrangement represented in Fig. 3; the combination of the pivoted oscillating yoke J, with the arms B, of a propeller carrier C, arranged obliquely to the driving shaft, the ring M, combined with the propeller carrier C, and the bed, and pivoted to one at right angles to its pivots with the other.

No. 5083. GEORGE ILES, Montreal, Que., 24th August, 1875, for 5 years: "Improvements on the Adjustment of Magnetic Needles." (Perfectionnements dans l'ajustage des aiguilles magnétiques.)

*Claim.*—1st. In combination with any magnetic-needle, the transverse bar D, carrying many minute-magnets placed with like poles one way, and being practically a magnet pointing E, and W, attracted toward a piece of iron like an ordinary magnetic needle; 2nd. In combination with any compass, the longitudinal bar A, carrying many minute magnets of like poles, pointing one way and acting as a magnetic needle; 3rd. In any compass, the combination of the longitudinal bar A, and transverse bar D, equally attracted by any object; 4th. The use in combination with the longitudinal bar A, and transverse bar D, of a compensator working as described, according to known laws.

No. 5084. THOMAS SAUNDERS, and ROBERT BAIN, Toronto, Ont., 24th August, 1875, for 5 years: "Improvements on Burglar and Fire-proof Safes." (Perfectionnements aux coffres-forts.)

*Claim.*—1st. The construction of a safe having each of the frames B, and B, made of one bar of angle iron and having only one weld, and with rounded solid corners; 2nd. The construction of a safe having the body C, made of one plate having only one joint and the said joint at the bottom of the safe and riveted, the plate C, having rounded solid corners; 3rd. The improved hinge comprising the sockets D, E, F, link G, with eccentric N, and hinged pin P, in combination with the upright bar H, one or more cross bars I, sockets K, K, and handle L.

No. 5085. DAVID M. KELLY, Athelstan, Que., 24th August, 1875, for 5 years: "Machine for Trimming the ends of Bolts and Rivets." (Machine à finir les bouts des boutons et des rivets.)

*Claim.*—The combination of lever b, with the knives c, and d.

No. 5086. CYRUS G. FORCE, Cleveland, Ohio, U. S., 24th August, 1875, for 5 years: "Device for facilitating Excavations for Sewers." (Appareil pour faciliter le creusage des égouts.)

*Claim.*—1st. The combination with the car A, and the movable platform B, of a portable tressel whereby the device is adapted to the carrying forward of an excavation, such as sewers, cuts, laying of pipes, &c.; 2nd. The combination with the movable platform B, the standards D, of the sill E, extending across the excavation and uniting the base of the said standards, whereby the gauge of the tracks C, is maintained; 3rd. The combination with the movable platform B, and the standards D, of the sills D, and braces F.