No. 1684. HUBERT R. IVES, Montreal, Que., 19th October, 1872, for 5 years: "Combined Household tools." (Un nécessaire d'outils de maison.)

Claim.—The combined tool consisting of shears *c, c*, jaws *e, e*, hammer *f*, all arranged together and working in combination with levers *a, a*.

No. 1685. JAMES YEMEN, Stratford, Ont., 19th October, 1872, for 5 years: "A dental plate." (Une plaque dentaire.)

Consists in a circular valve of pliable substance attached to ordinary artificial plate by a rivet penetrating both valve and plate.

Claim.—The valve B and the mode in which it is attached to the plate, to wit, by means of the rivet A.

No. 1686. GEORGE SWEET, Dansville, N. Y., U.S., 19th October, 1872, for 5 years: "A horse hay rake." (Un râteau à cheval.)

Claim.—1st. The combination in a horse hay rake having wheels B, B and axle A, of a series of rake teeth D, attached to across bar *c*, rigidly connected parallel with and in rear of the axle shaft J, with cranks *e e* and lever L, rods *f f*, guide standards M M, and brake blocks K acting on the periphery of the driving wheel for unloading the rake; 2nd. The lock lever composed of the three parts I I^1 and I^2; and 3rd The combination of the lever L with the cam *i*, and pivot bar *a*, for breaking the joint of the lock lever.

No. 1687. WILLIAM WESTLAKE, Chicago, Ill., U. S., 19th October, 1872, for 10 years: "A stove platform." (Une plateforme de poële.)

Claim—1st. The zinc board for stoves, consisting of the zinc cover A spun over the flange *a* and under the edge *c*, whereby the parts are firmly united and held in place without the use of nails or screws, and the sheet provided with a solid bearing around its edge. 2nd. The platform for stoves consisting of the parts *j, h*, with an interior support of wood or other suitable material, the part *j*, and the interior support being held together and in place by the flanges *i, g*, of the part *h*, substantially as set forth.

No. 1688. DANIEL E. TEAL, New Lisbon, N.Y., U.S., 19th October, 1872, for 15 years: "A Road Scraper." (Une machine à nettoyer les chemins.)

Consists in elevating the scraper by mechanical power and locking the pivoted scraper frame in a vertical position.

Claim.—1st The means employed for elevating the scraper, consisting of the pivoted frame H H and I, the hollow and solid poles F and F^1, the cord ^{n} and the pulley R, 2nd. In combination with the above named elements, the lever bar U, pivoted to or upon the pivoted scraper frames; 3rd In combination with the pivoted scraper frame H H and I, the locking bar O provided with the notches O pivoted to or upon the rod P, and engaging with said cross bar I; 4th. In combination with the pivoted scraper K, connected with and suspended from the bars H, the bars M, pivoted to or upon the rod I connected together by means of the cross-bar M, and angle iron *n* and engaging with the rear side of said scraper; 5th. The device as a whole, when its parts are constructed and combined as specified.

No. 1689. JOSEPH LODGE, Whitecroft, near Sydney, Eng., 19th October, 1872, for 5 years: "Manufacture of Artificial fuel." (Fabrication de combustible artificiel.)

Claim—The combining together and moulding into blocks small coal, coke, or peat and vegetable or mineral tar and mucilage or paste made from farina or other such like substance, with or without the addition of pitch in a powdered or dry state and subsequently exposing such blocks to heat.

No. 1690. RICHARD G. WELFORD, Freedom, Ohio, U S., 19th October, 1872, for 5 years: "A Miter Box." (Une boîte à onglet.)

Claim.—1st. The supplementary bars M, and supports B, adjustable to and in combination with the frame A; 2nd. The plate C, and semi-circular disc E,—provided with thumbscrew G, in combination with the adjustable supports B and frame A; 3rd. The hinged saw guide J, arm I, and slotted standard H, provided with thumbscrew K, in combination with the semi-circular disc E, and plate C; and 4th The combination of the hinged saw guide J, swivel disc E, plate C, supports B B B, moveable bars M, and frame A.

No. 1691. CHARLES & HENRY S. HOELLER, Cincinnati, O., U. S., 19th October, 1872, for 10 years: "A Stove-pipe Elbow." (Un coude de tuyau.)

Claim.—1st An elbow made of sheet-metal having the surplus of metal thrown into exterior crimps A, 2nd. A round or circular elbow made of one piece of sheet metal when the curvature of the same is produced by forcing the surplus metal outwardly on the inner arc of the elbow.

No. 1692. WILLIAM H. TURNER, Indianapolis, Ind., U. S., 19th October, 1872, for 5 years: "Warm Air furnaces." (Calorifères à air chaud.)

Improvement in the concentration of heat and in the escape of obnoxious gases.

Claim.—1st. The combination of the stove A, the drum H, the base B, the cylinders E, connected by the rings C and the register F provided with the bars S, 2nd. Combination with the furnace, the register E, having the stationary bars *s* arranged to cover and obstruct the view through the openings between the revolving bars *i*; and 3rd The combination of the funnel *u*, escape pipe *v* and smoke pipe W.

No. 1693. JAMES W. HARRIS, Toronto, Ont., 22nd October, 1872, for 5 years: "A Window Frame." (Un câdre de fenêtre.)

Improvement in manner of hanging sashes in window frame—attaching upper and lower sashes by cords passing over pulleys within the frame and which connect the two sashes so that in lifting the bottom the upper sash lowers a corresponding distance

Claim—The combination of the cord or chain D, pulleys E, twin pulleys F, sashes B, and C, connected together and fitting into the window frame A.

No 1694. ALFRED M. FARLEY, Quebec, 22nd October, 1872, for 5 years: "A Shoe clasp." (Une agrafe de soulier.)

Claim.—1st. The novel combination of the flaps *c* and *b*, as shown, with the ankle part *a*; 2nd. The hook *d*, plate *c*, eyes *f*, in combination with flaps B and C.

No. 1695. DAVID JONES, Alleghany, Pa., U. S., 22nd October, 1872, for 5 years: "A Saw Set." (Une Rainette.)

Consists in the arrangement of a series of levers, gauge screws and springs so constructed as to work in combination

Claim—The arrangements of the levers A, B, *f, h*, P, adjusting screws o, *n*, and spring *x*, constructed, arranged and operating as described.

No 1696. JAMES H. THORP, New York, U.S., 22nd October, 1872, for 5 years: "Coal Oil Stove." (Poële à pétrole.)

Claim—1st. The application of the cylindrical rim F, to the plate C, to form an extension of the chimneys; 2nd The auxiliary lamp I with one of the sides of the oil receptacle curved inward and being provided with metallic hooks K, to support it on the rim of the water vessel of the stove; 3rd. Providing the chimneys D, with mica side lights *d*; and 4th. The perforated base E when applied and used as set forth.

No. 1697. JOHN ALLAN, East Whitby, Ont., 22nd October, 1872, for 5 years: "A carriage Propeller." (Un propulseur de voiture.)

A substitute for horse power.

Claim—The arrangement of the machinery whereby by means of levers B, cog wheels D and E, with the arms F and G, on shaft H, secured to a propelling force in the leg C and shoe R, which will enable to propel a sleigh or buggy on an ordinary road.

No 1698. GEORGE MOLLOY, Southwold, Ont., 22nd October, 1872, for 5 years: "Machine for filing and setting saws." (Machine à limer et donner la voie aux scies.)

Claim—The arrangement of the circular file G, and the saw blocks *b*, and the combination of them for the purpose of filing saws; 2nd. The circular set and set anvil (R S); 3rd The upright set (M).

No. 1699. ISAAC FENNO & PATRICK HOWE, Boston, Mass., U. S, 22nd October, 1872, for 5 years: "A cloth cutting Machine." (Machine à tailler le drap.)

Consists in the employment of a rotary cutting disc attached to a shaft made to revolve in a sleeve hinged to jointed arms.

Claim.—1st. A rotary cutter W, arranged and operated upon the end of a series of swinging arms; 2nd. The construction and arrangement of the jointed sleeve S made to swing around the sleeve *n*, and the jointed arms *l, i*, one or more; 3rd. The driving mechanism as shown consisting of the bevel-gears *e, f*, or their equivalents, shaft *d*, with its pulley X attached, loose pulleys Y, Z, belts or cords 1, 2, the pulley 3 attached to the shaft *o*, bevel gears *g, r* or their equivalents, and the cutting shaft *p*; 4th. In combination with the rotary cutting disk W, in the adjustable foot plate 4, 5, adjusted by means of the set screw 7 and slot hole 6, or their equivalents, and 5th In combination with the jointed arms *i, l*, and sleeve S, in the stationary standard *a* provided with the circular hub *c*, around which the moveable arms *i, l, s*, are made to swing.