

and arranged to produce a flash or flame, or a succession of flashes or flames without danger of igniting the mass. 2nd. The combination, in a suitable casing, of two or more separate substances or compounds which will not explode when separate, but will burn violently or explode when mixed or brought in contact with each other and rubbed or otherwise mechanically acted upon, and a suitable device for accomplishing such mixing or rubbing and ignition of said substances or compounds. 3rd. A suitable casing, divided into adjacent chambers, each of which is adapted to contain a compound or substance which produces explosion or combustion when brought in frictional contact with that of the other or others, and provided with a suitable device for traversing the mouths or open ends of said chambers, each bringing small portions of said compounds or substances in such contact with each other. 4th. A suitable case divided into adjacent chambers and having one end open and adapted to contain a compound or substance which will produce combustion when brought in contact with the compound or substance of the other chamber or chambers, in combination with a suitable scraper or conveying and igniting device adapted to traverse the open ends of said chambers for bringing small portions of the said compounds or substances in frictional contact with each other, and an automatic feeding device for forcing said compounds or substances into position to be operated upon by the said scraper or conveying and igniting device. 5th. A novel case for a repeating match or igniter, the same consisting of two separate adjacent chambers with open ends connected by a flush platform or plate, a spring scraper or conveying, rubbing and igniting device adapted to play across said platform and followers, or pushers fitting within said chambers and adapted to move automatically therein simultaneously with the operation of the scraper, conveyor and rubbing and igniting device. 6th. As a new article of manufacture, a suitable case divided into two adjacent chambers, each of which contains a compound or substance which will produce combustion, when brought in contact with that of the other, and provided with a suitable scraper or conveying, rubbing and igniting device for bringing small portions of the compounds or substances in contact with each other, and an automatic feeding device for forcing said compounds or substances into the path of the said scraper, conveyor or rubbing and igniting device.

No. 9642. Manufacture of Artificial Stone. (Fabrication de la pierre factice.)

Agapit Brault and Gédéon Rondeau, Laprairie, Que., 11th February, 1879, for 5 years.

Claim.—A compound of sulphur, marble or stone dust, ivory black and powdered vermilion, the whole mixed.

No. 9643. Improvements on Buggy Tops. (Perfectionnements aux soufflets des voitures.)

Edward N. Heney, (Assignee of William Davis), Montreal, Que., 11th February, 1879, for 5 years.

Claim.—1st. In combination with the bows and seat of a buggy or carriage, the central bow iron C pivoted to the standard A and having two diverging tangs or shanks c and arm E with serrated inner surface, the standard A with correspondingly serrated outer surface and concentric slot a, the sliding stud e, stop e, binding lever handle with cam f and washer g. 2nd. The socket or plate h and joint pin provided with ornamental head j combined in the manner set forth.

No. 9644. Improvement on Clothes Driers. (Perfectionnements aux séchoirs à linge.)

John N. Valley, Jersey City, N.J., U. S., 11th February, 1879, for 5 years.

Claim.—1st. A clothes drier made by hinging together rigid frames formed of horizontal bars secured to vertical posts, the hinge posts B composed of sections B₁ having axial end sockets b₁ and joined together, by glueing or screwing the hinge-pins C into said socket, to allow of hinging the said frames together by holes a through the end of the bars A. 2nd. In combination with a clothes drier made in hinged frame sections, the horizontal swinging arms and hooking braces D pivoted to the vertical posts B.

No. 9645. Improvements on Reaping and Mowing Machines. (Perfectionnements aux faucheuses-moussonneuses.)

Alanson Harris, Brantford, Ont., 11th February, 1879, for 5 years.

Claim.—A guard A having notched, serrated or roughened edges.

No. 9646. Improvement in Bathing Apparatus. (Perfectionnement aux appareils à bains.)

Warren Wasson, Carson, Nev., U. S., 11th February, 1879, for 5 years.

Claim.—1st. The combination of chamber F having door E, window f, hook f₁, and water tight bottom tank H and floor A, with pump A having plungers C₁ and chambers a₃ and hose E with or without hose sprinklers J. 2nd. The combination of oscillating beam D, plungers C₁, valves V V₁, air chamber a and hose pipe E with or without hose sprinkler e arranged and operating in chamber F. 3rd. In a shower bath apparatus adapted to be operated by the alternate tilting weight of the bath, the combination, with the two end pumps, of the single platform pivoted in a vertical plane between said pumps and actuating the same. 4th. The combination of a pump or other device capable of producing a continuous shower or stream by repeatedly rising the same liquid without addition or loss of liquid, with a bathing chamber when used for bathing purposes. 5th. A bathing chamber provided with a pumping apparatus for applying the bathing liquid to the bath, the ventilator P so constructed as to allow the passage of air but prevent the passage of water.

No. 9647. Art of Manufacturing Twist Drills. (Art de fabrication des forêts à vis.)

Simon P. Graham, London, Ont., 11th February, 1879, for 5 years.

Claim.—1st. The art of process of manufacturing rolled twist drills and bits; 2nd. As a new article of manufacture, a drill or bit in which the cones B B are rolled.

No. 9648. Improvements on Steam Engines. (Perfectionnements aux machines à vapeur.)

Jacob I. Anthony, Sharon Springs, N. Y. U. S., 11th February, 1879, for 5 years.

Claim.—1st. The combination of the rectangular cylinder B having the ports F e, the piston B₁, valve P having the ribs q, the steam chest C, valves D and levers f. 2nd. The combination, with chest I having four ports, of the valves J J connected by a bar k attached to rod i, and the two valves K K connected by a bar m attached to rod n. 3rd. The bed A having chambers a b c d, the heating pipe A₁ and pump consisting of the barrel f plunger g and valves i in combination as set forth.

No. 9649. Improvements in Boiler Furnaces. (Perfectionnements aux fourneaux des chaudières.)

Thomas Murphy, Detroit, Mich., U. S., 11th February, 1879, for 5 years.

Claim.—1st. In a furnace, the arch B provided with flues D F communicating with the outer air through the openings L and the flue M for the purpose of heating and discharging air upon the fuel. 2nd. In combination with said arch constructed with flues, the ribbed or corrugated base plate C placed above the fuel discharge openings x in a furnace; 3rd. In combination with the coal chamber A, the flame chamber I and the arch B provided with flues, 4th. A furnace provided with the arch B constructed with flues and resting upon the ribbed or corrugated base plate C, the dead plate N upon which the base of the fuel in the chambers V is coked preparatory to being fed to the grates. 5th. In combination with such dead plates N and the fuel openings x, the pushers O operated by the shaft P for the purpose of discharging the coked coal into the coal burning chambers A; 6th. In combination with said dead plate and pusher, the scraper R U; 7th. In combination with said dead plate, pusher and scraper R, the reciprocating braker B S. 8th. The combination, in a boiler furnace, of devices for feeding coal upon a dead or coking plate with devices also for discharging heated air upon the fuel in said plate, for the purpose of coking said fuel preparatory to its being discharged or fed into the coal burning chamber.

No. 9650. Improvements on Safes. (Perfectionnements aux coffres-forts.)

Joseph Grove, Toronto, Ont., 12th February, 1879, for 5 years.

Claim.—1st. A fire-proof safe constructed with projections B B₁ and recesses B₂ B₃ attached to the inside of the door A and projections D and recesses C C attached to the inside of the jambs A₁ A₂, and the non-conductors c₁ c₂ and d₁ d₂ placed between the flanges c c c c and d d d d. 2nd. A burglar proof safe having its whole exterior plates forming the body of the safe, also the back and front thereof of welded steel and iron manufactured specially for the purpose of an exterior covering for burglar proof safes.

No. 9651. Improvements on Castors. (Perfectionnements aux rouleaux des meubles.)

Conrad G. Bacon, (Assignee of William D. Spencer), Middletown, Ct. U. S., 12th February, 1879, for 5 years.

Claim.—1st. In a ball castor, the combination of the plate D having three triangular arranged grooves d, the oblong rollers E made shorter than the grooves, the ball C and cup A. 2nd. Three oblong rollers arranged in a triangular manner, in three intersecting grooves and made shorter than the grooves of the bearing plate in which they move and having their ends cone-shaped.

No. 9652. Improvements on Screw-Thread Swaging Machines. (Perfectionnements aux machines à étampier en vis.)

Charles J. Shirreff, Belleville, Ont., 12th February, 1879, for 5 years.

Claim.—1st. The combination of a tubular die A spirally grooved internally, a roller J and a shaft G having a screw feed, 2nd. The two part tubular die A, spirally grooved internally and locking together to hold the inserted stove pipe a, in combination with a screw feed shaft G carrying an arm provided with a roller J to travel in the grooves of the die A, for swaging screw threads; 3rd. The tubular die A, spirally grooved, the brackets E and tubular arm F, in combination with a screw feed shaft G having an arm carrying a roller J; 4th. The provision, to the die A, of a frame B for supporting the pipe a in line with the die; 5th. The clamping band Q attached to the frame B for holding the pipe a; 6th. The conical headed bolt N for adjusting the roller J.

No. 9653. Improvements on Waggon Dashers. (Perfectionnements aux garde-crotte des voitures.)

George E. B. Parkin, Cookshire, Que., 12th February, 1879, for 5 years.

Claim.—The combination of the frames A and B and the sheet C.

No. 9654. Improvements on Locomotive Head Lights. (Perfectionnements aux lampes des locomotives.)

Andrew Dressell, Ernest H. Voth and John G. Voth, Cleveland, Ohio, U. S., 12th February, 1879, for 5 years.

Claim.—1st. In locomotive head lights, the side chambers D provided respectively with a reflector or reflectors, glass faced and sides, and connected to the sides of the head light case and in open relation with the reflector thereof by openings C; 2nd. The reflectors, provided with side openings and slides L, in combination with side chambers. 3rd. The side chamber or chambers D with their respective reflectors, glass face and sides; 4th. In locomotive head lights, the reflector B, provided with side openings, in combination with one or more chambers, each having a reflector, glass face, side or back arranged that the light therein will be transmitted through said openings into the chamber and be reflected therefrom; 5th. In the locomotive head lights, a reflector, having side openings therein, in combination with side chambers provided with reflectors, glass face and sides.