by the latter; 4th. The combination of the lever C1, sector *b*, and rack C, with the breaking-bar C11; 5th. The foraminated-funnel J, fixed below and concentric with the inlet-opening of the cylindric shell A, and serving the double-purpose of an outlet-funnel and a strainer; 6th In combination with the mechanism for breaking the acid-cartridge of a chemical-fire-extinguisher, a wax-seal of such form and so applied as to at once indicate any movement of the devices for breaking and discharging the acid cartridge.

No. 4865. JOHN H. MORRELL, New-York, U. S., 17th June, 1875, for 15 years: "Floodway for Warehouses, &c." (Pertuis d'entrepôt, &c.)

Claim—One or more pipes A, leading continuously from the upper floor of ware-houses or other buildings to the street-sewer, said pipe or pipes having apertures on each storey opening into metallic sinks or reservoirs.

No. 4866. GEORGE H. LONGMORE, Portland, Me., U. S., 17th June, 1875, for 5 years: "Matting Roller." (Rouleau a nattes.)

Claim.—1st. A box-roller, for matting with four sides C, C, and a space through the centre *a*; 2nd. The bar *b*, *b*, when taken in connection with the roller.

No. 4867. EDWARD B. DODGE, Peterboro, N. H., U. S., 17th June, 1875, for 5 years: "Improvements in Spring Beds." (Perfectionnements aux lits à ressorts.)

Claim.—The slat holding and spring connecting devices E, F, G, and H.

No. 4868. GEORGE H. GREENOUGH, Brooklyn, N. Y., U. S., 17th June, 1875, for 5 years: "Apparatus for Producing Artificial Light." (Appareil d'éclairage.)

Claim.—1st. The employment of a tank or fountain for generating an illuminating-gas from the light products of petroleum, which shall on its interior, present a number of evaporating surfaces, 2nd. The use of the pans A, and tubes *a*; 3rd The employment and use of excelsior, or any absorbing material in connection with said pans A, or without them, 4th. The application of the syphon principle in drawing the gas from the top of the fountain or can, thus rendering it impossible for the liquid to flow or to reach the burner

No. 4869. ABRAHAM CRABTREE, Backup, Eng., 17th June, 1875, for 5 years: "Middlings Separator." (Épurateur des gruaux.)

Claim.—The reciprocating-carriage *d*, *d*, and revolving brushes *e*, *e*, actuated by an arm *e*, *e*, face-plate *f*, *f*, endless-bands *g* and *i*, and pulley *h*, (or other equivalent mechanical device producing the same motion.)

No. 4870. AUGUSTUS BEDFORD, Boston, Mass., U. S., 17th June, 1875, for 5 years: "Bell Target." (Cible à sonnerie.)

Claim—The two boards or plates A, B, the rod *b*, with its button *g*, and provided with the head *h*, and the bell *f*, and spring *d*.

No. 4871. JAMES P. SHARP, Birmingham, Eng., 17th June, 1875, for 5 years: "Improvements on the Manufacture of Steel." (Perfectionnements dans la fabrication de l'acier.)

Claim.—Employing a retort or furnace which will enable the iron to be heated as nearly as possible in vacuo, and the application of carbon in such a form and by such means as will ensure its purity and readiness of absorption.

No. 4872. ALLAN CUMMINGS, New York, U. S., 17th June, 1875, for 5 years: "Lip for Sheet Metal Measures." (Bec de mesures liquides.)

Claim.—The pouring-lip *a*, with the extension or body *b*, made from the same piece of sheet-metal, said body *b*, extending within and soldered to the inside of the measure, or forming the measure so as to dispense with a joint at the inner surface or point of junction of the lip and measure.

No. 4873. ROBERT S. VAN ZANDT, Williamsburgh, N. Y., U. S., 17th June, 1875, for 5 years: "Extension Step-ladder." (Échelle à rallonge.)

Claim.—The combination of the long slotted keepers D, the sliding-bolts E, and the long-keepers F, with the parts A, B, of the ladder.

No. 4874. ALEXANDER S. WALBRIDGE, Mystic, Que., 17th June, 1875, for 5 years. "Horse-rake." (Râteau à cheval.)

Claim.—1st. The draw-rod A, or a chain connecting directly with the angle-lever B, so as to draw above the centre-pin D, to keep the teeth loaded, and to draw below the centre-pin D, to unload, 2nd. The catch *c*, to hold the angle-lever B, and the teeth up in travelling from place to place.

No. 4875. GEORGE M. MOWBRAY, North Adams, Mass., U. S., 17th June, 1875, for 5 years: "Frictional Electric Battery." (Batterie électrique à friction.)

Claim.—1st. The arrangement of a frictional exciting-surface between two curved dielectrics, both of these curved dielectrics having on each surface respectively, metal armatures with sufficient marginal insulation to form a condenser, the inside surface of one of them so situated during excitation as to receive electricity from the rubber, while the inside surface of the other curved dielectric simultaneously receives electricity from the collector, and withal the inner surface or armature of each one being in connection with the other surface or armature; 2nd. The accumulator or Leyden-jar, of any preferred shape, built up of sheet hard rubber and metal plates, insulated from external influence by other sheets of hard rubber, and enveloped in pure sheet rubber; 3rd. An electric rubbing cushion, formed of two distinct surfaces, the one resinous to receive the amalgam, and excite electricity, the other filamentous, felted or velvety, to cleanse and polish the exciting surface with the usual oiled or varnished silk flap; 4th. The combination of an exsiccator composed of a material capable of absorbing moisture from the atmosphere packed in a permeable envelope, with a frictional electric machine in a water-tight case; 5th. The oscillating cylinder, independent of the condenser, which is stationary, composed of two discs, each having a slot cut out of its periphery for about sixty degrees, carrying two semi-cylindrical sheets of hard rubber, these being affixed to one of these, the rubbing-cushion and its conducting-knob to the other, a knob projecting through it, this oscillating cylinder admitting of a determinate limited motion from the rotation of the exciting surface, the range of oscillation being determined by the collecting-rod which is stationary and passes through the slots of the discs, serving a triple purpose, viz: first, isolating the condenser from the rubber-collector and lead wires, when it receives a thirty degree reverse-motion, second, discharging the battery through the leading and return wires, when this reverse motion is continued to sixty degrees of a circle: and third, conducting the charge from the rubber, and from the exciting surface to the condenser by a forward motion of sixty degrees; 6th. The graduated test-gauge, with sliding or movable standard and connections for terminal wires; 7th. The hard rubber shaft of a frictional electric-machine, with sunken socket for crank; 8th The electric wire-connections between the knobs moving and the fixed knobs of a frictional electric machine, for the purpose of cushioning violent movement; 9th. The combination of a rotating exciting surface, an independent oscillating frame, carrying a rubber, and connecting knob with a stationary collector and a stationary condenser, all enclosed in a water tight case or key.

No. 4876. GEORGE R. PROWSE, Montreal, Que., 17th June, 1875, (Extension of Patent No. 462), for 5 years: "Improvements on Clothes Mangles." (Perfectionnements aux calandres à linge.)

Claim.—The combination of the frame-work *a*, top-pieces *b*, slots *c*, vessel *d*, bottom *e*, top *f*, bar *g*, projections *h*, eyes *i*, side rods *k*, eyes *l*, roller *m*, cross-bar *n*, pipe *o*, flexible-pipe *p*, kettle *q*, safety-valve *r*, swivel-socket *s*, blow through cock *t*, stops *u*.

No. 4877. AMBROSE L. DAVIS, and LEVI A. DAVIS, Port Crane, N. Y., U. S., 18th June, 1875, for 5 years: "Vehicle Spring." (Ressort de voiture.)

Claim.—1st. The combination of the springs F, with the axle A, tongue-bar C, and rear-spring E; 2nd. The combination of blocks K, and clips M, with axle A, and springs.

No. 4878. FREDERICK VAN PATTEN, and EMEROUS D. CLAPP, Auburn, N. Y., U. S., 18th June, 1875, for 5 years: "Improvements on the Manufacture of Fifth Wheels