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CONTENTS:

Note.—Throughout this *Gazette* the names in Italics within parentheses are those of Communicators of Inventions.

Complete Specifications.

Patent Office, Perth,
26th June, 1903.

NOTICE is hereby given that the undermentioned Applications for the Grant of Letters Patent, and the complete Specifications annexed thereto, have been *accepted,* and are now open to public inspection at this Office.

Any person or persons intending to oppose such applications must leave particulars, in writing, in duplicate (on Form D), of his or their objections thereto, within two calendar months from the date of this *Gazette.* A fee of Ten shillings (10s.) is payable with such notice.

Application No. 3989.—GEORGE SEYMOUR, of Romsey, State of Victoria, Australia, Farmer, "*An improved subsoiling attachment for Double and Multi-furrow Ploughs.*"—Dated 12th August, 1902.

Claim:—

The herein described subsoiling attachment for double and multi-furrow ploughs comprising auxiliary tine carrying beams pivotally mounted at their ends upon the body of the plough and connected at their forward ends by links, bell cranks and coupling rods with a hand lever, substantially as and for the purposes specified and as illustrated in the accompanying drawings.

Specification, 3s. Drawings on application.

Application No. 3990.—JAMES MORROW, a member of the firm of Nicholson and Morrow, of Nos. 33 to 49 Bouverie Street, Carlton, in the State of Victoria, Commonwealth of Australia, Agricultural Implement and Machine Manufacturers, "*Improvements in Stripper Harvesters.*"—Dated 12th August, 1902.

Claims:—

1. In stripper harvesters a fan as A assembled and driven upon the machine to produce a current of air to act on and finally clean the grain just prior to its passing to the grain box substantially as described and shown.
2. In stripper harvesters the combination of a fan as A, whose spindle A^1 is driven by a belt as B^1, from such as the spindle B, of damp weather beater, the pipe or conduit as A^2, the grain shoot as C, and the riddle as C^2 which is fed from the grain elevator, substantially as described and shown.
3. In stripper harvesters, the combination and arrangement at back of riddle box as D, of a chaff elevator as E, preferably having a perforated well as E^1 and the bag platform as G, substantially as described and shown.
4. In stripper harvesters, the combination of a chaff elevator as E, arranged at back of riddle box, and having its lower spindle hinged in its bearings, the hinged or movable prop as E^8 to support the elevator in its erect position and the bag platform as G, which is so assembled that it always retains the same relative position with respect to the riddles, substantially as described and shown.
5. In harvesting machines the combination therewith of a chaff box as N arranged at tail of machine, provided with a pivoted bottom as N^1 which is capable of being operated by a lever arranged near driver's seat, substantially as described and shown.
6. In stripper harvesters, the combination of the parts marked I to I^7, with the platform J and stay K, which together form the mechanism for raising and lowering the body of machine substantially as described and shown.
7. In stripper harvesters the combination of the shaking riddle C^2 with the grain box or bin and the grain elevator or shoot C as for the purpose described and substantially as shown.
8. In stripper harvesters the combination of the stepped pulleys as M beater spindle L and damp weather spindle B with the belt for communicating motion between said pulleys substantially as and for the purpose described and shown.
9. In stripper harvesters the several improvements herein specified consisting of a fan as A located on the machine for finally cleaning the grain just prior to its passing to grain box, a chaff box or the chaff bagging elevator as E arranged above a platform as G at back of machine, the mechanism marked I to I^7 for raising and lowering the front end of machine body, and the stepped pulleys as M for altering the speed of the damp weather drum substantially as herein described and as shown in the drawings.

Specification, 10s. 6d. Drawings on application.

Application No. 4008.—GEORGE PORTER PIERCE, of 28 Adderley Street, West Melbourne, in the State of Victoria, Carpenter, "*Improvements in Calculating Apparatus.*"—Dated 26th August, 1902.

Claims:—

1. In calculating apparatus, the combination of a casing, a dial having a graduated scale provided thereon, a dial wheel provided with similar graduations upon its periphery, and adapted to register with the graduations upon said dial, and a pointer movable independently of said dial and dial wheel.
2. In calculating apparatus, the combination of a casing, a dial having a graduated scale provided thereon, a dial wheel provided with similar graduations upon its periphery and adapted to register with the graduations upon said dial, a pointer movable independently of said dial and dial wheel, and means for locking said pointer and dial wheel together.
3. In calculating apparatus, the combination of a casing, a dial having a graduated scale provided thereon, a dial wheel provided with similar graduations upon its periphery and adapted to register with the graduations upon said dial, a pointer movable independently of said dial and dial wheel, and stops removably placed upon said dial for limiting the motion of said pointer.
4. In calculating apparatus, the combination of a casing, a dial having a graduated scale provided thereon, a dial wheel provided with similar graduations upon its periphery and adapted to register with the graduations upon said dial, stops adjustably set in said dial for limiting the motion of said pointer, and means for locking said pointer and dial wheel together.
5. In calculating apparatus, the combination with a suitable casing, of a dial plate having a scale of units disposed circumferentially thereon, a revoluble member having a circumferentially disposed scale of units operating in proximity to said dial plate, a pivoted pointer, means for locking said pointer and revoluble member together, and a second dial plate and pointer co-operating with said revoluble member for the purpose set forth.
6. Calculating apparatus comprising a casing, an apertured dial enclosed within said casing and provided with a graduated scale around the circumference of said aperture, a dial mounted to rotate within said aperture and provided with graduations corresponding with the apertures of said dial, a pointer, means carried by said dial wheel for locking said pointer and dial wheel together, and a second dial and hand operated by said dial wheel.
7. Calculating apparatus comprising a casing, an apertured dial enclosed within said casing and provided with a graduated scale around the circumference of said aperture, a dial mounted to rotate within said aperture and provided with graduations corresponding with the apertures of said dial, a pointer, means carried by said dial wheel for locking said pointer and dial wheel together, stops adapted to be adjusted around said dial for limiting the motion of said pointer, and a second dial and hand operated by said dial wheel.

Specification, 13s. 6d. Drawings on application.

Application No. 4011.—MONROE LEE ROSS, of 21 Rue Galilee, in the Republic of France, Engineer, "*Improvements in and relating to Burners.*"—Dated 27th August, 1902.

Claims :—

1. A gas stove in which a double supply of air is provided, and in which the top of the mixing chamber is formed as a cone having superposed upon it a hollow radiator, substantially as described.

2. A burner for gas stoves and the like, in which the top part of the mixing chamber is separated from the main body or lower part thereof, and is provided as an inwardly protruding conical part, for the purposes and substantially as described.

3. In a burner such as specified in Claim 2, a hollow chamber or radiator, provided in the manner and for the purposes substantially as hereinbefore described.

4. In a burner as specified, the employment of a cylinder of gauze within the mixing chamber, for the purposes and substantially as described.

5. In a burner as specified in Claim 2, the employment of the mixing chamber casing in telescoping parts or sections, substantially as hereinbefore described.

Specification, 4s. Drawings on application.

Application No. 4059.—LAWRENCE WILLIAM GRAYSON, of Ludstone Chambers, 352 Collins Street, Melbourne, in the State of Victoria and Commonwealth of Australia, Mining Engineer, and CHARLES STUART CUNNINGHAM, of the same address, Professional Shorthand Writer, "*An improved Rowing Machine for physical exercise, training, and coaching.*"—Dated 24th September, 1902.

Claims :—

1. An improved rowing machine for physical exercise, training, and coaching, comprising a pair of rotatable handles or oar looms each mounted upon the horizontal arm of a crank spindle, whose vertical arm is fitted with a clutch mechanism adapted to engage and release a friction wheel the whole being mounted in pivoted casings on each side substantially as set forth and illustrated.

2. In a rowing machine for physical exercise, training, and coaching, an eccentric or roller clutch mechanism attached to a crank spindle in combination with a friction wheel having an adjustable brake band around its grooved periphery substantially as and for the purposes specified and as illustrated.

3. In a rowing machine for physical exercise, training, and coaching, a pair of pivoted casings having trunnions journalled in bearings in convenient side supports and carrying the mechanism substantially as and for the purposes specified and as illustrated.

Specification, 4s. 6d. Drawings on application.

Application No. 4429.—ALEXANDER GILLIES, of Terang, in the State of Victoria and Commonwealth of Australia, Dairyman, "*Improved method of and means for Pulsating inflatable Teat Cups of Pneumatic Milking Apparatus.*"—Dated 21st May, 1903.

Claims :—

1. Improved method of pulsating inflatable teat cups of pneumatic milking machines consisting in the employment of atmospheric pressure at the teat cup in conjunction with an intermittent suction between the flexible lining and rigid casing and a continuous suction in the interior chamber substantially as and for the purposes set forth.

2. Improved means for pulsating inflatable teat cups of pneumatic milking apparatus, consisting in an automatic air-inlet valve opening into the annular space between the flexible lining and rigid casing for the intermittent admission of atmospheric pressure in combination with an intermittent suction pipe at the base of said annular space and a continuous suction pipe at the base of the inner compartment of the teat cup substantially as set forth and illustrated.

3. In means for pulsating inflatable teat cups of pneumatic milking apparatus a vertically arranged automatic air-inlet valve in the base of the annular space between the flexible lining and rigid casing of said teat cup substantially as and for the purpose set forth and as illustrated.

Specification, 7s. 6d. Drawings on application.

Application No. 4434.—TORE GUSTAF EMANUEL LINDMARK, of Bjorkhagen, Langholmen, Stockholm, Sweden, Engineer, "*Improvements in elastic fluid Turbines.*"—Dated 27th May, 1903.

Claims :—

1. An elastic fluid turbine, wherein kinetic energy of the exhaust fluid from a turbine wheel, or from part of a turbine wheel, is transformed into potential energy so that the said exhaust is delivered to a further turbine wheel, or to another portion of the same turbine wheel, at a lower velocity but at a higher pressure than those at which it left the previous turbine wheel or portion of the same turbine wheel, substantially as described.

2. An elastic fluid turbine according to the preceding claim wherein there is provided between the exhaust outlet of a turbine wheel, or portion of a turbine wheel, and the inlet of a further turbine wheel, or portion of the same turbine wheel, a passage or channel the cross sectional area of which increases in the direction of motion of the fluid therein in such wise that the velocity energy of the elastic fluid passing through it can be transformed into pressure energy, substantially as described.

3. In a multiple elastic fluid turbine, a wheel, a passage external to the said wheel, of increasing cross sectional area in the direction of motion of the fluid therein, and receiving the exhaust from the said wheel, and a second wheel actuated by the said exhaust, the area of the outlet of a second wheel being such as to cause an increase of the pressure of the exhaust fluid in the said passage substantially as described.

4. In a multiple elastic fluid turbine, a series of hollow wheels each having a central inlet and a circumferential outlet, and each, after the first of the series, actuated by the exhaust from the wheel next preceding, and an annular exhaust passage surrounding each wheel outlet and having a cross sectional area increasing in the direction of motion of the fluid, the pressure of which is increased in the said passage substantially as described.

5. Improved elastic fluid turbines constructed, arranged and operating substantially as described with reference to and illustrated in Figs. 3 and 4, in Fig. 5, in Figs. 6, 7, 8, and 9, in Fig. 10, and in Figs. 11 and 11a respectively of the drawings.

Specification, £1 13s. Drawings on application.

Application No. 4435.—CARL GUSTAF PATRIK DE LAVAL, of Stockholm, Kungstradgardsgstan, Q.C., Sweden, Doctor of Philosophy and Engineer, "*Improvements in or pertaining to the distillation of Zinc and other Volatile Metals from material containing the same.*"—Dated 27th May, 1903.

Claims :—

1. Distilling zinc or other volatile metal from its ore by means of an electric furnace in which the ore is so introduced as to present towards the electric source of heat a slope or incline the surface of which is heated by radiation from the said source of heat and wherein the volatile constituents of the ore escaping from the said surface pass off through a special outlet whilst the residues are collected at and removed from the base of the slope, substantially as set forth.

2. Distilling zinc or other volatile metal as herein set forth by means of the electric furnace described.

Specification, 12s. Drawings on application.

Application No. 4438.—THOMAS MATHIESON THOM, of Rowland Villa, Turner's Hill, Cheshunt, in the County of Hertfordshire, England, Lithographer, "*Improvements in the manufacture of Artificial Marble, Dolomite, and other Stone.*"—Dated 27th May, 1903.

Claims :—

1. The process of manufacturing artificial crystalline marble, which process consists in reducing uncalcined limestone, such as waste marble chips, to a granular condition, mixing the same with calcined limestone, reduced to a condition of fine impalpable powder, slacking the mixture, moulding the same into blocks and carbonating the latter when dry, substantially as described.

2. The process of manufacturing artificial coloured marble, wherein granulated uncalcined limestone is employed mixed with calcined limestone, reduced to a state of fine impalpable powder and wherein a colouring matter is added, which colouring matter produces in the mass, owing to the granulations, a speckled or veined appearance, substantially as described.

3. The process of manufacturing artificial dolomite and the like, wherein granulated uncalcined limestone is employed mixed with calcined magnesia, reduced to a state of fine impalpable powder and wherein a colouring matter is added, which colouring matter produces in the mass, owing to the granulations, a veined appearance, substantially as described.

Specification, 7s. 6d.

Application No. 4439.—ALBERT ENNIS HENDERSON, of Toronto, in the Dominion of Canada, Gentleman, "*Improvements in Roller Bearings.*"—Dated 27th May, 1903.

Claims :—

1. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods having apertures therein provided with median end grooves, and spacers contained in the apertured tie-rods held from contact therewith by the median end grooves, substantially as set forth.

2. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods having apertures therein provided with median end grooves, and spacing rollers contained in the apertures of the tie-rods having tapering pins journaled in the median end grooves, substantially as set forth.

3. In a roller bearing, the combination of the bearing rollers having centrally located conical recesses in the ends thereof terminating in horizontally disposed bores, retaining rings fitted with tapering pins having conical points journaled in the conical recesses of the bearing rollers, apertured tie-rods for holding the retaining rings relatively to the bearing roller and spacing rollers contained in the apertured tie-rods, substantially as set forth.

4. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods for holding the retaining rings together and independently rotatable abutting rings to contact the ends of the bearing rollers, substantially as set forth.

5. In a roller bearing, the combination of the journal a sleeve therefor, bearing rollers encircling the sleeve, retaining rings for the bearing roller, tie-rods for holding the retaining rings together, a sleeve enclosing the retaining rings, independently rotatable abutting rings fitted to the sleeve engaging the ends of the bearing rollers, and adjustable nuts fitted on the sleeve to prevent the longitudinal displacement of the rotatable abutting rings, substantially as set forth.

6. In a roller bearing, the combination of the bearing rollers, sectional retaining rings for the bearing rollers, the separate parts of which have overlapping joints, and a series of tie-rods interposed between the bearing rollers and passing through the overlapping joints of the retaining rings to hold the sections of the retaining rings relatively to each other, and to the bearing rollers, said tie-rods being provided with apertures therethrough, and antifriction devices mounted in said apertures and adapted to contact the bearing rollers.

7. In a roller bearing, the combination of the bearing rollers, bearing rings therefor, tie-rods for holding the bearing rings relatively to the bearing rollers, said tie-rods being provided with journals, spacing rollers loosely mounted on the journals of the tie-rods to contact the bearing rollers and having their ends within the ends of the bearing rollers, and means separably mounted upon the tie-rods and of greater diameter than the journals of the tie-rods and adapted to contact the shoulders of the journals and the inside of the bearing rings.

8. In a roller bearing, the combination of the bearing rollers, bearing rings therefor, tie-rods for holding the bearing rings relatively to the bearing rollers there being journals on the tie-rods, spacing rollers mounted on the journals and having their outer ends within the ends of the bearing rollers, and washers of a greater diameter than the journals mounted upon the tie-rods of the bearing rings.

9. In a roller bearing, the combination of the bearing rollers, bearing rings therefor, tie-rods for holding the bearing rings together, spacing rollers mounted on the tie-rods, abutting means for the inner faces of the spacing rollers, and washers at the outer ends of the spacing rollers.

10. In a roller bearing, the combination of a journal, rotatable thrust rings mounted thereon, bearing rollers surrounding the journal and having their ends opposed to the said thrust rings, rings supporting said rollers, rods forming tie and spacing rods for holding the rings relatively to the spacing rollers provided with notches in the inner edge thereof, spacing rollers mounted in the tie-rods, a journal boxing,

rotatable thrust rings mounted in the boxing opposed to the rotatable rings of the journal, and locking means mounted on the journal and also in the boxing for holding the parts relatively together.

11. In a roller bearing, the combination of a pair of retaining rings, said retaining rings comprising each four segmental sections two of said sections being provided with bearings the other remaining two fitting within the first two overlapping their meeting ends to lock the sections together, bearing rollers mounted in the bearings of said rings, and tie-rods to hold the rings together.

12. In a roller bearing, the combination of a pair of retaining rings, said retaining rings comprising each four segmental sections, two of said sections being provided with bearings and the two remaining sections fitting within the first overlapping their meeting ends to lock the sections together, bearing rollers mounted in the bearings of said rings, notched tie-rods connecting the rings together, and spacing rollers mounted in the notches.

13. In a roller bearing, the combination of two retaining rings, formed substantially of four sections said sections being arranged in pairs so that one pair fits within the other pair, bearing rollers supported between the rings, notched tie-rods mounted in the inner sections of the retaining rings, and antifriction spacing means mounted in the notches of said rods.

14. In a roller bearing, the combination of a pair of retaining rings, each formed of four segmental sections arranged in pairs, the outer pair overlapping the meeting points of the inner pair, bearing rollers mounted in and supported by the inner sections of said rings, said inner sections being provided with openings and grooves, and tie-rods mounted in said openings and prevented from turning by said grooves.

15. In a roller bearing, the combination of two retaining rings, each of which is formed of four sections, two of said sections being provided with parallel flanges, the two other sections fitting within the flanges and having their meeting edges overlapping the meeting edges of the flanges sections, bearing rollers and tie-rods for holding the rings relatively to the bearing rollers.

16. In a roller bearing, the combination of two end rings each one of which comprises an internal and external ring, each made of two sections, the internal rings being provided with depressions for the reception of the bearing elements, and with radial grooves, bearing rollers journalled in the depressions, and tie-rods mounted in the grooves to hold the rings relatively to the bearing rollers.

17. In a roller bearing, the combination of two retaining rings each formed of two rings, one ring fitting wholly within the other ring, bearing rollers journalled in the internal ring, and tie-rods for holding the rings relatively to the bearing rollers.

18. In a roller bearing, the combination of two retaining rings each of which is formed from two rings, one ring fitting wholly within the other ring, the opposed faces of the retaining rings being provided with circular depressions and radial grooves, bearing rollers journaled in the depressions of the rings, and tie-rods mounted in the rings and prevented from twisting by the grooves, said tie-rods holding the rings relatively to the bearing rollers.

19. In a roller bearing, the combination of a pair of retaining rings having upon their opposed edges aligned depressions and radial grooves with central openings, bearing rollers mounted in the depressions, tie-rods mounted in the openings and grooves and cut away upon their inner edges and antifriction spacing rollers mounted in the tie-rods.

20. In a roller bearing, the combination of retaining rings, said retaining rings being provided with means for the reception of bearing rollers and tie-rods, bearing rollers supported by the rings, tie-rods for holding the retaining rings relatively to the bearing rollers cut away upon their inner faces to provide notches with aligned bearings, and antifriction spacing rollers mounted in the aligned bearings.

21. In a roller bearing, the combination of two retaining rings, said retaining rings being formed each from four sections arranged in pairs, the inner sections of which are provided with depressions and radial grooves having central openings, and the outer sections being provided with a series of openings opposed to the openings and grooves of the inner sections, bearing rollers supported in the depressions of the rings and tie-rods mounted in the grooves and openings and having their ends projecting into the recesses of the outer rings.

22. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods for holding the retaining rings relatively to the bearing rollers cut away upon their inner edges to form notches, and spacers mounted in the notches of the tie-rods to contact the bearing rollers.

23. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods for holding the retaining rings relatively to the bearing rollers, cut away upon their inner edges to form notches and spacing rollers journaled in the notches so formed.

24. In a roller bearing, the combination of the bearing rollers having trunnions, retaining rings for the bearing rollers having recesses in their faces in which are journaled the trunnions of the bearing rollers, tie-rods for holding the retaining rings relatively to the bearing rollers cut away upon their inner edges to form notches, and spacing rollers journaled in the tie-rods and forming a roller contact with the bearing rollers.

25. In a roller bearing, the combination of the bearing rollers, retaining rings for the bearing rollers, tie-rods for holding the retaining rings relatively to the bearing rollers cut away upon their inner edges to provide a space with aligned bearings for spacing rollers, and spacing rollers mounted in the bearings so formed and revoluble in the space.

Specification, £1 1s. Drawings on application.

Application No. 4440.—BENJAMIN CUSHING MUDGE, of Snows' Falls, in the State of Maine and United States of America, Chemist, "*Improvements in and relating to the manufacture or production of flax fiber.*"—Dated 27th May, 1903.

Claims:—

1. Flax fiber wherein shives, disintegrated and resolved into shive fibers, are dispersed in the form of shive fibers through and within the mass of flax fiber.

2. The method of rendering flax fiber free from shives as such, which consists in disintegrating the shives which are entangled in the flax fiber, and resolving them into their component fibers, said shive fibers being dispersed through the mass of fiber.

3. The method of rendering flax fiber free from shives entangled therein, which consists in treating the mass of fiber with a solvest of the cementitious and non-cellular portions of the shives, thus separating the shive fibers.

4. The method of rendering flax fiber free from shives entangled therein which consists in treating the mass of fibre with an alkaline solvent of the cementitious and non-cellular portions of the shives, thus separating the shive fibers.

5. The method of rendering flax fiber free from shives entangled therein which consists in treating the mass of fiber with caustic soda, separating the shive fibers thereby, and bleaching the mass with a solution of chloride of lime and sulphate of magnesia.

Specification, 18s.

Application No. 4441.—EDWIN PHILLIPS, of 533 Collins Street, Melbourne, in the State of Victoria, Commonwealth of Australia, certified Patent Agent and Engineer (*O. C. Duryea and M. C. White*), "*A free Piston Engine.*"—Dated 27th May, 1903.

Claims:—

1. A free piston engine which is characterised by having connected free moving pistons which are reciprocated in their cylinders by the explosion of a suitable fuel, and the pistons being unconnected with a fly-wheel or other rotating or inertial device, the pistons being cushioned at the end of each stroke, and tool holding means connected with the pistons.

2. A free piston engine characterised as set forth in Claim 1 and having a casing which carries the cylinders with their pistons, a frame on which the casing is slidably mounted and means for moving the casing and its attachments back and forth on the frame, consisting preferably of a screw mounted on the frame, which engages a nut on the casing.

3. An engine which is characterised by being entirely self-contained, and which has free moving pistons which are connected and arranged in opposite cylinders, an inlet valve for each cylinder and outlet ports for each cylinder, the outlet port in each cylinder being opened and closed by the piston in the cylinder as it reciprocates, and mechanism for causing an explosion of the charge in each cylinder as soon as the gas is compressed in the explosion chamber of each cylinder, and tool holding means connected with the pistons and slidably mounted on the casing and preferably axially in line with the cylinders.

4. In an engine such as described, sparking plugs in the respective cylinders, and stationary contacts in the casing, each of which is electrically connected with respective sparking plugs and a contact blade carried by the connection between the pistons which moves alternately into contact with the stationary contacts as the pistons reciprocate and causes a spark to be produced alternately in each cylinder by the sparking plugs.

5. An engine which is characterised by having free moving pistons which are connected and are reciprocated in their cylinders by the explosions of a suitable fuel, and the pistons being unconnected with a flywheel or other rotating or inertial device, a tool holding bar connected with the pistons, the bar being hollow and telescoping with a tube which communicates with the water jacket of the cylinders whereby water is supplied from the water jacket to cool or lubricate the tool.

Specification, 15s. Drawings on application.

Application No. 4447.—SIDNEY TRIVICK, of No. 76 Birchanger Road, South Norwood, in the County of Surrey, England, Chemist and Metallurgist, "*Process for the manufacture of dry Sulphates of the Alkali metals and the products thereof.*"—Dated 2nd June, 1903.

Claims:—

1. A process for the production of a dry salt and the product thereof which is composed of one chemical unit of an oxide of one or more of the alkali metals united with not less than four units of sulphuric anhydride, SO_3, and with not more than three chemical units of H_2O, consisting in adding to concentrated sulphuric acid, H_2SO_4, such a quantity of anhydrous salt or salts of the alkali metal or metals as will contain half as many chemical units of the metal or metals themselves as there will be of sulphur in the mixture, heating the mixture to a temperature not exceeding 250° C, granulating the mass by stirring whilst cooling, and subsequently exposing it to a current of warm dry air.

2. A process and the product thereof, characterised as described in Claim 1, omitting the heating of the mixture by an external source of heat, in which the anhydrous salt added to the H_2SO_4 is that of the metal sodium.

3. A process and the product thereof, characterised as described in Claim 2, in which the anhydrous salt added to the H_2SO_4 is Na Cl.

4. A process and the product thereof, characterised as described in Claim 1, in which the anhydrous salt added to the H_2SO_4 is that of the metal potassium.

5. A process and the product thereof, characterised as described in Claim 1, in which to the H_2SO_4 is added a salt of ammonium.

6. A process and the product thereof, characterised as described in Claim 1, in which to the H_2SO_4 is added salts of two or more of the metals sodium, potassium and ammonium.

Specification, 10s. 6d. Drawings on application.

Application No. 4449.—HENRY LIVINGSTONE SULMAN and HUGH FITZALIS KIRKPATRICK-PICARD, Metallurgical Chemists, of 44 London Wall, in the City of London, England, "*Improvements in or relating to the Recovery of Precious Metals.*"—Dated 3rd June, 1903.

Claims:—

1. The process of recovering precious metals in which the sufficiently finely ground ores or pulps mixed with a solvent or leached filtered or decanted solutions containing the values are passed up through a continuous vertical or inclined column film or sheet of mercury, held between amalgamated surfaces and kept continuously charged with an electro-positive metal such as sodium for the purpose described.

2. The process of recovering precious metals in which a solution carrying the values partly in suspension or not is passed up through mercury kept continuously charged with an electro-positive metal such as sodium and passing slowly downward in a narrow interspace between two or more inverted cones or the like.

3. An apparatus for use in the recovery of precious metals consisting of concentric inverted conical or similar vessels the surfaces of which are amalgamated having the narrow intervening space filled with a descending body of mercury charged with an electro-positive metal through which the solution carrying the values is passed upwards substantially as and for the purpose described.

4. The complete process of recovering precious metals substantially as described.

5. The complete apparatus for use in recovering precious metals substantially as described or illustrated in the accompanying drawings.

Specifications, 10s. 6d. Drawings on application.

R. G. FERGUSON,

Registrar of Patents.

Applications abandoned.

JUNE 13TH—20TH.

Application No. 3996.—FREDERICK GILES, of 139 High Street, St. Kilda, Victoria, Manufacturer, "*Improvements in or connected with Roofing Nails and Screws.*"—Dated 14th August, 1902.

Application No. 3997.—JOHN HECTOR, of Collie Street, Fremantle, Western Australia, Produce Merchant, "*Pneumatic Riding Saddle.*"—Dated 14th August, 1902.

Application No. 3998.—DAVID MUIR, of Iron Duke Lease, Kalgoorlie, Cable Splicer, "*A new Indicator for Splices in Winding Ropes to notify when splices are drawing.*"—Dated 15th August, 1902.

Application No. 3999.—DAVID MUIR, of Iron Duke Lease, Kalgoorlie, Cable Splicer, "*An improved method of Splicing Wire Ropes and Tools therefor.*"—Dated 15th August, 1902.

Application No. 4000.—JOHN KERR, of Yering Victoria, Dairyman, "*An improved Milk Cooler or Refrigerator.*"—Dated 18th August, 1902.

Application No. 4001.—JOHN KERR, of Yering, Victoria, Dairyman, "*An improved Milk Strainer.*"—Dated 18th August, 1902.

R. G. FERGUSON,
Registrar of Patents.

Applications for Patents.

JUNE 13TH—20TH.

[Where Provisional Specification accompanies Application an asterisk is affixed.]

No.	Date.	Name.	Address.	Title.
*4468	15th June, 1903	Harvey, T. O. M.	Cottesloe, W. A. ...	Draught bricks, an improved brick for the construction of draught fire holes for lime burning purposes.
*4469	16th June, 1903	Stephenson, A. A., and Carr, F.	Adelaide, S.A. ...	Improvements in incandescent low pressure air lamps.
4470	16th June, 1903	Ridgway, G.	Boulder, W.A. ...	A new or improved roasting furnace for refractory and sulphide ores, to be called "Ridgway's Turret Roasting Furnace."
4471	16th June, 1903	Sutherland, J. W.	Boulder, W.A. ...	A rotary water sprayer and sprinkler for use in condensers, water cooling towers, flue dust settlers, road and lawn sprinklers and the like.
*4472	16th June, 1903	Bawden, W. R.	Kalgoorlie (W.A.)	Improved clinostat and means for using same, principally for ascertaining the angle and position of deep drilling operations.
4473	16th June, 1903	McLennan, G., and McCausland, M. (assignees of Burge, J.)	Melbourne (Vic.) ...	An improved rug for cows, horses, and like animals.
4474	16th June, 1903	Kingsland, W.	London (Eng.) ...	Improvements in or connected with ratchet-operated electric switches.
4475	16th June, 1903	Baumgarten, H.	London (Eng.) ...	Improved automatic generator and lamp for acetylene gas.
4476	16th June, 1903	Bernays, C. E.	Brisbane, Q. ...	Improvements in means for getting more perfect combustion of fuel in the fire chambers of boilers and also for the prevention of smoke and sparks.
4477	16th June, 1903	Waters, E., jun. (*Edison Ore Milling Synd., Ltd.*)	Melbourne, Vic. ...	Improvements in roller crushing mills.
4478	17th June, 1903	Perillat, C. D.	Philadelphia, U.S.A.	Improvements in and relating to vaporisers and burners for hydrocarbon oils.
4479	17th June, 1903	Brown, F. H., Hanrahan, J. E., and Boyden, G. A.	Baltimore, U.S.A.	Improvements in and relating to machines for casting type.
4480	17th June, 1903	Sparrow, R. (*Mitchell, W. C., and Cummins, M.*)	Perth, W.A. ...	Improvements relating to brakes for vehicles.
4481	17th June, 1903	Sparrow, R. (*Westinghouse, G., and Aspinwall, L. M.*)	Perth, W.A. ...	Improvements in controlling systems for electric motors.
*4482	19th June, 1903	Mitchell, F.	Heathcote, Victoria	Improvements in or connected with pressure gauges for steam boilers and the like.
4483	19th June, 1903	Gardner, C. C.	Kew, Victoria ...	A transparent door for domestic ovens.
4484	19th June, 1903	Quertier, H.	Dunedin, New Zealand	Machine for excavating, raising, screening, and filling gravel, ballast, and the like.
4485	19th June, 1903	Woltereck, H. C.	London, England ...	Process for the production of ammonia by synthisis.

Index of Applicants for Patents.

JUNE 13TH—20TH.

Name.	Title.	No.	Date.
Aspinwall, L. M.	*Vide* Sparrow, R.	4481	17th June, 1903
Baumgarten, H.	Improved automatic generator and lamp for acetylene gas	4475	16th June, 1903
Bawden, W. R.	Improved clinostat and means for using same, principally for ascertaining the angle and position of deep drilling operations	4472	16th June, 1903
Bernayo, C. E.	Improvements in means for getting more perfect combustion of fuel in the fire chambers of boilers, and also for the prevention of smoke and sparks	4476	16th June, 1903
Boyden, G. A.	*Vide* Brown, F. H., and others	4479	17th June, 1903
Brown, F. H.; Hanrahan, J. E.; and Boyden, G. A.	Improvements in and relating to machine for casting type	4479	17th June, 1903
Burge, J.	*Vide* McLennan, G., and McCausland, M.	4473	16th June, 1903
Carr, F.	*Vide* Stephenson, A. A., and Carr, F.	4469	16th June, 1903
Cummins, W.	*Vide* Sparrow, R.	4480	17th June, 1903
Edison Ore Milling Syndicate, Ltd. ...	*Vide* Walters, E., jun.	4477	16th June, 1903
Gardner, C. C.	A transparent door for domestic ovens	4483	19th June, 1903
Hanrahan, J. E.	*Vide* Brown, F. H., and others	4479	17th June, 1903
Harvey, T. O. M.	Draught bricks, an improved brick for the construction of draught fire-holes for lime-burning purposes	4468	15th June, 1903
Kingsland, W.	Improvements in or connected with ratchet operated electric switches	4474	16th June, 1903
McCausland, M.	*Vide* McLennan, G., and McCausland, M.	4473	16th June, 1903
McLennan, G., and McCausland, M. (assignees of Burge, J.)	An improved rug for cows, horses, and like animals ...	4473	16th June, 1903
Mitchell, F.	Improvements in or connected with pressure gauges for steam boilers and the like	4482	19th June, 1903
Mitchell, W. C.	*Vide* Sparrow, R.	4480	17th June, 1903
Perillat, C. D.	Improvements in and relating to vaporisers and burners for hydrocarbon oils	4478	17th June, 1903
Quertier, H.	Machine for excavating, raising, screening, and filling gravel, ballast, and the like	4484	19th June, 1903
Ridgway, G.	A new or improved roasting furnace for refractory and sulphide ores, to be called "Ridgway's Turret Roasting Furnace"	4470	16th June, 1903
Sparrow, R. (*Mitchell, W. C., and Cummins, W.*)	Improvements relating to brakes for vehicles	4480	17th June, 1903
Sparrow, R. (*Westinghouse, G., and Aspinwall, L. M.*)	Improvements in controlling systems for electric motors	4481	17th June, 1903
Stephenson, A. A., and Carr, F. ...	Improvements in incandescent low-pressure air lamps ...	4469	16th June, 1903
Sutherland, J. W.	Rotary water sprayer and sprinkler for use in condensers, water cooling towers, fine dust settlers, road and lawn sprinklers, and the like	4471	16th June, 1903
Waters, E., jun. (Edison Ore Milling Syndicate, Ltd.)	Improvements in roller crushing mills	4477	16th June, 1903
Westinghouse, G.	*Vide* Sparrow, R.	4481	17th June, 1903
Woltereck, H. C.	Process for the production of ammonia by synthesis ...	4485	19th June, 1903

Index of Subjects of Patent Applications.

JUNE 13TH—20TH.

Title.	Name.	No.	Date.
Acetylene Gas	Baumgarten, H.	4475	16th June, 1903
Ammonia	Woltereck, H. C.	4485	19th June, 1903
Boilers	Mitchell, F.	4482	19th June, 1903
Brakes	Sparrow, R.	4480	17th June, 1903
Brick	Harvey, T. O. M.	4468	15th June, 1903
Burners	Perillat, C. D.	4478	17th June, 1903
Casting Type	*Vide* Type Casting	4479	17th June, 1903
Clinostat	Bawden, W. R.	4472	16th June, 1903
Condensers	Sutherland, J. W.	4471	16th June, 1903
Controlling Systems	*Vide* Motors (electric)	4481	17th June, 1903
Crushing Mills	*Vide* Mills (crushing)	4477	16th June, 1903
Door (oven)	Gardner, C. C.	4483	19th June, 1903
Draught Brick	*Vide* Brick	4468	15th June, 1903
Excavating (gravel, etc.)	Quertier, H.	4484	19th June, 1903
Fuel Combustion	Bernays, C. E.	4476	16th June, 1903
Furnace (Roasting)	Ridgway, G.	4470	16th June, 1903
Gas (Acetylene)	*Vide* Acetylene Gas	4475	16th June, 1903
Lamps (Air)	Stephenson, A. A., and Carr, F.	4469	16th June, 1903
Mills (Crushing)	Waters, E., jun.	4477	16th June, 1903
Motors (Electric)	Sparrow, R.	4481	17th June, 1903
Oils	*Vide* Burners	4478	17th June, 1903
Ores	*Vide* Furnace	4470	16th June, 1903
Ovens	*Vide* Door (oven)	4483	19th June, 1903
Pressure Gauges	*Vide* Boilers	4482	19th June, 1903
Raising (gravel, etc.)	*Vide* Excavating (gravel, etc.)	4484	19th June, 1903
Rug	McLennan, G., & McCausland, M.	4473	16th June, 1903
Screening (Gravel, etc.)	*Vide* Excavating (gravel, etc.)	4484	19th June, 1903
Smoke Prevention	*Vide* Fuel Combustion	4476	16th June, 1903
Sprayer	*Vide* Condensers	4471	16th June, 1903
Sprinkler	*Vide* Condensers	4471	16th June, 1903
Switches (Electric)	Kingsland, W.	4474	16th June, 1903
Type Casting	Brown, F. H., Hanrahan, J. E., and Boyden, G. A.	4479	17th June, 1903
Vaporisers	*Vide* Burners	4478	17th June, 1903

Trade Marks.

Patent Office, Trade Marks Branch,
Perth, 26th June, 1903.

IT is hereby notified that I have received the undermentioned Applications for the Registration of Trade Marks.

Any person or persons intending to oppose such applications must leave particulars in writing, in duplicate (on Form F), of his or their objections thereto, within two calendar months from the date of this *Gazette*.

A fee of £1 is payable with such notice.

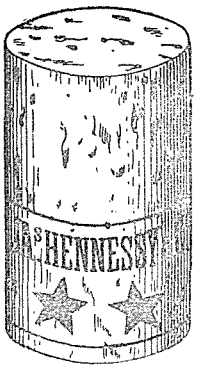
In the case of an Application in which have been inserted a statement and disclaimer (or a disclaimer only), a copy of the same is printed in *italics* in connection with the advertisement.

R. G. FERGUSON,
Registrar of Designs and Trade Marks.

Application No. 2849, dated 16th June, 1903.—THE H.O. (HORNBY'S OATMEAL) COMPANY, of City of Buffalo, County of Erie, in the State of New York, and also of the City of New York, in the said State, to register in Class 42, in respect of Cereals and Food Products generally, including Flour, a Trade Mark, of which the following is a representation :—

Presto

Application No. 2856, dated 22nd June, 1903.—JAS. HENNESSY & Co., of Cognac, in the Republic of France, Distillers, to register in Class 43, in respect of Brandy, a Trade Mark, of which the following is a representation :—

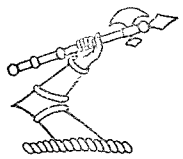


The above Trade Mark having been used by the applicant Company and their predecessors in business since prior to the 1st day of January, 1885.

Application No. 2857, dated 22nd June, 1903.—JAS. HENNESSY & Co., of Cognac, in the Republic of France, Distillers, to register in Class 43, in respect of Brandy, a Trade Mark, of which the following is a representation :—

The above Trade Mark having been used by the applicant Company and their predecessors in business since prior to the 1st day of January, 1885.

Application No. 2859, dated 22nd June, 1903.—JAS. HENNESSY & Co., of Cognac, in the Republic of France, Distillers, to register in Class 43, in respect of Brandy, a Trade Mark, of which the following is a representation:—



JAS. HENNESSY
COGNAC

The above Trade Mark having been used by the applicant Company and their predecessors in business since prior to the 1st day of January, 1885.

Application No. 2860, dated 23rd June, 1903.—HUGO ROSENBERG, of No. 4 Rankestrasse, Berlin, in the Kingdom of Prussia, German Empire, Apothecary, to register in Class 3, in respect of Chemical Substances prepared for use in medicine and pharmacy, a Trade Mark, of which the following is a representation:—

CHOLOGEN.

Subsequent Proprietors of Trade Marks Registered.

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[NOTE.—The names in brackets are those of former proprietors.]

No. 1104.—The British American Tobacco Company, Limited [The National Cigarette Company of Australasia Proprietary, Limited].

No. 1157.—The British American Tobacco Company, Limited [The National Cigarette Company of Australasia Proprietary, Limited].

List of Trade Mark Applications withdrawn.

JUNE 13TH—20TH.

No. 2751, dated 10th March, 1903.—WIGGINS, TEAPE, & Co., LIMITED, of 10 Aldgate, London, England, Paper Manufacturers, to register in Class 39, in respect of Paper (except paper hangings). Advertised in the Western Australian *Government Gazette* No. 12, of 20th March, 1903, page 702.

List of Registrations expired owing to non-payment of Renewal Fees.

JUNE 13TH—20TH.

No. 229.—John Gordon Smith, trading as "George and John Gordon Smith," of Invarnaven, Bauff, Scotland. In respect of whisky.

Alphabetical List of Registrants of Trade Marks.

JUNE 13TH—20TH.

Name.	Goods.	Class.	No.	Date.	*Gazette.*		
					No.	Date.	Page.
Cameron, R. W., & Co. ...	Flour and goods of a similar description	42	2678	30th Dec., 1902	2	9th Jan., 1903	82
Curtiss & Harvey, Ltd. ...	Explosive substances	20	2579	8th Sept., 1902	38	19th Sept., 1902	3890
Griffiths Bros. & Co. ...	Chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives	1	2679	30th Dec., 1902	7	13th Feb., 1903	299
Griffiths Bros. & Co. ...	Chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives	1	2680	30th Dec., 1902	2	9th Jan., 1903	82
Harvey	*Vide* Curtiss & Harvey, Ltd. ...	20	2579	8th Sept., 1902	38	19th Sept., 1902	3890
Mackenzie Bros.	Whisky	43	2433	2nd April, 1902	50	12th Dec., 1902	4586
Paris Medicine Co. ...	Chemical substances prepared for use in medicine and pharmacy	3	2681	30th Dec., 1902	2	9th Jan., 1903	82
Tackamine, J.	Substances prepared for use in medicine and pharmacy	3	2779	31st Mar., 1903	15	10th Apl., 1903	875
Watson, J. & Co.	Whisky	43	2677	20th Dec., 1902	2	9th Jan., 1903	81
Watson, J. & Co.	Wines and Spirits	43	2691	6th Jan., 1903	3	16th Jan., 1903	109

List of Goods for which Trade Marks have been registered.

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Goods.	Name.	No.	Date.	Class.	*Gazette.*		
					No.	Date.	Page.
Anti-corrosives ...	*Vide* Chemical Substances	2679	30th Dec., 1902	1	7	13th Feb., 1903	299
Anti-corrosives ...	*Vide* Chemical Substances	2680	30th Dec., 1902	1	2	9th Jan., 1903	82
Chemical Substances	Griffiths Bros. & Co., Ltd.	2679	30th Dec., 1902	1	7	13th Feb., 1903	299
Chemical Substances	Griffiths Bros. & Co., Ltd.	2680	30th Dec., 1902	1	2	9th Jan., 1903	82
Chemical Substances	Paris Medicine Co.	2681	30th Dec., 1902	3	2	9th Jan., 1903	82
Chemical Substances	Takamine, J.	2779	31st Mar., 1903	3	15	10th April, 1903	875
Explosive Substances	Curtiss and Harvey, Limited ...	2579	8th Sept., 1902	20	38	19th Sept., 1902	3890
Flour	Cameron, R. W., & Co.	2678	30th Dec., 1902	42	2	9th Jan., 1903	82
Spirits	*Vide* Wines	2691	6th Jan., 1903	43	3	16th Jan., 1903	109
Whisky...	MacKenzie Brothers	2433	2nd April, 1902	43	50	12th Dec., 1902	4586
Whisky...	Watson, J., & Co.	2677	20th Dec., 1902	43	2	9th Jan., 1903	81
Wines	Watson, J., & Co.	2691	6th Jan., 1903	43	3	16th Jan., 1903	109

By Authority: WM. ALFRED WATSON, Government Printer, Perth.