Imports of Medicines.

The following table shows the amount of duty collected by the Customs on the importation of the articles named for the years ending March 31, 1886 and 1887, respectively:—

	1887.	1886.
	£.	£.
Chloroform	2	6
Chloral hydrate	979	1015
Collodion	16	6
Ether, sulphuric	15	5
Ethyl, iodide of	—	—
Naphtha, purified	—	—
Soap, transparent, in the manufacture of which spirit has been used	180	224
Varnish containing alcohol	112	91

As the duty on chloroform is 3s. per lb., it appears that the *total quantity of that article imported from abroad last year* was under 14lb. The duty on chloral hydrate is 1s. 3d. per lb. The total import of the chemical for home consumption was therefore 15,664lb.—*C. and D.* 10/9/87.

Recent Trade Blue Books.

Mining and Mineral Statistics of the United Kingdom of Great Britain and Ireland, including Lists of Mines and Mineral Works for the year 1886, and a list of plans of abandoned mines. (C—5132) Price 3s. 7d.

Special Report from the Select Committee on Merchandise Marks Act (1862) Amendment Bill, together with the Proceedings of the Committee Minutes of Evidence and Appendix. 293. Price 4s. 4d.

Monthly Patent List.

I.—GENERAL PLANT, APPARATUS AND MACHINERY.

APPLICATIONS.

11112 B. H. Thwaite, Liverpool. Improvements in methods of calcining and heating argillaceous, calcareous, and metalliferous substances and any mixture thereof, and in apparatus therefor. August 22

11156 W. S. Squire, London. Improvements in machinery for the separation of solid matters from liquids, and for washing out and exhausting the solid matters so separated. August 23.

11173 C. Kusefang, London. *Taps or cocks specially adapted* for the delivery of fluids under pressure. August 23

11519 P. Hodkinson, London. Apparatus for consuming smoke in steam-boiler and other furnaces. August 27

11519 G. Large, Wolverhampton. A water tuyere with a *false nose or nozzle for use in hearths, cupolas, furnaces, etc.* August 25.

11609 J. E. Warren, London. Means and apparatus for filtering water and other fluids. Complete specification. August 26

11622 N. Petersen, London. *Improvements in furnaces.* August 26

11628 C. Howe, B. Beckwith, and J. H. Beckwith, London. Apparatus for generating secondary steam; specially applicable for distilling water. August 27

11636 R. Robson, Leeds. *Atmospheric injector, for improving* draught and consuming smoke in furnaces. August 27

11780 R. Cahn, London. Cooling apparatus. August 30

11811 J. H. Hayes, London. Improved means for regulating the supply of gas and other fluids or liquids. August 31

11865 R. Gough, London. New or improved filter. September 1

11876 F. W. Cannon, G. P. Addison, and F. R. Burnett, London. Method and apparatus for generating steam. September 1

11877 J. Nicholas and H. H. Fanshaw, London. *Construction* of water or liquid gauges. September 1

11887 W. Fairweather—From the Babcock and Wilcox Company, United States. Drumheads and manifolds for sectional steam generators. Complete specification. September 2

11894 B. D. Healey, Bamber Bridge. Making and working furnace rocking bars. September 2

11929 B. Willcox—From M. Perret, France. Firebars or grates for furnaces. September 2

11981 W. Leigh, London. *Amalgamating apparatus.* September 3

11984 H. F. Green, London. Processes and apparatus for producing currents of air, spray, and gas, and for purifying, disinfecting, and chemically treating the same. September 3

12003 J. R. Alsing, London. *Method of and apparatus for* reducing sawdust, straw, and other vegetable substances to an impalpable powder or to a pulp, the apparatus being also applicable for pulverising hard substances. Complete specification. September 5

12038 J. S. Doran—From J. Reilly, United States. Heating apparatus. September 6

12071 J. von Ehrenwerth, London. Improved regenerative gas furnace with periodical action. Complete specification. September 6

12088 R. H. Brownhill, Manchester. Rotary pumps for raising and forcing liquids. Complete specification. September 7

12153 F. H. Danchell, London. Filter-presses. September 8

12169 P. Allieri, Naples. Preventing and removing the incrustations in steam boilers—known as "Vegetable Disincrustant." Complete specification. September 8

12180 G. Sengrave, London. Apparatus for heating or cooling air, gas, or other fluids. September 8

12216 H. L. Currier, London. Method and apparatus for removing the scale and other deposits from steam boiler and other tubes. Complete specification. September 9

12219 W. McElroy and H. Connett, London. Machines and apparatus for carbonating liquids. September 9

12293 W. P. Thompson—From W. Jäger (W. Pataky), Prussia. Centrifugal machine filters. Complete specification. September 10

12352 T. L. G. Bell, London. Means and apparatus for distilling sulphur, tar, rosin, arsenic, sal-ammoniac, and the like. September 12

12357 R. M. Bryant, London. Anti-incrustation preparation for steam boilers. September 12

12155 H. W. Lewis, London. An improved press for compressing cotton, jute, sewage, clay, china clay, small coal, artificial fuel, tar, yeast or barm, etc., into partly solid blocks. September 14

12591 J. H. Hayes, London. Means for regulating the supply of gas and other fluids or liquids. September 16

12627 G. F. Deacon, Liverpool. Apparatus for disintegrating the flow of liquids. September 17

12631 O. Imray—From La Compagnie Industrielle des Procédés Raoul Pictet, France. An improvement in refrigerating apparatus. September 17

12685 D. Mellor, London. Furnaces and furnace bars. September 19

*COMPLETE SPECIFICATIONS ACCEPTED.**

1886.

12175 J. Y. Johnson—From L. Labeyrie. *Automatic valve* for steam and other pipes or conduits conveying fluids under pressure. August 31

12207 A. Brin and L. Q. Brin. Apparatus for combustion of liquid, gaseous, or pulverulent fuel, for generating steam, etc. September 14

13605 J. Cooke. Composition for preventing and removing incrustation and corrosion in boilers. September 3

13789 F. Siemens. A combined evaporating and calcining furnace. August 27

13861 J. Bernhardi. *Apparatus for distilling, condensing,* heating, cooling, and extracting operations. August 31

13959 J. Howie and T. Groves. Open kilns. September 3

11141 R. Cunliffe and J. Lund. Apparatus for calcining, drying or roasting materials, and extracting gases or acid therefrom. September 10

11349 G. Dietrich. Apparatus for promoting consumption of smoke by means of air and steam jets. September 11

11415 E. A. Cowper. Filter-presses. September 21

11535 C. A. Sahlström. Apparatus for burning oil, tar, and similar substances. September 17

11643 T. Gilmour. Feed-heating apparatus. September 17

14873 H. H. Lake—From M. Hanford and C. C. Hanford. See Class XVI.

14967 E. O. Cooper and W. T. Cooper. Preventing and removing calcareous incrustations. September 21

15006 T. Routledge—From A. Abadie, France. Apparatus for crushing, grinding, triturating, disintegrating, reducing or preparing fibrous materials, or mineral, chemical, oleaginous, or other substances. August 31

1887.

3818 C. J. Buhring. Filtering apparatus. September 21

8260 M. Lachman—From J. J. Hauer. Apparatus for automatically supplying gas to closed vessels at a regulated pressure. August 31

10393 E. W. Tucker. Hot air bridge walls for furnaces. August 27

10151 O. D. Orvis. Means for consuming smoke and gases in furnaces. August 31

10535 H. Davey. Air-compressing pumps. August 31

10723 R. Cunliffe and J. Lund. Apparatus for calcining, drying, roasting or carbonising materials, and extracting gases, spirits, or acids therefrom.

11035 R. Clayton. Construction of filters.

II.—FUEL, GAS AND LIGHT.

APPLICATIONS.

11367 G. Thow, J. Stansfield, and G. Long, Farnworth. Making illuminant gas and other chemical products from human excreta. August 20

* The dates given are the dates of the Official Journals in which acceptances of the Complete Specifications are advertised. Complete specifications thus advertised as accepted are open to inspection at the Patent Office immediately, and to opposition within two months of the said dates.

11139 W. C. P. Asselbergs, London. Improvements in hydraulic mains for gas works. Complete specification. August 22
11140 W. C. P. Asselbergs. Improvements in apparatus for purifying or washing gas. August 22
11150 A. Eichelbrenner, London. Improvements in the manufacture of illuminating gas. August 22
11537 O. Bowen and A. S. Tomkins, London. Improvements in the manufacture of charcoal. August 24
11627 J. A. Walker, Farnham. An improved means of obtaining greater heat and generating steam more rapidly in boilers by the agency of liquid fuel. August 26
11783 J. Hall, London. Improvements in machinery for the manufacture of artificial fuel. August 30
12129 J. McEwen, London. An improved double purifier or gas washer. Complete specification. September 7
12229 A. Kitson, Philadelphia. Improvements in carburetting gas lamps. Complete specification. September 9
12151 J. T. Williams, London. Improvements in treating anthracite coal, and in machinery or apparatus therefor. September 14
12181 W. H. Nevill, London. Improvements in artificial fuel for heating and gas producing purposes. September 14
12519 J. Orchard and H. Lane, London. Improvements in means and apparatus for producing and utilising heat and energy arising from the combustion of gases. September 15
12,560 A. Hill, Birmingham. Improvements in incandescent gas lires. September 16

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

8163 R. Stone. Manufacture of fuel, and apparatus therefor. August 21
12340 A. G. Meeze. Apparatus for the manufacture of gas from fluid hydrocarbons. September 21
13578 H. H. Lake—From G. Godeffroy. Preparation of fuel. August 27
13637 R. Combret. Manufacture of blocks of artificial fuel. August 27
13752 W. M. Chinnery and H. Hill. Apparatus for inducing complete combustion of mineral oil, gases or smoke, to be used for heating or lighting. August 27
13922 W. H. Lindsay. Apparatus for moulding coal dust or small coal into solid blocks. August 21
13985 W. H. Lindsay. Manufacture of artificial fuel. Aug. 27
15007 C. S. Court, H. Veevers, and M. Schwab. Continuous process for the purification of coal gas from sulphur compounds, by which the sulphur is recovered. September 21
15621 B. H. Thwaite. Method of generating gaseous fuel, and apparatus therefor. September 21

1887.

8953 R. B. Avery. Method and apparatus for generating gas for illuminating, heating, and metallurgical purposes from liquid hydrocarbons. September 21
10102 A. J. Boult—From W. C. Shaffer. Application of the expansive power of heat, and apparatus therefor. September 14
11201 J. Tennent. Heating air and other fluids. September 21

III.—DESTRUCTIVE DISTILLATION, TAR PRODUCTS, ETC.

APPLICATIONS.

11689 A. H. Allen and R. Angus, Sheffield. Improvements in the treatment of the oil or tar obtained by condensation from the gases of blast furnaces, gas producers and coke ovens, or by the distillation of bituminous shale, and in the utilisation of the products therefrom. August 29
11716 M. L. Hennay, London. A new or improved process for enriching pitch obtained by the evaporation of tars produced from coal. August 29
11805 S. Banner, Liverpool. Improvements in treating resins, oleo resins, gums, pitches, varnishes, bitumens, and other like substances. August 31
12090 Watson Smith, Manchester. The employment of the phenoloid bodies obtained from the tar or oil condensed from blast furnaces, coke ovens, or similar gases, or from the distillation of bituminous shale, in the manufacture of waterproofed indiarubber goods. September 7

COMPLETE SPECIFICATION ACCEPTED.

1887.

13929 H. Ellison and G. E. Davis. Method for distillation of coal tar, the oils from coke ovens, and other similar fluids. September 14

IV.—COLOURING MATTERS AND DYES.

APPLICATIONS.

11879 C. D. Abel—From C. Wachendorff (of R. Koepp and Co.), Germany. Production of compounds of antimonic fluoride with alkaline fluorides and alkaline chlorides, and the application thereof and of known combinations of these substances to dyeing and printing. September 1
11880 C. D. Abel—From the Actiengesellschaft für Anilin-Fabrikation, Germany. Process for the production of azo colouring matters. September 1
11976 J. Imray—From La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis, A. F. Poirrier and D. A. Rosenstiehl, France. Production of azoic colouring matters. September 3
11988 J. Dawson, Kirkheaton, and R. Hirsch, Huddersfield. The manufacture of rosaniline sulpho acid. September 5
11989 J. Dawson, Kirkheaton, and R. Hirsch, Huddersfield. The manufacture of a new alpha-naphtylamine-disulpho acid. September 5
12020 J. Imray—From La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis, A. F. Poirrier, and D. A. Rosenstiehl, France. Production of new azoic colouring matters. September 5
12235 E. Bentz, Manchester. Improvements in the manufacture and composition of oil compounds for dyeing and calico printing, and such like purposes. September 10
12355 J. Imray—From La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis, A. F. Poirrier and D. A. Rosenstiehl, France. Production of new tetrazoic colouring matters. September 12
12519 H. H. Lake—From Wirth and Co., agents for K. Ochler, Germany. Improvements in the manufacture of colouring matters. September 15
12667 C. S. Bedford, Liverpool. New or improved colouring matters, and process of manufacturing the same.
12692 J. Imray—From La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis, France, A. F. Poirrier and Z. Roussin. Production of colouring matters by combination of nitro-diazobenzoles and their analogues with isomers of naphthionic acid. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

11283 J. Annaheim. Methods of treating oxynaphthol and aniline or its homologues, obtaining certain products, and utilising the same in the manufacture of dyes. September 7
14025 J. H. Johnson—From the Badische Anilin and Soda Fabrik. Preparation of red colouring matters. September 17
15363 D. Stewart. Preparing grey and black colouring matters, to be applied to textile fabrics. September 21

V.—TEXTILES, COTTON, WOOL, SILK, ETC.

APPLICATIONS.

11411 W. S. Archer, London. Improvements in machines for opening or separating and cleaning cotton or other fibrous material. August 22
11570 S. S. Bromhead—From U. C. Allen, United States. An apparatus for separating wool, silk, or other animal fibre, from vegetable fibre or other vegetable matter. Complete specification. August 25
11612 H. Martinz, London. Improvements in machinery for preparing or dressing textile fibres. Complete specification. August 26
11665 W. Nelson and E. Bowen, London. An improved machine for drying wool. Complete specification. Aug. 27
12365 J. Nasmith, Manchester. Improvements in and apparatus for combining fur or fur waste with fabrics made from cotton, wool, or other fibrous substances. September 13
12506 J. Fitton, J. Fitton, jun., and E. Fitton, Bradford. An improved method of and apparatus for carbonising or destroying vegetable matter contained in or mixed with woollen, silk, or other animal fibre or fabric. September 15
12709 W. Nelson and E. Bowen, London. An improvement in machinery or apparatus for drying wool. Complete specification. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

11610 A. C. Henderson—From La Société Charles, Vignet Sons & Co. Method and apparatus for dressing or sizing textile fabrics. August 31

1887.

9274 E. W. Serrell, jun. Process and machinery for reeling silk from the cocoon. September 21

VI.—DYEING, CALICO PRINTING, PAPER STAINING AND BLEACHING.

APPLICATIONS.

11355 W. J. S. Grawitz, London. The preparation of cotton fibres for dyeing. August 19
11391 J. H. Gartside and J. Barnes, Manchester. Improvements in dyeing cotton and other vegetable fibres and yarns, and fibres composed thereof. August 20
11497 A. Graemiger, London. Processes of and apparatus for dyeing, scouring, bleaching, and otherwise treating yarn in cops. Complete specification. August 23
11525 J. Farran, Manchester. Improvements in bleaching certain materials. August 24

11812 J. Smith and P. W. Nicolle, Jersey. Improvements in bleaching cotton, flax, jute, rhea, esparto, and similar fibres and fibrous substances. August 31

11879 C. D. Abel—From C. Wachendorff (of R. Koepp and Co.), Germany. See Class IV.

12091 A. C. Henderson—From U. A. G. Hérisson and G. Lefort, France. Improvements in bleaching vegetable fibres of all kinds, whether raw or manufactured. September 5

12075 B. Willcox—From the Farbenfabriken Vormals. F. Bayer and Co., Germany. A new process or means for producing azo colour upon animal or vegetable fibres or fabrics in printing or dyeing. September 6

12111 T. F. Naylor, Kidderminster. Improvements in dyeing yarns. September 8

12283 M. Ashworth and R. Wild, Rochdale. Improvements in apparatus or machinery for washing, scouring, or bleaching fibres, fibrous materials, and textile fabrics. September 10

12358 T. Sampson and F. H. Jealous, London. Improvements in the dyeing of yarn and other fibrous materials, and in means or apparatus employed therein. Complete specification. September 13

12502 J. Birtwistle, Manchester. Improvements in the printing of textile fabrics. September 15

12522 T. Skene and L. Devallée. Improvements in machines for dyeing wool and other textile materials. September 15

12602 C. T. Clegg, H. A. Clegg, and F. Lee, Manchester. Improvements in apparatus for dyeing wool, cotton, silk, or other similar fibrous material. September 17

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

11931 A. Hodgkinson. Cleansing composition for use in bleaching cotton and linen fabrics or yarns, etc. August 31

13311 A. Aykroyd, W. E. Aykroyd, and J. Smith. Aniline black dyeing or printing processes for obtaining a fast aniline black in textile fibres and fabrics. September 11

1887.

4953 A. Brin and L. Q. Brin. Bleaching fibrous substances for paper making. September 10

VII.—ALKALIS, ACIDS AND SALTS.

APPLICATIONS.

11149 J. Clark, London. Improvements in obtaining chloride of aluminium, etc. August 22

11156 W. S. Squire, London. See Class I.

11192 H. H. Lake—From A. Kayser, H. Williams, and A. B. Young, United States. Improvements relating to the production of caustic alkali carbonates of the alkaline metals, muriatic acid, and other substances. Complete specification. August 23

11193 H. H. Lake—From A. Kayser, H. Williams, and A. B. Young. An improved method or process of producing silicate of sodium or of potassium. Complete specification. Aug. 23

11194 H. H. Lake—From A. Kayser, H. Williams, and A. B. Young. An improved method or process of producing muriatic acid. Complete specification. August 23

11500 C. J. E. de Haën, Liverpool. Improvements in the manufacture and application of the compounds of fluoride of antimony with the combinations of the chlorides of sodium, potassium, and ammonium, and phosphates of soda, potash, and ammonia. Complete specification. August 23

11653 F. P. E. de Lalande, London. Improvements in the manufacture of caustic soda and potash. August 27

11799 R. Wyllie, Liverpool. Improvements in and connected with apparatus for distilling ammoniacal liquors. August 31

11821 T. Schloesing, Paris. Extraction of chlorine from solutions of chloride of magnesium. August 31

11846 G. E. Davis, Manchester. An improved method of manufacturing alkalis. September 1

12249 W. McElroy and H. Connett. See Class I.

12674 W. L. Wise—From G. M. Tauber, Saxony. Process for the manufacture of sodium-ammonium-sulphite and converting the same into sodium sulphite and sodic hydrate. September 19

12700 S. Pitt—From V. Ragosine and P. Dvorkovitch, Russia. Method of producing anhydrous sulphuric acid and its monohydrate, and of utilising for this purpose the acid residues of petroleum production and other, as also sulphates of all metals. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

10868 J. Lea and H. R. Hammond. See Class X.

12180 F. H. Gossage, T. T. Mathieson, and J. Hawliczek. Treatment of sulphate of sodium for manufacture of sulphide of sodium therefrom, and apparatus therefor. September 7

13286 A. Frank. Treatment of spent lyes used in manufacture of cellulose, by means of sulphites, for recovery of sulphurous acid therefrom, and utilisation of said lyes after such treatment. September 17

13389 E. Solvay. Continuous furnace for the production of chlorine. August 31

13762 W. Bramley and W. P. Cochrane. Manufacture of hydrate carbonate of magnesia and other products produced herein. September 3

14217 J. B. Hannay. Manufacture of sulphuric acid. September 10

14111 W. Burns. Manufacture of sulphuric acid under high pressure with agitation, and apparatus therefor. August 31

14673 E. Hermite, E. J. Patterson, and C. F. Cooper. Apparatus for preparation of bleaching solutions by electrolysis. September 17

14711 J. Simpson and E. W. Parnell. Apparatus for treatment of sulphuretted hydrogen for the separation of sulphur or the production of sulphurous acid. September 21

15182 E. P. Alexander—From E. J. L. Delsol. Obtaining mother-liquors free from magnesium salts in the manufacture of carbonate of potash by means of the double carbonate of potash and magnesia. September 21

15352 W. Burns. Manufacture of bichromate and carbonate of soda by the ammonia process, and apparatus therefor. September 11

VIII.—GLASS, POTTERY AND EARTHENWARE.

APPLICATIONS.

11496 A. J. Boult—From F. Czech, Austria. Improvements in decorating ceramic ware. Complete specification. Aug. 23

11513 J. S. Williams, Brierley Hill Glass Works. Improvements in frosting the surfaces of flint and coloured glass ware. August 24

11906 J. Budd, London. Improvements in the crystallisation of glass. September 2

12001 J. Miller and The Sowerby's Ellison Glass Works, Limited, London. Improvements in polishing cut glass of every description. September 5

12516 A. D. Brogan, J. French, and J. Craig, London. Improvements in and connected with glass annealing kilns. September 15

12566 C. G. Warne, Weston-super-Mare. Improvements in pottery kilns for the purpose of economising fuel and equalising the burning of the goods. September 16

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

12196 W. Horn and R. Bell. Shears used in the manufacture of glass bottles. September 17

11216 A. M. Clark—From E. Weis. Process for cutting very thin parts on glass articles. September 11

11288 G. F. Chance. Machinery employed in manufacture of sheets of rolled glass. August 31

11380 A. D. Brogan and A. M. Malloch. Manufacture of chequered glass, and apparatus therefor. September 7

11727 H. M. Ashley. Manufacture of bottles, etc. September 11

16613 J. Northwood. Treating the glass cullet known as blacks. September 21

1887.

87 W. H. Hales. Machinery for making pottery ware. August 21

10871 A. J. Boult—From P. Sivert. Glass furnaces. Sept. 10

IX.—BUILDING MATERIALS, CLAYS, MORTARS AND CEMENTS.

APPLICATIONS.

11509 H. Warrington and W. W. Howlett, Hanley. Improvements in bricks and other blocks for building purposes. August 24

11937 J. Homan, London. Improvements in the construction of fireproof floors. September 2

11996 S. G. Rhodes, Leeds. Making bricks. September 5

12271 J. Davies, Manchester. Improvements in the construction of brick kilns. September 10

12509 E. Winsor, F. Winsor, and J. Winsor, Manchester. Improved method of treating clay or gypsum, and apparatus therefor. September 15

12521 G. J. Snelus, W. Whamond, and T. Gibb, London. An improved preparation or manufacture of cements. September 15

12525 G. J. Snelus, W. Whamond, and T. Gibb, London. Improvements in the preparation or manufacture of cements. September 15

12526 G. J. Snelus, W. Whamond, and T. Gibb, London. Improvements in the manufacture of cements. September 15

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

11303 E. Larsen. See Class X.

13981 W. H. Lindsay. Apparatus for moulding bricks or blocks. September 11

11671 W. Scott, J. C. Swan and H. Smith. Manufacture or treatment of Portland and other hydraulic cements. September 11

15012 H. Macevoy, H. Holt, L. White, and W. Wilders. Manufacture and burning of Portland cement. September 11

1887.

10898 E. Keirby. Compound or cement for making and renovating asphalte walks, protecting masonry, and analogous purposes. September 17

X.—METALLURGY, MINING, ETC.

APPLICATIONS.

11432 G. French, London. **An improved method of blasting** in coal mines and in other places, and in materials to be used therein. August 22

11449 J. C. Clark. See Class VII.

11471 P. C. Gilchrist, London. Improvements in the manufacture of steel and ingot iron by the basic process. Complete specification. August 23

11478 L. L. Lefèvre, jun.—From C. Payen, United States. Improvements in the manufacture of crystallised metal, and in articles made thereof. August 23

11510 F. Fenton and R. J. Partridge—From J. Woolford, France. Improvements in plant, apparatus, furnaces, or retorts for extracting auriferous and other metallic ores, slags, cinders, or wastes. August 24

11516 E. Cope and A. Hollings, Liverpool. Improvements in hollow steel shafting, and in the manufacture of the same. August 24

11532 G. Gatheral, London. Improvements in the treatment of ores for the extraction of copper therefrom, or of ore residues and the like, for the elimination of copper or other impurities. August 24

11556 J. McCann, Millom. The improvement of blocks and tuyeres connected with blast furnaces. August 25

11571 R. E. Shill and A. Martin, London. Improvements in hardening or chilling the face of armour and other plates and projectiles. August 25

11613 F. A. Herbertz, London. Improvements in cupola smelting furnaces. Complete specification. August 26

11672 M. M. Bair, London. Improvement relating to the volatilisation of lead, antimony, and other substances, and to the condensation of the resulting vapours. August 27

11733 J. E. Bennett, Manchester. Improvements in the treatment of metallic chlorides for the extraction of metals therefrom. August 30

11797 A. M. Crossley, Glasgow. Improvements in preparing ferruginous material for smelting. August 31

11862 C. F. Clark and J. Sanders, London. Improvements in preparing moulds for casting hollow-ware, and in apparatus employed therein. September 1

11868 J. Gilligan, London. Improvements in the working up of scrap iron and steel, either separately or together in a puddling furnace. September 1

11898 N. Arthur, Heaton. Improved method and apparatus for bending angle, tee, and other sections of bars. Sept. 2

11900 A. J. Shannon, London. Improvements in the extraction of antimony from its ores. September 2

11928 J. W. Swann, London. Improvements in apparatus for indicating the presence of fire-damp in coal mines or other places. September 2

11945 H. A. Rowland, Manchester. Improvements in the casting of metals. September 3

12032 L. B. Atkinson, H. W. Ravenshaw, and F. Mori, Halifax. Improvements in machines for cutting, boring, or drilling coal or other minerals. September 6

12042 W. P. Thompson—From C. Kellogg, United States. Improvements in machines for rolling seamless tubes, pipes, or other hollow articles from hollow ingots. Complete specification. September 6

12111 W. P. Thompson—From E. Dumas, Paris (agent for Bickford, Smith & Co.) Improvements in electric fuses for mines. September 7

12162 C. Humfrey, Liverpool. Improvements in or appertaining to the manufacture of sodium. September 8

12210 J. T. King—From H. Kennedy, United States. Improvements in connection with hot blast stoves and furnaces. Complete specification. September 9

12269 G. Hardy, Abram, Lancashire. An improved miners' safety lamp. September 10

12272 G. Siddell, Sheffield. An improved process in iron and steel. September 10

12277 A. J. Shannon, London. Improvements in the treatment of zinc ores. September 10

12332 S. Pearson, A. W. Turner, and W. Andrews, Birmingham. A new process of extracting aluminium from minerals, and also making aluminium alloys therefrom. Complete specification. September 12

12346 J. D. Ellis, London. Improved method of making iron or steel castings. September 12

12347 T. J. Tresidder, London. Improved means for hardening metal. September 12

12353 H. Le Neve Foster, London. An improved fire-resisting compound, especially suitable for forming the stoppers and nozzles used in steel melting operations and other similar purposes. September 12

12378 B. H. Thwaite, Liverpool. An improved pneumatic steel process, and plant therefor.

12458 H. Bird, Liverpool. Treating the residual spent iron liquors resulting from the manufacture of copper from burnt cupreous sulphur ores to obtain a certain oxide of iron therefrom, and apparatus to be used therefor. September 14

12486 O. M. Thowless, London. Improvements relating to the production of sodium and potassium, and to apparatus therefor. Complete specification. September 14

12540 A. B. Cunningham, London. Improvements in the manufacture of sodium and potassium, and in apparatus therefor. September 15

12575 A. Feldman, London. Improvements in the production of aluminium and alloys of aluminium. September 16

12590 H. Lane, London. Improvements in shaping, forming and manipulating metals. September 16

12616 J. Thomas, Middlesbrough-on-Tees. Improvements in ingot moulds. September 17

12683 F. M. A. Laurent-Cely, London. Improvements in the manufacture of spongy lead suitable for electrical accumulators. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

10868 J. Lea and H. R. Hammond. Operating on zinc ore for producing chlorine and zinc, and utilising the said zinc for coating metals. August 31

11219 W. S. Squire and S. C. C. Currie. Obtaining zinc in metallic form from alkaline solutions of zinc oxide. September 7

11303 E. Larsen. Manufacture of furnace slag and of cement partly made therefrom. September 10

12041 T. Blackmore. Metallic chill core. September 11

12362 C. J. Sandahl, J. Birchall, and J. Musson. Manufacture of iron and steel, and blast furnaces employed therein. August 27

12363 C. J. Sandahl, J. Birchall, and J. Musson. Manufacture of iron and steel. August 27

12630 W. S. Squire and S. C. C. Currie. Obtaining metallic zinc from its ores. September 7

12729 G. M. Edwards. Process and apparatus for treating, dressing, and cleaning tin and other mineral ores. August 27

13503 E. Wheeler. Production of metal bodies or ingots. August 31

13562 P. M. Justice—From W. B. Spear. Coating metal sheets with other metal. August 27

14680 B. C. Tilghman. Drawing iron and steel bars through dies to produce a smooth surface suitable for shafting. August 24

13920 T. Nordenfelt. Manufacture of iron and steel castings. August 27

14061 J. B. Hannay. Obtaining gold from refractory ores, etc. August 24

14169 T. Nordenfelt—Partly from C. G. Wittenström, E. Faustman, and P. Ostberg. Bessemer converters, and manufacture of castings thereby. September 10

14220 R. W. Lindsay and W. Darwen. Manufacture of tubes of copper or copper alloys. August 31

14385 E. Patterson and W. H. Strype. Miners' safety lamps. September 14

14407 O. M. Thowless. manufacture of aluminium chloride, and extraction of aluminium therefrom. September 21

14568 A. Howat. Electric safety lamps. September 10

14903 J. G. Cranston. Machinery for drilling rock, etc. September 14

14971 M. Settle. Electric safety lamps for use in mines. September 21

15001 A. M. Clark—From H. A. Brustlein. Process and apparatus for hardening shells and other steel articles. September 10

15206 E. C. Molloy. Apparatus for amalgamating gold and other precious metals. September 21

15476 A. Wilson. Manufacture of compound armour plates. September 3

1887.

2602 C. A. Burghardt and W. J. Twining. See Class XVIII. August 24

9471 J. B. D. Bolton. Process and apparatus for casting metallic ingots in a sectional mould. September 7

10160 W. J. Wilder. Process of coating metals. September 3

10815 W. P. Thompson—From M. G. Farmer. Process and apparatus for procuring aluminium. September 17

XI.—FATS, OILS AND SOAP MANUFACTURE.

APPLICATION.

12181 W. H. Gilruth, London. Improvements in apparatus for extracting oil or juice from seeds, nuts, fruits or leaves of plants, or any analogous substances. September 8

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

11981 A. Hodgkinson. See Class VI.

11835 F. T. Archer, G. W. Hardy, and F. J. Archer. Lubricating composition. September 7

1887.

10783 J. Sears. Compound preparation of cotton seed oil. September 7

XII.—PAINTS, VARNISHES AND RESINS.

APPLICATIONS.

11805 T. Banner, Liverpool. See Class III.

12631 H. J. Allison—From G. W. Barker, United States. Improvements in paints and paint compounds. Complete specification. September 6

12338 W. Fordyce, Glasgow. An improved anti-fouling composition for ships' bottoms and other submerged surfaces. September 12

12388 E. C. Atkinson, London. Improvements in and machinery for packing paste blacking and other similar semi-liquid matters. September 13

12632 J. C. Lyman—From J. H. Lyman, United States. An improvement in paint. September 17

COMPLETE SPECIFICATION ACCEPTED.

1886.

11889 F. M. Lyte. Manufacture of pigments. September 17

XIII.—TANNING, LEATHER, GLUE AND SIZE.

APPLICATION.

12,396 J. Pujos, London. The manufacture of leather from rabbit skins. September 13

COMPLETE SPECIFICATIONS ACCEPTED.

1887.

9193 H. H. Lake—From A. M. Bowers. Machines for softening and otherwise treating leather. August 24

10121 J. W. Vaughan. Machines for unhairing and green shaving hides and skins.

XV.—SUGAR, GUMS, STARCHES, ETC.

APPLICATIONS.

11393 O. Bowen and J. Cobeldick, London. An improved deodorising, decolourising and filtering medium. August 20

12596 C. H. J. Franzen, London. Process for manufacturing white, lump or loaf sugar directly from boiled refinery mass. Complete specification. September 16

12597 C. H. J. Franzen. Process and apparatus for treating raw, clarified or perfectly white sugar masses in loaf forms by means of the centrifugal machine. Complete specification. September 16.

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

17011 R. Campbell—From J. Foster and J. Campbell. Triple effet evaporating vacuum pans, for boiling sugar and other evaporating purposes. September 14

1887.

10157 J. T. Griffin—From R. J. Henderson. Indiarubber compositions. September 17

10158 J. T. Griffin—From R. J. Henderson. Manufacture of soft or spongy material from rubber compound. September 7

XVI.—BREWING, WINES AND SPIRITS.

APPLICATIONS.

11376 F. G. Burton and T. S. Coleman, Burton-on-Trent. Cleaning malting tiles, and removing therefrom sediment or deposit formed therein by barley or other grain and malt whilst in the course of steeping and drying, and also for cleaning and removing coatings formed on brewing and other coppers after boiling, and also the glutinous and other substances from refrigerators, after use in cooling process of beer and other liquors. August 20

11581 A. J. Boult—From B. Bruel. See Class XXII.

12057 A. G. Brookes—From C. G. P. de Laval and A. Bergh, Sweden. Improvements in purifying yeast. September 6

12329 W. G. Hicks, Ramsgate. Improving furnaces used for drying the barley in the process of making malt, for drying hops and other similar purposes. September 12

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

12291 E. Manbre. Compounds for the manufacture of ale, stout, porter, lager, etc., and apparatus for making said compounds. September 3

11468 E. Piot. Distilling apparatus, applicable to the concentration and rectification of alcoholic and other liquids. September 10

11873 H. H. Lake—From M. Hanford and C. C. Hanford. Cooling of liquids, and apparatus therefor. August 31

1887.

8260 M. Lachmon—From J. J. Rauer. Apparatus for automatically supplying gas to closed vessels at a regulated pressure. August 31

XVII.—CHEMISTRY OF FOODS, SANITARY CHEMISTRY, DISINFECTANTS, ETC.

APPLICATIONS.

A.—CHEMISTRY OF FOODS.

11927 A. McDougall, jun., London. Improvements in the manufacture or preparation of concentrated extracts or essences of tea, coffee and the like with cream or milk. September 2.

12065 H. H. Lake—From J. H. Stebbins, jun., United States. An improved food compound. Complete specification. September 6

12131 H. Stollwerck and L. Stollwerck, London. Improvements relating to the treatment of cocoa to facilitate the transport thereof, and for other purposes. Complete specification. September 13

12520 J. M. Mitchell, Chicago, United States. New and valuable improvements in the preservation of perishable articles of food, and other perishable matter, by means of ozone or other gases. September 15

12595 W. H. Beck—From E. A. Dexmier, France. A new or improved preparation of coffee, and process for manufacturing the same. September 16

B.—SANITARY CHEMISTRY.

11367 G. Thew, J. Stansfield, and G. Long. See Class II.

11185 J. H. Barry, London. Improvements in treating and purifying sewage, the same being applicable for other disinfecting purposes. August 23

11531 T. M. J. Truchelut and J. N. Truchelut, London. A new or improved process and apparatus for the treatment of sewage and other matters, for extracting or neutralising ammonia and sulphur compounds. August 24

11917 G. Liscoe, London. An improved method and means of separating the solids from the fluids of sewage matters. September 3

12212 F. W. Durham, London. An improved construction of furnace for burning town refuse. September 9

C.—DISINFECTANTS.

11393 O. Bowen and J. Cobeldick, London. An improved deodorising, decolourising, and filtering medium. August 20

12029 J. Bennett, London. A new disinfectant. September 5

12222 R. V. Tuson, London. Improvements in the preparation of materials to be used as disinfectants, deodorisers, and antiseptics, as well as for the destruction of parasites infesting man and the lower animals, and for similar uses. September 9

12392 G. Van Overbeck de Meyer, London. Improvements in apparatus for disinfection. September 13

12183 J. Bennett, Goole. A new disinfectant. September 14

COMPLETE SPECIFICATIONS ACCEPTED.

A.—CHEMISTRY OF FOODS.

1886.

13731 E. Terrant. Manufacture of biscuit bread. August 27

13955 H. Stockman. Curing articles of food, and disinfecting. September 3

1887.

10915 H. H. Lake—From H. C. Andrews. Apparatus for drying or curing fruit, tobacco, etc. September 17

10917 H. H. Lake—From T. C. Oakman. Apparatus for drying or curing fruit, tobacco, etc. September 17

B.—SANITARY CHEMISTRY.

1886.

15222 W. Burns. Purifying sewage and other foul liquids, and making oil, alkali, and cement from sewage precipitate, and apparatus therefor. September 21

XVIII.—ELECTRO-CHEMISTRY.

APPLICATIONS.

11369 C. Gauzentés, Bradford. Improvements in electric batteries. August 20

11390 J. S. Stevenson, London. Improvements in the manufacture of elements or plates for secondary batteries or electrical accumulators. August 20

11418 J. S. Sellon, London. Improvements in secondary batteries or electrical accumulators. August 22

11502 E. F. H. H. Lauckert, London. Improvements in dynamo-electric and electro-dynamic machines. August 23

11513 H. Tudor, Liverpool. Improvements in electrodes for electric accumulators or secondary batteries. August 24

11923 C. L. R. E. Menges, London. Improvements relating to the manufacture of plates or electrodes for primary or secondary electric batteries, and to apparatus therefor. September 2

12017 P. L. Verchère, London. Improvements in the manufacture of carbons for voltaic batteries and certain other electrical apparata. September 5

12175 W. B. Adams, London. Improvements in secondary batteries. September 8

12203 T. L. Hemming, Birmingham. Improvements in dynamo-electric machines. September 9

12252 R. P. Sellon, London. Improvements in dynamo-electric machines. September 9

12528 J. A. Timmis, London. Improvements in the construction of secondary batteries. September 15

12542 T. C. Lewis, London. Improvements in electrical storage batteries. September 15

12676 W. T. Goolden and L. B. Atkinson, London. Improvements in dynamo-electric generators and motors. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

12818 W. W. Beaumont. Secondary batteries. August 31
13618 W. R. Johnston. Manufacture of carbons for electrical and other purposes. August 21
13712 A. M. Clark—From The Electrotechnische Fabrik Cannstatt. Dynamo electric machines. August 27
14563 J. S. Sellon. Secondary batteries. September 14
14757 W. Lahmeyer. Dynamo-electric machine. September 17
14765 C. Lever. Dynamo-electric machines and electric motors. September 17
16810 T. Goodman—From C. Gasner, jun. Galvanic elements.

1887.

930 S. W. Maquay. Means for feeding electric batteries, and for removing the plates therefrom. September 7
2602 C. A. Burghardt and W. Twining. See Class X. August 24
10217 J. Serson and J. O. Whitten. Galvanic batteries. August 24
11188 H. H. Lake—From W. E. Case. Conversion of chemical energy into electrical energy, and apparatus therefor. September 17
11189 H. H. Lake—From W. E. Case. Apparatus for the conversion of heat into electrical energy. September 17

XIX.—PAPER, PASTEBOARD, ETC.

APPLICATIONS.

11610 J. E. Warren and F. A. Cloudman, London. Improvements in means or apparatus for effecting the recovery of chemicals from spent liquors of pulp digesters. Complete specification. August 26
11735 J. Baldwin, King's Norton. An improved mode of pressing paper whilst in the process of manufacture, securing an equal surface on both sides of the paper, and obtaining the conditions produced by hand-pressing. August 30
12612 R. Squire, London. Improvements in apparatus for the manufacture of paper. September 17
12686 R. Ellis, London. Improvements in the manufacture of pulp for making kamptulicon, linoleum, and paper. September 19

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

13827 B. Makin. Fitting cylinders with blades used in macerating materials for pulp for the manufacture of paper, millboards, etc. August 27

1887.

6171 F. Voith. Machines for the manufacture of paper pulp. September 17
10036 G. R. Gill. Utilisation of paper, paper board, pulp, or any preparation of which paper forms the base, for the manufacture of geometric models. August 31

XX.—FINE CHEMICALS, ALKALOIDS, ESSENCES AND EXTRACTS.

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

14617 O. Imray—From the Society of Chemical Industry, Switzerland. Manufacture of the ethylether of a new acid. September 3
14618 O. Imray—From the Society of Chemical Industry, Switzerland. Manufacture and treatment of a compound of phenylhydrazine, with a new ethylether. September 7

1887.

7261 C. T. Arnold—From C. W. Arnold. A dental anodyne, or local anæsthetic. September 3

XXI.—EXPLOSIVES, MATCHES, ETC.

APPLICATIONS.

11653 E. Edwards—From R. Sjöberg, Sweden. Improvements in explosives. Complete specification. August 27
12297 W. T. Chamberlain, London. A new method of enclosing high and sensitive explosives in shells and other projectiles. September 10
12121 E. D. Müller, London. Improvements in explosive compounds. September 13

COMPLETE SPECIFICATIONS ACCEPTED.

1886.

14803 Sir F. A. Abel. A manufacture of smokeless explosive. September 11

1887.

6071 F. D. Banister and W. Stroudley. Fog signal apparatus for railways. September 17

XXII.—GENERAL ANALYTICAL CHEMISTRY.

APPLICATION.

11581 A. J. Boult—From B. Bruel. Improved apparatus for testing alcohol. August 25

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