

SUPPLEMENT

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*International and Intercolonial Arrangements for the Mutual Protection of Inventions.*

INTERNATIONAL CONVENTION.

THE following countries now belong to the Convention :—

Belgium.	Mexico.
Brazil.	New Zealand.
Ceylon.	Norway.
Cuba.	Portugal, with the Azores and Madeira.
Denmark.	Servia.
Dominican Republic.	Spain.
France, with Algeria and Colonies.	Sweden.
Germany.	Switzerland.
Great Britain.	Tunis.
Italy.	United States of America.
Japan.	

Separate arrangements have been made between Australia and New Zealand.

Particulars of the Convention and of such arrangements may be seen in the following *Gazettes* :—

Notification of adhesion of New Zealand to the Convention, with text thereof (in English), in the *Gazette* of 26th November, 1891; notification of adherence of New Zealand to the Additional Act of the Convention, with text (in English), of such Additional Act, in Patents Supplement to *Gazette* No. 101, of the 16th November, 1905; Order in Council applying section 103 of the Imperial Act to New Zealand, in *Gazette* No. 27, of the 15th May, 1890; Orders in Council containing arrangements between Australia and New Zealand, in Patent Supplements to the *Gazette* Nos. 22 of the 9th March, 1905, and 38 of the 20th April, 1905.

*Patent Publications in New Zealand.*

THE following publications relating to Patents for inventions, &c., are open to inspection in the colony:—

## WELLINGTON.—PATENT OFFICE LIBRARY.

*United Kingdom.*

The full text of the specifications and complete drawings of inventions patented from the year 1617 up to the 22nd November, 1906.

Classified illustrated abridgments of inventions from 1855 to 1904.

Illustrated Official Journal, containing lists of recent applications, abridgments of inventions for which patents have been lately granted, patents void, &c., to March, 1907.

Index of Applicants.

Subject-matter Index.

Commissioner of Patents Journal, &c.(\*).

Trade Marks Journal to January, 1907.

*Canada.*

Patent Office Record (containing illustrated abridgments of inventions, &c.) to September, 1906.

*Australia.*

The full text of the specifications and complete drawings in respect of applications accepted from the 11th January to the 10th April, 1906, inclusive.

The Official Journal of Patents of the Australian Commonwealth (containing lists of applications for letters patent, abridgments of complete specifications accepted, &c.).

The Australian Official Journal of Trade Marks (containing lists of applications for registration of trade marks, &c.).

Specifications, drawings, abridgments, and indexes of Victoria, New South Wales, Queensland, and South Australia(†).

*United States.*

The full text of the specifications and drawings for the first half of the year 1905.

The Official Gazette of the United States Patent Office (containing illustrated abridgments of specifications, &c.) to the 6th November, 1906.

*Mexico.*

The Official Gazette of the Patent and Trade Mark Office.

*General.*

La Propriété Industrielle (the official organ of the International Bureau of the Union for the Protection of Industrial Property).

Patent laws of the world.

Patent and Trade Mark Review.

Text-books and handbooks on patents and trade marks.

## AUCKLAND.—PUBLIC LIBRARY.

*United Kingdom.*

Classified abridgments of inventions from 1855 to 1904.

Illustrated Official Journal from 1897 to date.

*Canada.*

Patent Office Record (containing illustrated abridgments of inventions, &c.) from 1897 to date.

*Australia.*

The Official Journal of Patents from 1905 to date.

*United States.*

The Official Gazette of the United States Patent Office (containing illustrated abridgments of specifications, &c.) from 1885 to 1887 and 1890 to 1895.

## CHRISTCHURCH.—PUBLIC LIBRARY.

*United Kingdom.*

Classified abridgments of inventions from 1855 to 1904.

Illustrated Official Journal from October, 1905, to date.

*Canada.*

Patent Office Record (containing illustrated abridgments of inventions, &c.) from 1897 to date.

*Australia.*

The Official Journal of Patents from 1905 to date.

## DUNEDIN.—TOWN HALL.

*United Kingdom.*

Classified abridgments of inventions from 1855 to 1904.

Illustrated Official Journal from October, 1905, to date.

*Australia.*

The Official Journal of Patents from 1905 to date.

(\*) Discontinued.

(†) In arrears. Not now being printed

*Books and Documents open to Inspection at Patent Office, Wellington.*

THE following documents and books are open to public inspection at the Patent Office:—

## PATENTS.

(Fee for each search or inspection, not exceeding one hour, 1s.)

1. The files relating to all applications for letters patent in respect of which complete specifications have been accepted.
2. Classified copies of specifications and drawings, with index and key(\*).
3. Register of Applications for Letters Patent.
4. Register of Patents.
5. Register of Subsequent Proprietors of Letters Patent(†).
6. Index of Patentees(‡).
7. Index of Proprietors of Letters Patent granted prior to 1890(§).
8. Index of Specifications(¶).

## DESIGNS.

(Search fee, 1s. each quarter of an hour.)

1. Register of Designs, with Index of Names of Proprietors.
2. Classified Representations of Designs in respect of which Copyright has expired.
3. Index of Designs.

## TRADE MARKS.

(Search fee, 1s. each quarter of an hour.)

1. The files relating to all applications for registration of trade marks.
2. Register of Applications for Registration of Trade Marks.
3. Register of Trade Marks.
4. Index of Applicants for Registration of Trade Marks(†).
5. Index of Trade Marks.
6. Classified Representations of Trade Marks, with indexes.

## MISCELLANEOUS.

Register of Patent Agents.

## FORMS AND PUBLICATIONS.

The following forms, &c., may be had on application at the Patent Office, Wellington, or at any of the local Patent Offices named below:—

Application for letters patent.

Provisional specification.

Complete specification and copy thereof.

Application for registration of design.

Application for registration of trade mark.

Applications for extension of time.

Requests by subsequent proprietor to enter name on Register of Patents and Trade Marks.

Printed sheets of information as to fees and procedure to obtain letters patent and to register a trade mark(§).

Pamphlet containing Act and Regulations (price 1s.).

(\*) Key is in card index.

(†) This Register contains only names of subsequent proprietors of letters patent granted prior to 1st January, 1890; since that date they appear in Register of Patents.

(‡) Includes all names of applicants, &c., and consists of four volumes to 4th November, 1903, and card index since that date. A separate card index is kept for current quarter.

(§) The names of proprietors of subsequent letters patent appear in the Index of Patentees.

(¶) Contains classified abridgments of specifications from 1861, with extracts from drawings from July, 1904.

(†) Names of applicants for registration and proprietors of trade marks are indexed at the beginning of the Registers up to 31st December, 1889; in separate volume up to 5th September, 1904; and since the latter date in card index.

(§) May also be obtained at any local Patent Office or money-order office.

*Official Publications.*

THE following publications may be obtained from the Government Printer, Wellington:—

Printed specifications to the end of the year 1879.

Annual lists of letters patent and letters of registration applied for, and particulars of applications lapsed, and patents lapsed, from 1880 to 1888 inclusive.

Annual reports of the Registrar, containing alphabetical lists of applicants for letters patent and of inventions patented from 1889 to 1905 inclusive.

The Patents Supplement to *Gazette* (containing notifications, applications for letters patent, abridged descriptions and drawings of inventions, &c.), published fortnightly.

Local Patent Offices.

LOCAL Patent Offices for supplying forms and for receiving applications for transmission to the Patent Office *without extra charge* have been established at the following places:—

- |  |   |                         |
|--|---|-------------------------|
| Auckland<br>Gisborne<br>Napier<br>Nelson<br>Blenheim<br>Christchurch<br>Dunedin  | } | Supreme Court Offices.  |
| Thames<br>Wanganui<br>Greymouth<br>Timaru<br>Oamaru<br>Ashburton<br>New Plymouth<br>Westport<br>Hokitika<br>Invercargill<br>Queenstown | } | District Court Offices. |

PATENT AGENTS.

A list of registered patent agents may be obtained on application.

*Applications for Letters Patent filed.*

LIST of applications for Letters Patent filed. (Where a complete specification accompanies an application an asterisk is affixed; in all other cases a provisional specification has been lodged. In cases where the applicant is not the inventor the name of the latter appears in italics after the title.)

- No. 22691.—15th April.—J. Kay, Dunedin, N.Z.  
Pithing-spear.
- No. 22692.—13th April.—R. R. Douglas, Dunedin, N.Z.  
Protectors for links of running machinery.
- No. 22693.—13th April.—E. A. Stewart, Mount Albert, N.Z.  
Pumping compressed air into reservoirs for operating air-brakes.
- No. 22694.—16th April.—J. K. Hitchins, Petone, N.Z.  
Axe, slasher, &c.\*
- No. 22695.—16th April.—F. W. Smith, Dannevirke, N.Z.  
Teat-cup of milking-machine.
- No. 22696.—17th April.—F. Bottrill, Tintinara, S.A.  
Vehicle-wheel.
- No. 22697.—17th April.—F. G. McIntosh, Upper Fern-tree Gully, Vic.  
Apparatus for decanting jam, &c.\* (*F. G. McIntosh and H. V. Hampton.*)
- No. 22698.—17th April.—W. H. Nisbet, Sydney, N.S.W.  
Railway, &c., brake.\*
- No. 22699.—17th April.—W. A. Langford, Tyseley, Eng.  
Water-closet seat.
- No. 22700.—17th April.—W. H. Blackham, Melbourne, Vic.  
Milking-machine teat-cup support. (*W. J. Teese.*)
- No. 22701.—17th April.—L. H. Hicks and A. N. Cooke, Richmond, Vic.  
Bicycle pedal-strap or toe-clip.
- No. 22702.—17th April.—J. Brewin, Auckland, N.Z.  
Bottle-washing machine.\*
- No. 22703.—16th April.—A. G. Tomkies, Westport, N.Z.  
Belt-fastener.
- No. 22704.—15th April.—C. Uddstrom, Greymouth, N.Z.  
Driving a locomotive by means of chain gear.
- No. 22705.—17th April.—W. H. H. Emerson, Christchurch, N.Z.  
Marking or branding carcasses of meat.
- No. 22706.—18th April.—G. Hutchinson, Christchurch, N.Z.  
Seed-sower.
- No. 22707.—18th April.—A. Baker, Invercargill, N.Z.  
Clothes-hanger.
- No. 22708.—18th April.—J. H. and B. S. Nicholls, Auckland, N.Z.  
Starting-device for gas-engine.
- No. 22709.—18th April.—A. Woodcock, Woodcocks, N.Z.  
Cows'-tail holder.\*
- No. 22710.—18th April.—J. G. Hudson, Wanganui, N.Z.  
Railway signalling. (*W. McKeegan.*)
- No. 22711.—19th April.—S. G. Roseman and J. Lock, Auckland, N.Z.
- No. 22712.—17th April.—H. W. Lovegrove, Timaru, N.Z.  
Brush- or broom-making machine.  
Motor-cycle belt.

- No. 22713.—19th April.—A. Gruhn, Timaru, N.Z.  
Indoor game.\*
- No. 22714.—17th April.—T. T. Masefield and A. McLeod, Auckland, N.Z.  
Flax-dressing machine.
- No. 22715.—17th April.—D. J. Whelan, Auckland, N.Z.  
Tip-wagon.
- No. 22716.—17th April.—A. Ellis and E. W. Watts, Dunedin, N.Z.  
Securing wires to posts.
- No. 22717.—20th April.—W. E. Leverett and T. H. Yorath, Christchurch, N.Z.  
Acetylene-gas generator.
- No. 22718.—20th April.—A. Ford, S. C. J. Freeman-Matthews, Wellington, N.Z., and G. Russell, Fendalton, N.Z.  
Card game.
- No. 22719.—20th April.—G. Hutchinson and J. Highet, Christchurch, N.Z.  
Milking-machine.
- No. 22720.—19th April.—W. J. Harvey and A. Hollingworth, Wanganui, N.Z.  
Tire.
- No. 22721.—19th April.—R. Walker, Dunedin, N.Z.  
Cream-rake.
- No. 22722.—22nd April.—G. Hutchinson, Christchurch, N.Z.  
Seed-sower.
- No. 22723.—22nd April.—P. J. Shanks and W. Scott, Gore, N.Z.  
Cycle-brake.
- No. 22724.—18th April.—G. W. Basley and J. Chambers, Auckland, N.Z.  
Cleansing gum, resin, &c.
- No. 22725.—24th April.—E. Coombs, Auburn, Vic.  
Fibrous plastering.\*
- No. 22726.—24th April.—P. Magnus, Northcote, Vic.  
Cycle-pedal toe-clip.
- No. 22727.—24th April.—H. B. Murphy, Doreen, Vic.  
Degumming and cleaning flax, &c.\*
- No. 22728.—24th April.—H. W. Dover, Northampton, Eng.  
Pneumatic tire.\*  
(Date applied for under section 106, 18th May, 1906.)
- No. 22729.—24th April.—T. Poljakoff-Kowtunoff, Tjora, Russia.  
Vehicle with automatic movement of rails.\*
- No. 22730.—24th April.—J. Toutcher and C. J. Hicks, Melbourne, Vic.  
Lawn spray or sprinkler.\* (*A. E. Strickland.*)
- No. 22731.—24th April.—H. H. Johnson, Forbes, N.S.W., and E. Moin, Sydney, N.S.W.  
Gas-lamp lighter and extinguisher.\*  
(Date applied for under section 106, 9th January, 1907.)
- No. 22732.—24th April.—T. Reynolds and W. Brock, Wellington, N.Z.  
Flax-treating machinery.
- No. 22733.—24th April.—J. M. Porter and J. Overall, Balmain, N.S.W.  
Earth and rock drill.
- No. 22734.—24th April.—W. Baldwin, Sydney, N.S.W.  
Method of waterproofing floors and roofs.\*
- No. 22735.—24th April.—F. Jones, Wellington, N.Z.  
Tire.
- No. 22736.—24th April.—E. Shaw, Birmingham, Eng.  
Tailors' hair-cloth.\*  
(Date applied for under section 106, 13th June, 1906.)
- No. 22737.—25th April.—Aktiebolaget Baltic-Separator, Stockholm, Sweden.  
Manufacture of butter.\* (*J. V. M. Risberg.*)
- No. 22738.—25th April.—F. Bowden, Miller's Flat, N.Z.  
Rabbit-trap.
- No. 22739.—25th April.—A. Treadwell, Wellington, N.Z.  
Trolley-pole.
- No. 22740.—25th April.—W. Cook, Palmerston North, N.Z.  
Cheese-crate.\*
- No. 22741.—26th April.—C. T. Haynes, Auckland, N.Z.  
Fastener for lids of sanitary pans.
- No. 22742.—24th April.—J. W. Fowler, Auckland, N.Z.  
Smoke-consumer.
- No. 22743.—24th April.—H. O. Ormiston, Kogarah, N.S.W., and W. D. Martin, Ashfield, N.S.W.  
Apparatus to indicate when certain parts of machinery are run down.\*
- No. 22744.—24th April.—M. Woods, Carlton, Vic., and T. J. Gilbert, Brunswick, Vic.  
Moving machine for treating rail or railway deformities.\*

- No. 22745.—26th April.—J. Macalister, Invercargill, N.Z.  
Front-lifting gear for ploughs.
- No. 22746.—29th April.—E. C. E. Mills, P. Heyes, Wellington, N.Z., and W. J. Napier, Auckland, N.Z.  
Coin-freed stamp, &c., vending machine.\*  
(R. J. Dickie and J. H. Brown.)
- No. 22747.—29th April.—G. R. Hale, Napier, N.Z.  
Scaffolding-bracket.
- No. 22748.—29th April.—F. R. Petersen, Mauriceville West, N.Z.  
Door-lock.
- No. 22749.—29th April.—H. Thompson, Christchurch, N.Z.  
Vehicle-wheel.
- No. 22750.—26th April.—T. A. Rolfe, Petersham, N.S.W.  
Thermo-mercury switch for electric circuits.
- No. 22751.—26th April.—C. H. O'Brien, Brisbane, Queensland.  
Purifying washed acetylene gas.\*
- No. 22752.—26th April.—C. H. O'Brien, Brisbane, Queensland.  
Purifier for acetylene gas.\*
- No. 22753.—26th April.—C. H. O'Brien, Brisbane, Queensland.  
Water-feed for acetylene generator.\*

*Complete Specifications filed after Provisionals.*

LIST of complete specifications filed after provisional specifications, from the 18th to the 29th April, 1907, inclusive:—

- No. 21329.—S. Millar, harvester.
- No. 21455.—J. A. Merrett, flax-treatment.
- No. 21456.—J. A. Merrett, handling flax-fibres.
- No. 21474.—T. J. Whelan, rabbit-trap. (H. Lane.)
- No. 21476.—R. W. Pearse, flying-machine.
- No. 21485.—C. K. Turner, plough.
- No. 21486.—C. K. Turner, bicycle.
- No. 21496.—C. K. Turner, swingle-tree coupling.
- No. 21497.—E. R. Godward, spirit-level.
- No. 21504.—E. Le Roy, horse-cover attachment.
- No. 21505.—E. Le Roy, horse-cover.
- No. 21547.—L. Roberts, dress-chart.
- No. 21570.—J. Turnbull and R. L. Christie, poison-laying machine.
- No. 21607.—H. N. Reid, ice floor for skating, &c.
- No. 21774.—P. J. Owens, furnace-burner.
- No. 22046.—L. Roberts, pattern-chart.
- No. 22047.—L. Roberts, pattern-chart.

*Notice of Acceptance of Complete Specifications.*

Patent Office,  
Wellington, 1st May, 1907.

COMPLETE specifications relating to the undermentioned applications for Letters Patent have been accepted, and are open to public inspection at this office. Any person may, at any time within two months from the date of this *Gazette*, give me notice in writing of opposition to the grant of any such patent. Such notice must set forth the particular grounds of objection, and be in duplicate. A fee of 10s. is payable thereon.

No. 20871.—14th March, 1906.—BENJAMIN FRANKLIN CRANWELL, of Henderson, Auckland, New Zealand, Farmer; CHARLES FREDERICK FOX ALLAN, of Lorne Street, Auckland aforesaid, Ironworker; and JOSEPH HENRY TRUDGEON, of Victoria Street West, Auckland aforesaid, Hairdresser. An improved independent broadcaster.\*

*Claim.*—The improved broadcaster, the same being formed by a tube of approximately oval cross-section, and distended in width at its lower end, provided with a downwardly and inwardly inclined lip on its lower back edge, and with a similar lip or lips at intervals in its height on its inside surfaces, substantially as and for the purposes specified.

(Specification, 2s. 3d.; drawing, 1s.)

No. 20905.—11th April, 1906.—DAVID MCKENZIE, of Tennyson Street, Auckland, New Zealand, Cabinetmaker. An easy-chair.\*

*Claim.*—The steady-rail C, and the strong spring D, and the bolt E, and the arm-protector F, and claim for the parts indicated separately, as set forth.

(Specification, 1s. 3d.; drawing, 1s.)

No. 21047.—19th September, 1906.—ALFRED ERNEST BRADLEY and HAROLD GLADSTONE BRADLEY, of 254 Colombo Street, Christchurch, Canterbury, New Zealand, Artists in Stained Glass. Improvements in the construction of lead calmes used in the manufacture of lead-lights.\*

*Claim.*—In a calme, the employment of two or more reinforcing-bars made of steel, iron, or other suitable material, ribbon placed side by side in the heart of the calme, substantially as set forth.

(Specification, 1s. 6d.; drawing, 1s.)

No. 21148.—12th May, 1906.—JOHN BARDEN, of 172 Cumberland Street, Dunedin, New Zealand, Carpenter. Improved sparrow or small-bird trap.\*

*Claims.*—(1.) A sparrow or small-bird trap consisting of the parts constructed, arranged, combined, and operating substantially as described, and illustrated on the drawing. (2.) A trap for birds comprising in combination a bait-chamber, elbow-shaped entrance thereto, a level way therefrom, a collecting-box with which said way communicates, and a pivoted trap-door at the end of said way within the collecting-box, substantially as specified and illustrated.

(Specification, 2s. 3d.; drawing, 1s.)

No. 21195.—25th May, 1906.—JAMES DAWSON JACKSON, of 6 Burn Street, Prahran, Bourke, Victoria, Australia, Plumber. An improved tubular bath-heater.\*

*Claims.*—(1.) In a tubular bath-heater, to be used for bath and domestic purposes, an outer cylindrical metal vessel B, in combination with an inner cylindrical metal vessel B1, forming the water-space B2, the lower part of which slopes outward to the top of gas-burner chamber as shown, together with the inlet-pipe H and outlet-pipe I, with the taps H1 and I1, and the branch pipe I2, safety outlet-pipe N, and rose K, substantially as described and illustrated. (2.) In a tubular bath-heater, to be used for bath and domestic purposes, the circular metal vessel C, with chamber C3, outlet J, and orifices F, F, in combination with the circular water-vessel C1 with a convex bottom, the tubes D and E projecting therefrom, substantially as described and illustrated. (3.) In a tubular bath-heater, to be used for bath and domestic purposes, the combination and arrangement of the several parts forming an improved tubular bath-heater, to be used for bath and domestic purposes, substantially as described, and illustrated by the drawing in Figs. 1 and 2, and for the purposes set forth.

(Specification, 3s.; drawing, 1s.)

No. 21233.—30th May, 1906.—UNITED SHOE MACHINERY COMPANY, of Paterson, in the State of New Jersey, United States of America, a corporation duly organized under the laws of said State of New Jersey, and having a place of business at 205 Lincoln Street, Boston, Massachusetts, United States of America (assignees of Willard Allan Smith, of Portsmouth, Rockingham, State of New Hampshire, United States of America, Mechanical Engineer). Improvements in or relating to shoe-upper lacing-machines.\*

*Extract from Specification.*—The present invention relates to machines for lacing together the eyeleted quarters of shoe-uppers preparatory to placing them on a last for the lasting and other subsequent operations, in order that the edges of the lacing-slit shall be held at the proper distance apart and the upper be permitted to be flattened out and properly fitted to the last during the lasting operation. The invention is intended primarily as an improvement in shoe-upper lacing-machines which comprise a plurality of needles arranged to pass a series of loops of lacing-cord through the eyelet-holes of an upper, and particularly as an improvement on the shoe-upper lacing-machine disclosed in British Letters Patent No. 16520 of 1904. In its broader aspects, however, the present invention is applicable to other forms of shoe-upper lacing-machines, and it is to be understood that except as specifically defined in the claims the various features of the present invention are not limited to a machine having its various parts constructed and arranged as in the machine of the British patent above referred to, nor are they limited to the specific construction and arrangement of parts described and claimed as constituting the preferred embodiment of the invention. The object of the present invention is to provide a shoe-upper lacing-machine having its various parts constructed and arranged in an improved and simplified manner, and having an improved mode of operation whereby the machine is adapted to perform the operation of lacing a shoe-

upper with certainty and at a greater rate of speed and in a more reliable and satisfactory manner than shoe-upper lacing-machines that have heretofore been devised. With this object in view the various features of the present invention contemplate the provision in a shoe-upper lacing-machine of an improved needle for passing a loop of lacing-cord through the eyelet-holes of an upper without liability of the eyelets or the upper catching on the needle; the provision of a thread-finger arranged to pull cord from the supply to be used in forming the loops which are inserted through the eyelet-holes of the upper, whereby excessive rendering of the cord through the eyes or slots of the needle or needles is prevented; the provision of improved means for adjusting the needles of a multiple-needle machine to adapt the machine for operation upon uppers having the eyelets differently spaced; the provision of improved means for varying the amount of slack formed in the lacing to permit different styles of upper to be flattened out and positioned properly on the last; the provision of improved work-guards for preventing the upper being injured by the lacing-instrumentalities during the operation of the machine; the provision of an improved construction and arrangement of the clamps or grippers for holding the ends of the lacing-cord, and improved mechanism for operating said grippers or clamps; the provision of an improved means for severing the lacing from the supply of lacing-cord; the provision of an improved knot-tying mechanism; the provision of a device in connection with the knot-tying mechanism for tightening the knot; the provision of a work adjuster or holder for positioning the work properly during the lacing operation, and the provision in connection with said work adjuster and holder of a stop mechanism for throwing the machine into and out of operation, so constructed and arranged that the work is properly adjusted before the lacing-instrumentalities are put in operation.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, £1 19s. ; drawings, 16s.)

No. 21357.—26th June, 1906.—JOSEPH SUTCLIFFE, of 44 Berry Street, Burnley, Lancaster, England, Traveller. Improvements in or relating to forced draught apparatus for fire-engines, steam-boats, locomotives, or the like.\*

*Claims.*—(1.) In fire-engines, locomotives, and the like, the application of blast apparatus as described, in which the air-supply is maintained from a separate and independent source of power, such as from a petrol motor or other prime mover, or hand-power, and substantially as and for the purpose specified. (2.) Independent blast apparatus for fire-engines, locomotives, and the like, characterized by the arrangement in combination of a petrol motor or other separate prime mover, a pipe or pipes for conveying air forced by the said pump or pumps into a storage-chamber, the said storage-chamber for storing air so forced or compressed, and a pressure-gauge, branch and delivery pipes, and separate blast-pipe for inducing draught in the boiler-funnel, and cocks and valves for controlling the delivery of the independent blast, all substantially as and for the purpose described. (3.) In fire-engines, locomotives, &c., the combination in the said independent blast apparatus of a pipe 22 for conveying the exhaust gases from the petrol motor and conducting them to the funnel of the fire-engine or the like, substantially as described and illustrated. (4.) In combination with a petrol motor for working the pumps or other air-compressor of the said blast apparatus, the use of a restarting appliance and means for relieving compression, substantially as described and illustrated. (5.) The combination, in independent blast apparatus for fire-engines, locomotives, &c., of a tubular ring in proximity to the fire-bars of a fire-engine or the like, and provided with a number of jets for delivering blasts of air to the fuel under combustion, substantially as described. (6.) The means employed for delivering a blast of mixed oxygen gas and air to the fire-grate of the boiler furnace of a fire-engine or the like, for promoting quick combustion, substantially as described.

(Specification, 7s. 6d. ; drawing, 2s.)

No. 21364.—28th June, 1906.—UNITED SHOE MACHINERY COMPANY, of Paterson, in the State of New Jersey, United States of America, a corporation duly organized under the laws of said State of New Jersey, and having a place of business at 205 Lincoln Street, Boston, Massachusetts, United States of America (assignees of Orrell Ashton, of Lawrence, Essex, Massachusetts aforesaid, Machinist). Improvements in or relating to machines for and methods of assembling parts of boots and shoes.\*

*Extract from Specification.*—The present invention will be described with reference to assembling a counter, lined upper,

and innersole. It is particularly important in assembling such parts of a boot or shoe preliminary to pulling-over and lasting that the counter be brought into close relation to the end edge of the innersole before it is secured to the innersole. Ordinarily the rear of a counter remains throughout the manufacture of a shoe in substantially the relation to the rear end edge of the innersole which is given it in assembling. Should the counter in assembling be improperly positioned with relation to the end edge of the innersole, as frequently occurs in assembling such parts by hand, it will ordinarily not be brought into proper relation thereto in lasting. Consequently, a shoe which has been improperly assembled in this way is found when completed to be defective, both the appearance and durability of its heel portion being impaired. An important feature of the invention disclosed comprises mechanism whereby the counter is brought into close relation to the end edge of the innersole before being secured to the innersole. This mechanism may conveniently include means for pressing a counter against the end of the last upon which it is arranged, and for holding the counter in close contact with the end of the last adjacent to the last bottom. It will be seen that with the innersole positioned correctly upon the bottom of the last, the counter will then be in close relation to the end edge of the innersole. Mechanism is preferably provided for securing the counter to the innersole, as shown, said mechanism being arranged to insert a fastening automatically in these parts while they are held in proper relation. In some kinds of shoes, particularly in the better grades known as welt shoes, it is desirable to secure the parts of the shoe at the rear end of the counter portion by driving a fastening through the upper counter, and lining into the rear end of the last. In order that the parts of the shoe may be so secured when desired by the machine of this invention, another important feature of the invention comprises mechanism for securing the parts of the shoe-upper to the rear end of the last. Preferably, means is provided for moving the innersole longitudinally of the last upon which it is sustained, said means being so constructed that if the innersole is positioned initially too far forwardly it will be moved rearwardly. In the operation of the machine rearward movement of the innersole is limited by the counter held against the end of the last. In some classes of work, however, the innersole is preferably tacked in position on the sole of the last, before the work is presented to the machine.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, £1 10s. ; drawing, 6s.)

No. 21365.—28th June, 1906.—UNITED SHOE MACHINERY COMPANY, of Paterson, in the State of New Jersey, United States of America, a corporation duly organized under the laws of said State of New Jersey, and having a place of business at 205 Lincoln Street, Boston, Massachusetts, United States of America (assignees of Orrell Ashton, of Lawrence, Essex, Massachusetts aforesaid, Machinist). Improvements in or relating to pounding-up machines.\*

*Extract from Specification.*—One feature of the invention consists in a novel construction and arrangement of a tool by which the blocking of the shoe is performed. The tool is preferably provided with an acting face shaped to correspond approximately with the contour of the side of the toe portion of an inverted shoe from its edge downwardly. It is found in practice, however, that lasts differ enough in shape so that a tool cannot be so formed that it will act uniformly on different lasts, and I have therefore mounted the blocking-tool movably upon its stem or supporting shank, and provided means for holding it normally in a central position and returning it to that position when it has been displaced therefrom. A tool thus constructed and arranged adapts itself readily to the contours of different lasts. For the purpose of further improving the means for blocking the shoe the blocking-tool is preferably mounted on its stem or supporting shank so as to allow it to yield bodily backwards with relation to its shank when it engages the work. The spring which permits this yielding movement may advantageously be a light spring, and the mechanism for actuating the blocking-tool will preferably include a heavier spring. This construction causes the tool to strike the shoe lightly, and then, if necessary, to turn with relation to its shank for conforming to the contour of the surface of the shoe, and thereafter to act with the greater force of the heavier spring for shaping the side of the shoe. In blocking-means thus constructed and arranged the blocking-tool will adapt itself to the contour and position of the work, so that the blow is not concentrated on a small portion of the work, as might occur with a tool which was unyieldingly connected to its shank. This blocking-means can therefore be used upon shoes which would be liable to be injured by a more rigidly

mounted blocking-tool. . . . In accordance with another feature of this invention means is provided for rendering the blocking-tool inoperative without affecting the operation of other mechanisms of the machine. . . . In accordance with one embodiment shown of this feature of the invention, means is provided by which the blocking-tool may be moved to an inoperative position and locked in that position by a single operation. . . . A further feature of the invention consists in an improved construction and arrangement of means for smoothing the side of the shoe to obliterate any marks or wrinkles which remain in the upper near the edge of the shoe after the action of the blocking-tool, or which may exist when the blocking-tool is not used. . . . Another feature of the invention consists in means for treating the edge of the shoe, or that portion of the upper at the junction of the side and bottom faces of the shoe. . . . Another feature of the invention of great importance, which will preferably be used with the features already mentioned, but which is capable of independent use and of use in many other machines, consists in providing means for "ironing," or smoothing with a heated instrument, the side of the shoe.

[NOTE.—The above extracts from the specification are inserted in place of the claims.]

(Specification, £1 ; drawing, 3s.)

No. 21371.—28th June, 1906.—RUSSELL RAYSON, of 8 Raleigh Street, Windsor, Victoria, Australia, Engineer. An improved method and apparatus for cooling air for refrigerating purposes.\*

*Claims.*—(1.) An improved method of cooling air for refrigerating purposes, consisting in first withdrawing the comparatively warm air from the storage-room and discharging same, thereby creating a partial vacuum, then placing the storage-room in communication with the circulating system, and drawing the air through the upper part of said storage-room, passing same over cooling or refrigerating agents, and reintroducing said air into the lower part of said room. (2.) An improved method of cooling air for refrigerating purposes, consisting in partially exhausting the air in the storage-room, then placing said room in communication with the circulating system, and drawing air from the upper part of said room, spraying same with water, passing it over a refrigerating agent, and finally delivering it into the lower part of the storage-room again. (3.) An improved method of cooling air for refrigerating purposes, consisting in partially exhausting the air in the storage-room, then placing said room in communication with the circulating system, and drawing air from the upper part of said room, spraying same with water, passing it over a refrigerating agent, impregnating same with lime-fumes, and finally delivering it into the lower part of the storage-room again. (4.) An improved apparatus for cooling air for refrigerating purposes, comprising a storage-room having a conical, pyramidal, or dome-shaped roof with an outlet at the highest point, means for withdrawing air through same, means for alternatively discharging said air or circulating same, a water-spray chamber and refrigerating-box into which said air may be passed, and means for reintroducing same at the lower part of the storage-room. (5.) An improved apparatus for cooling air for refrigerating purposes, comprising a storage-room having a conical, pyramidal, or dome-shaped roof, a fan at the top of said room, a two-way valve in the outlet-conduit of said fan, a spray-chamber in communication with said outlet-pipe, means in said spray-chamber for spraying the air with water, passages for conveying the air to the top of a refrigerating-box, and means for permitting the passage of the air to the lower part of the storage-room, substantially as described. (6.) An improved apparatus for cooling air for refrigerating purposes, comprising a storage-room having a conical, pyramidal, or dome-shaped roof with an outlet in the apex thereof, a fan for drawing the air from the outlet, a conduit leading to a spray-chamber containing a number of depending open-ended tubes the upper ends of which extend into an air-passage, water-spraying nozzles in the latter above the upper ends of said tubes, means of communication between said passage and the upper end of a refrigerating-box and from the bottom of said box, and an inlet in the lower part of the storage-room, substantially as described. (7.) An improved apparatus for cooling air for refrigerating purposes, comprising a storage-room, a spray-chamber, and a refrigerating-box, said storage-room having a conical, pyramidal, or dome-shaped roof, an outlet in the apex thereof, an exhaust-fan connecting said outlet with the spray-chamber, a two-way valve in the outlet-conduit of said fan, an air-passage above said spray-chamber, a number of depending tubes in the latter, open at the upper end in said air-passage, and at the bottom end in said chamber provided with a bent overflow-pipe leading into the refrigerating-box, means for delivering the air into the upper end of the refrigerating-box, a tank in the bottom of the latter containing lime and water,

an opening at the lower end of said box in communication with a passage leading to an inlet in the lower part of the storage-room, means to close said inlet, and a vent-tube in said storage-room provided with a valve and with an air-filler, substantially as described. (8.) In an apparatus for cooling air for refrigerating purposes, a spray-chamber containing a number of depending open-ended tubes extending at their upper ends through the ceiling of said chamber, water-sprays or nozzles above the upper ends of said tubes connected to a common water-supply pipe, a tank in the bottom of said chamber having a bent overflow-pipe discharging into a tank containing ice-drippings in the bottom of the refrigerating-box, and means for pumping the water from the ice-water tank into the said water-supply, substantially as described.

(Specification, 8s. ; drawing, 2s.)

No. 21750.—4th September, 1906.—JOHN CHRISTIE, of Wairepa, New Zealand, Farmer. Street or tram-rail sweeper.\*

*Claims.*—(1.) In street-cleaning machines, in combination, a revolving brush capable of brushing lighter or heavier by the action of a movable weight, as well as of being raised and lowered as needed, with an elevator lifting the swept dust and tipping it into a box for containing same, the whole to be followed by a sprinkling-apparatus for laying dust and damping the surface that has just been swept, all substantially as shown and as described and as explained. (2.) In combination with a tram-groove watering-machine or watering-car, a revolving brush capable of sweeping lighter or heavier as desired, as well as of being lifted up altogether, the swept surface being watered by the car immediately on its being swept, all substantially as described and explained, and as illustrated in the drawing. (3.) In combination, for street or rail cleaning, a revolving brush capable of being made to sweep lighter or heavier as needed, with a sprinkling or watering apparatus to dampen the surface, all substantially as set forth.

(Specification, 4s. ; drawing, 1s.)

No. 22109.—26th November, 1906.—NEILS JULIUS HANSEN, of Motu, Gisborne, New Zealand, Blacksmith. Improvements in axes.

*Claim.*—An axe-head having its top and bottom edges sharpened and corners rounded to a large radius, substantially as and for the purposes set forth and illustrated.

(Specification, 1s. 6d. ; drawing, 1s.)

No. 22183.—12th December, 1906.—CHARLES HARPER, of Guildford, Western Australia, Gentleman. Process and method for the economic disposal of effluent from septic tanks for soil-fertilisation.

*Claims.*—(1.) The subsoil process for conveying or feeding the fertilising elements contained in the effluent from septic tanks to the roots of plants for their immediate nutrient, substantially as set forth and explained. (2.) In a process as above described and claimed, in the employment of a covered sump or distribution-chamber in communication with the septic tank, and from which chamber a line or lines of pipes is or are led in a subsoil position for conveying the effluent either by first pumping to a higher level and thence gravitating, or by direct gravitation to the immediate vicinity of roots, substantially as described and explained. (3.) The use of an antiseptic chamber for purposes of disease-prevention, which is interposed between the septic tank and sump, substantially as set forth and explained. (4.) In combination with a septic tank, the peculiar constructional arrangement of an antiseptic disinfectant chamber communicating with a covered sump, from which latter pipes are led for the enrichment of plant-roots so as to effect the process as above claimed, and all substantially as and for the purposes set forth and explained.

(Specification, 2s. 3d.)

No. 22213.—23rd April, 1906.—ANTOINE HENRI IMBERT, of 75 Avenue de la Republique, Grand-Montrouge, Department of the Seine, France, Engineer. Improved process of treating zinc and lead sulphide ores.

[NOTE.—This is an application under section 106 of the Act, the date given being the official date of the application in France.]

*Claims.*—(1.) The improvement in the treatment of zinc and lead sulphide ores by the precipitation method, consisting in "dissolving" the ore in a suitable bath before bringing it into contact with the reagent, substantially as described

(2.) The improvement in the treatment of zinc and lead sulphide ores, as set forth in the preceding claim, in which the bath is also capable of keeping liquid at the working-temperature the residue from the reaction, substantially as described. (3.) The improvement in the treatment of zinc and lead sulphide ores, as set forth in claim 1, in which the bath is formed of a mixture of one or of several earthy bases, with one or several suitable metallic oxides, substantially as described. (4.) The improvement in the treatment of zinc and lead sulphide ores, as set forth in the preceding claim, in which the earthy bases of which the bath is formed comprises a mixture of lime, calcined dolomite, or both together, with ferric oxide or manganese-oxide, or both together, substantially as described. (5.) The improved process of treating zinc and lead sulphide ores, substantially as and for the purpose described.

(Specification, 12s.)

No. 22302.—8th January, 1907.—WALTER ERNEST POTTS, of Gore, New Zealand, Engineer. Improvements in attachments to dredges for bucket scouring and gold-saving.

*Claims.*—(1.) In gold-saving, the sluicing or hosing-out of the buckets of a bucket dredge after they are fully emptied in the usual manner and just before they re-enter the water that said dredge floats in, by a combination of protected nozzles with the usual save-all chute, made movable and attached to the ladder by adjustable links, &c., all substantially as set forth and as described and as explained. (2.) In gold-saving on bucket dredges, protected nozzles directed so as to wash out any particles that may cling to the buckets, with the lower chute arranged to automatically maintain its position for receiving any material thus washed out, all substantially as set forth. (3.) In gold-saving, in combination, nozzles protected from falling lumps, and from their construction causing an induced air-current, so directed that they clean out approaching buckets of a gold bucket dredge and deliver any material so washed out into the lower or save-all chute, which is altered to be always in the best position for this purpose, all substantially as set forth.

(Specification, 3s. 6d. ; drawing, 1s.)

No. 22339.—24th January, 1906.—ROBERT BROWN, of 16 Great George Street, Westminster, London, England, Engineer. Improvements in electric switches for electric traction on the surface-contact system.

[NOTE.—This is an application under section 106 of the Act, the date given being the official date of the application in Great Britain.]

*Claims.*—(1.) The employment in electric traction on the surface-contact system, of a switch comprising a spindle having mounted thereon an arm capable of bridging terminals, connected respectively to the main conductor and the contact-stud, such spindle being also provided with a lever mounted thereon or otherwise connected thereto, which is operated on the passage of a vehicle to close the circuit to the contact-stud, and to automatically cut off the current thereto immediately the vehicle has passed, substantially as specified. (2.) Mounting the lever described in claim 1 so that it projects horizontally across the slot or conduit, substantially as specified. (3.) In a switch of the construction specified in claim 1, mounting the spindle so that it is capable of rotation by an operating-bar carried by the vehicle coming in contact with its lever, thereby completing the circuit to the contact-stud, and providing means, such as a pair of angular-surfaced sleeves, as described, for insuring the return of the parts to their normal position after the vehicle has passed, substantially as specified. (4.) In a switch of the construction specified in claim 3, forming the upper part of the casing thereof as a receptacle for grease or similar material for keeping the parts lubricated, and preventing the access of moisture to the contact-making parts, substantially as specified. (5.) In a switch of the construction specified in claim 1, mounting the spindle so that it is capable of sliding longitudinally in the casing, and providing means, such as the eccentric disc described, for communicating to such spindle the motion imparted to its lever by the operating-bar carried by the vehicle, and for returning the parts to their normal position after the vehicle has passed, substantially as specified.

(Specification, 6s. ; drawing, 1s.)

No. 22373.—31st January, 1907.—JOHN CHARLES PRESTON, of 343 Sussex Street, Sydney, New South Wales, Australia, Civil and Mechanical Engineer. Improvements in elastic-fluid motors.

*Extract from Specification.*—This motor is essentially designed to be an improvement on what might be termed direct-acting motors actuated by elastic fluids. The motor consists of a cylinder containing a piston, or it may be otherwise described as two pistons rigidly connected to one another, or two separate pistons. At the side of the cylinder is another cylinder, but smaller, which contains the slide or piston valve. This slide-valve is actuated by steam or other fluid, the admission and exit of which to and from the slide-valve is controlled by the piston in the cylinder.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, 5s. 6d. ; drawing, 5s.)

No. 22374.—31st January, 1907.—JOHN CHARLES PRESTON, of 343 Sussex Street, Sydney, New South Wales, Australia, Civil and Mechanical Engineer. Improvements in sheep-shears and similar machines for other like purposes.

*Claims.*—(1.) In shearing-machines, the use of a bar such as D to drive the cutters suitably supported in case, substantially as and for the purposes described and explained, and as shown in the drawings. (2.) In shearing-machines, a bar such as D in combination with an elastic-fluid motor such as F, substantially as and for the purposes described and explained, and as shown in the drawings. (3.) In shearing-machines, a bar such as D in combination with a centre post such as G, substantially as and for the purposes described and explained, and as shown in the drawings. (4.) In shearing-machines, a tension-screw such as E in combination with a bar such as D, substantially as and for the purposes described and explained, and as shown in the drawings. (5.) In shearing-machines, the position of the motor F placed near the cutters, substantially as described and explained, and as shown in the drawings. (6.) In shearing-machines, the position of the tension-screw placed under the body of the machine, substantially as and for the purposes described and explained, and as shown in the drawings.

(Specification, 3s. 3d. ; drawing, 2s.)

No. 22450.—2nd July, 1906.—ANDREW JOSEPH BERGIN, of Darling Street, Rozelle, near Sydney, New South Wales, Commonwealth of Australia, Hotelkeeper. Improved motor-cycle belt.

[NOTE.—This is an application under section 106 of the Act, the date given being the official date of the application in Australia.]

*Claims.*—(1.) A belt for the purposes specified, comprising a plurality of leather, indiarubber, or guttapercha pads or strips threaded closely upon a chain or wire rope, the faces and edges of the pads or strips being tapered for the purposes specified, substantially as described. (2.) In a power-transmission belt, in combination with a flexible metal core, of a series of pads or strips of leather or guttapercha closely threaded thereon, the faces thereof tapered to enable them to lie together when passing over the curvature of the pulley-wheels, and the edges tapered to engage with the taper of the groove therein, substantially as described. (3.) In a power-transmission belt, the combination with a flexible core, consisting either of a chain or wire rope, of a plurality of pads or strips of leather, guttapercha, or suchlike, formed as described, and closely threaded upon such core, substantially as described.

(Specification, 2s. 9d. ; drawing, 2s.)

No. 22471.—28th February, 1907.—SOCIETA DI ESPORTAZIONE POLENGHI-LOMBARDO, of Codogno, near Milan, Italy, Manufacturers and Exporters, and Dr. EMILIO SONCINI, of Milan, Italy, Chemist. Improvements in the treatment of skimmed milk and milk-serum.

*Claims.*—(1.) A process for the treatment of milk and its derivatives, consisting in subjecting the same to the action of sulphur-dioxide. (2.) A process for the treatment of milk and its derivatives, consisting in subjecting the same to the action of sulphur-dioxide in watery solution. (3.) A process for the treatment of milk and its derivatives, consisting in subjecting the same to the action of a gaseous current of sulphur-dioxide. (4.) A process for the production of caseine

from skimmed milk, consisting in treating the same with sulphur-dioxide. (5.) A process for the production of caseine from skimmed milk, consisting in treating the same with sulphur-dioxide, in the proportion of 300 to 400 grammes to a hundred litres. (6.) A process for preserving milk-serum, consisting in subjecting the same to the action of sulphur-dioxide.

(Specification, 1s. 3d.)

No. 22485.—28th February, 1907.—EDWARD NEEDHAM WATERS, a member of the firm of Edward Waters and Sons, Patent Attorneys, of Nos. 414-418 Collins Street, Melbourne, Victoria, Australia (nominee of Railway Supplies Limited, a corporation organized under the laws of the Province of Ontario, Dominion of Canada, carrying on business as Manufacturers of Railway Supplies, whose principal business office is at No. 7 King Street East, Toronto, Ontario, Canada—assignees of George Hughs Williams, of No. 1012 Holmes Street, Kansas City, Jackson, Missouri, United States of America, Manufacturer, and Edward Clarkson Seward, of Guildford, New Haven, Connecticut, United States of America, Mechanical Expert). Improvements in splice or angle bars.

*Claims.*—(1.) A splice or angle bar provided with a plurality of vertically tapered truss-like reinforcements on its outer face, gradually decreasing in stiffness from the middle portion of the bar toward its opposite ends, whereby the ratio of stiffness in the splice-bar decreases from its middle portion toward its end, substantially as the ratio of stiffness in the rail increases from its end toward the end of the splice-bar. (2.) A splice or angle bar having the features set forth in claim 1, and having the reinforcements on its outer faces interrupted at bolt-hole intervals to maintain the said ratio of strength at the bolt-hole portions. (3.) A splice or angle bar having reinforcements on both its outer and inner faces, whether said reinforcements be tapered in a horizontal direction or vertical direction, or both. (4.) A splice or angle bar characterized by reinforcements of such a nature as to bring the neutral axis of the bar into conformity with the neutral axis of the rail to which the bar is applied at a point below the middle height of the rail. (5.) A splice or angle bar having tapered or truss-like reinforcements rolled on its outer face.

(Specification, 7s. ; drawing, 2s.)

No. 22499.—1st March, 1907.—EDWARD BATES, of Auckland, New Zealand, Rough Rider. An improved instrument for use in spaying cows and other female animals.

*Claim.*—The improved instrument specified, having its shank produced to a crescent-flattened formation with the end thereof shaped into a ring, and with a handle fitted to the other end of the instrument for the purpose set forth, as described and illustrated.

(Specification, 2s. ; drawing, 1s.)

No. 22500.—1st March, 1907.—GEORGE WAKELIN, of Warkworth, Auckland, New Zealand, Blacksmith. An improved combined generator and holder of acetylene gas.

*Claims.*—(1.) The improved combined generator and holder of acetylene gas specified, in combination, comprising a water-tank and gas-holder with guides, a generator chamber with upwardly movable door containing the carbide-tray formed in sections with V-shaped slits to allow the water to pass from one section to another, water-pipe fitted with automatic valve and lever operated by trip-plate, trip-rod guided in brackets secured to holder by adjusting nuts and bracket, said water-pipe having a shut-off valve, gas-pipes leading to said holder and to burners, and fitted with valves for the purpose and in the manner set forth, as described and illustrated. (2.) In the improved combined generator-holder of acetylene gas covered by claim 1, the single gas-pipe serving as supply-pipe to both gas-holder and to burners, fitted with valves for the purpose set forth, as described and illustrated.

(Specification, 3s. 9d. ; drawing, 1s.)

No. 22516.—6th March, 1907.—PATRICK JOSEPH MCGINN, of Salisbury, Rhodesia, South Africa, Wheelwright. Improvements in vehicle-springs and their attachments.

*Claims.*—(1.) The combination illustrated in Fig. 1, of a main and an auxiliary vehicle-spring with connections to the vehicle-frame or the like, substantially as described.

(2.) The combination illustrated in Fig. 4, of a main and an auxiliary vehicle-spring with connections to the vehicle-frame or the like, substantially as described. (3.) The combination illustrated in Fig. 5, of elliptic spring upper and lower leaves, end-jointed as illustrated, and so elongated that as the load is increased the members  $j^1$  gradually increase their meeting surfaces by closing together from their jointed ends  $j^2$ , and that as the load is further increased the main spring  $1^2$  between the members  $j^1$  is compressed or yields. (4.) An auxiliary vehicle-spring and support thereof, and check-loop or the like, substantially as described. (5.) The combination of spring parts illustrated in Fig. 2, substantially as described. (6.) The combination of spring parts illustrated in Fig. 3, substantially as described.

(Specification, 3s. 6d. ; drawing, 1s.)

No. 22523.—7th March, 1907.—GEORGE NEWMAN, of Thames, Auckland, New Zealand, Carpenter. Improved targets for rifle ranges.

*Claims.*—(1.) The improved targets constituted by a pair of frames mounted in vertical slides within a pit, and each formed with upper and lower half portions, the upper half of which is adapted to receive the target-face, such frames being suspended and connected together to counterweight each other, and being so disposed and arranged that when one frame is lowered fully into the pit the other will be raised to such a height as to cause its upper half to project above the top edge of the pit, substantially as specified. (2.) The general arrangement, construction, and combination of parts comprising my improved targets for rifle ranges, substantially as described and explained, and as illustrated in the drawings.

(Specification, 2s. 6d. ; drawing, 1s.)

No. 22533.—13th March, 1907.—ARTHUR IORWERTH JOSEPH, of Hoffnung's Chambers, 163 Pitt Street, Sydney, New South Wales, Australia, Sanitary Engineer. Improvements in septic treatment of sewage.

*Extract from Specification.*—Fig. 1 is an elevation of the circular form of aerobic bed as constructed by me. A represents the concrete or other solid base upon which rests the aerating-bed C within the enclosures of expanded metal D. B represents one of the number of perforated pipes placed radially on the base A. C shows the aerating-bed formed of broken stone, metal, or other suitable substance; D the enclosure of expanded metal for the said bed; E a distributor, circular and conical in form, having concentric corrugated grooves with slots therein, constructed and placed in position as stated on the top of the aerating-bed C; F the conical ventilating-hood, which may terminate as to its bottom rim or cap at J, shown in Figs. 1, 5, and 6, being the top of the aerating-bed, or project thereon about 4 in., or be extended downwards so as to cover as to a space of one-half the upper vertical periphery of the bed, as shown at L in Figs. 1 and 5, or, as before stated, the rim fitting just over the top of the bed as at J—such space shown at L may be rendered on the outer periphery with cement, metal, or other air-tight material; G the pipe fitted into the apex of the hood F for the supply of liquid sewage to the distributor E leading from the septic or liquefying tank; H the ventilating shaft and cowl fixed at a convenient and suitable point in the pipe G.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, 14s. ; drawing, 3s.)

No. 22567.—20th March, 1907.—WILLIAM ERNEST HUGHES, of Queen's Chambers, Wellington, New Zealand, Registered Patent Agent (nominee of the Printing Machinery Company, Limited, of 188 Fleet Street, London, England—assignees of Henry Alexander Wise Wood, of No. 1 Madison Avenue, New York, United States of America, Engineer). Improvements in machines for finishing, cooling, and drying unfinished articles, especially unfinished curved stereotypes, and also in said articles.

*Extract from Specification.*—The said improvements relate principally to (a) means for automatically stopping and releasing the articles at the proper times in respect of the several devices; (b) guide for correctly positioning such an article as a curved stereotype on the runway; (c) means for trimming the side edges of such an article as a curved stereotype; (d) means for beginning the cooling operation earlier than is usual in machines for the purpose stated, and for



carrying it on continuously; (e) means for clamping an article in the shaving-arch of the machine; (f) means for finally cooling an article; (g) means for drying the opposite faces of an article, especially of a curved stereotype, so as to fit the latter for immediate use; and (h) a shape of article specially adapted for co-operating with machines of this class.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, 11s.; drawing, 4s.)

No. 22569.—20th March, 1907.—LINOtype AND MACHINERY, LIMITED, of 188 and 189 Fleet Street, London, England, Linotype and Printing Machinery Manufacturers (assignees of Thomas Robert Gillett Parker, of the Linotype Works, Broadheath, Cheshire, England, Draughtsman). Improvements in printing-machines.

*Extract from Specification.*—This invention relates to improvements connected with the inking, tripping, and damping mechanisms of rotary printing-machines, the improvements connected with the inking mechanism and its tripping mechanism being applicable to any rotary machine using either a typographic printing surface or a flexible metal plate as a printing surface, while the improvements connected with the damping mechanism are applicable only to machines printing on the lithographic plan from any suitable metallic stone or other surface. In the specifications of New Zealand Patent 17845 and British Letters Patent 25866, of 1903, means are described whereby the tripping of the impression-cylinder is caused also to automatically effect the tripping of the inking-rollers coincidentally therewith, the inking-rollers remaining tripped as long as the impression-cylinder remains so. This has sometimes been found very inconvenient, as it does not readily allow of the double rolling of the printing surface, which is so often required. This double rolling has heretofore been done by either tripping the machine at alternate impressions and lowering the inking-rollers by hand immediately after they have been tripped, or disconnecting the roller trip-gear from the cylinder trip-gear, which is a troublesome operation and cannot be effected while the machine is in motion. The present invention provides means for overcoming these difficulties, and it also provides, among other advantages, for the automatic stopping of the supply of water to the printing surface simultaneously with the tripping of the inking-rollers.

[NOTE.—The above extract from the specification is inserted in place of the claims.]

(Specification, 10s.; drawing, 5s.)

No. 22573.—20th March, 1907.—CHARLES ALEXANDER KIDD, of 173A High Street, Christchurch, Canterbury, New Zealand, Cycle-manufacturer. An improved pedal-strap for bicycles and the like.

*Claim.*—A pedal-strap secured upon a pedal by means of fastening-straps attached side by side to the pedal-strap, and fastening at one end by buckles attached to short straps fixed to the pedal-strap, the said fastening-straps and short straps passing around the end plates of the pedal and upon each side of the centre bar of the pedal, substantially as set forth.

(Specification, 1s. 6d.; drawing, 1s.)

No. 22577.—21st March, 1907.—ARTHUR ALBERT WALTERS, of 82 William Street, Melbourne, Victoria, Australia, Mechanical Engineer. Improved apparatus for automatically opening and closing lift or elevator doors.

*Claims.*—(1.) In apparatus for automatically opening and closing lift or elevator doors, in combination, a lift shaft and cage, vertical guideways attached to the sides of the lift-shaft, sliding-blocks supported in and free to move in said guideways, said blocks being attached to the gates, and means for operating the said sliding-blocks to enable said gates to be raised or lowered so that an open or closed doorway will be formed as the lift-cage rises or descends, substantially as and for the purposes set forth. (2.) In apparatus for automatically opening and closing lift or elevator doors, in combination, vertical guideways in which are placed sliding-blocks provided with rollers, means for imparting the required movement to said sliding-blocks to enable a gate to be raised or lowered so that a doorway will be opened or closed, consisting of trip-levers attached to the floor and roof of the lift-cage, a free rocking-lever attached to the sliding-block and provided with an arm which engages with the trip-levers

on the roof and floor of the cage, wire ropes secured to the said sliding-blocks and passing over and around pulleys placed at suitable intervals in the lift-shaft, substantially as and for the purposes set forth. (3.) In apparatus for automatically opening and closing lift or elevator doors, in combination, a lift shaft and cage, the latter being provided with trip-levers attached to the roof and floor, said trip-levers as the cage rises and descends engage with and operate trip-levers provided with rollers which work on vertical skids placed at the side of the lift-shaft, means for releasing and bringing into action said trip-lever, consisting of a spring placed at the lower end of the vertical skid, and cutaway portions at top and bottom of said skids to enable the trip-lever to partly revolve, substantially as and for the purposes set forth. (4.) In apparatus for automatically opening and closing lift or elevator doors, in combination, a lift shaft and cage, and means for distributing the required amount of weight to counterbalance the parts, consisting of placing a weight in one of the vertical guideways, or constructing the sliding-blocks and connections of a weight to counterbalance the gate or other parts, substantially as and for the purposes set forth. (5.) The combination and arrangement of the several parts set forth to form a complete apparatus for automatically opening and closing lift or elevator doors, substantially as described, and illustrated on the drawings.

(Specification, 9s. 3d.; drawing, 1s.)

No. 22578.—21st March, 1907.—ALBERT EDWARD YOUNG, of Christchurch, Engineer, and EDWARD GEORGE KERR, of Timaru, Newspaper Proprietor, both of New Zealand. An improved machine for issuing checks or tickets.

*Claims.*—(1.) In ticket-issuing machines, a casing comprised of two portions hinged together and adapted to contain a roll of tickets, a curved extension upon one of the portions and a spring plate underlying such extension, and a curved face upon the other portion adapted to fit against the extension and to hold the end of the ticket-roll between it and the spring plate, a toothed plate slidably mounted in an arm pivoted in the casing and adapted to travel along the face of the spring plate when the arm is turned, and a spring-controlled thumb-lever adapted to turn the arm and to impart a longitudinal sliding movement to the plate in an outward direction when the lever is first depressed and in an inward direction when the lever is first released, substantially as and for the purposes specified. (2.) In machines of the class described in claim 1, a curved guide-plate secured within the casing alongside the toothed plate and formed with a notch at each end in the edge adjacent to the plate, and a lug projection on the plate extending normally across the inside face of the guide-plate, substantially as and for the purposes specified. (3.) In machines of the class described in claim 1, an extension upon the thumb-lever and a recess in the edge of the inner end of the toothed plate into which the extension fits, substantially as and for the purposes specified. (4.) The improved machine for issuing checks or tickets substantially as described and explained, and as illustrated in the drawings.

(Specification, 6s. 3d.; drawing, 2s.)

No. 22588.—19th March, 1907.—EDMUND SCOTT GUSTAVE REES, of Thomas Parker, Limited, of Wolverhampton, Stafford, England, Electrical Engineers. Improvements in rotary pumps and turbines for incompressible fluid.

*Claims.*—(1.) In rotary pumps or turbines for incompressible fluids having a free vortex-chamber or expanding channels in the fixed casing, or a combination of free vortex-chamber and expanding channels, an impeller or rotor constructed to form a pressure-fluid chamber or reservoir having peripheral nozzles which are constricted so as to maintain a practically constant internal pressure and to impart a velocity and direction to the issuing jets, which may be made to bear any desired relation, within wide limits, to the tangential velocity acquired by the mass of the liquid. (2.) A self-regulating rotary pump for incompressible fluids comprising an impeller having a large central chamber in which a considerable body of fluid is maintained by rotation at a substantially constant pressure, and rearwardly directed nozzles adapted to convert the pressure into velocity on the passage of the fluid from the reservoir to the expanding ducts or chambers of the fixed casing, substantially as described. (3.) A constructional form of apparatus according to claim 1, in which the discharge-nozzles are formed in or by a separate ring, which is screwed on or otherwise secured around the periphery of the fluid-pressure reservoir which constitutes the body of the impeller or rotor, substantially as described. (4.) A constructional form of apparatus according to claim 1,

in which provision is made for varying the extent of the constriction of the discharge-nozzles, substantially as described. (5.) In combination with the apparatus according to claim 1, a vortex duct or eye adapted to lead the fluid into the fluid-pressure reservoir without shock, substantially as described. (6.) In combination with the apparatus according to claim 1, a fixed nozzle or nozzles co-operating with a vortex duct or ducts forming part of the rotor, to direct the entering fluid radially inwards, substantially as described. (7.) In combination with a plurality of rotors according to claim 1, each having a vortex eye or inlet, a casing having fixed injection-nozzles and cut-waters or discharge-ducts, substantially as described. (8.) In combination with a plurality of rotors according to claim 1, each having a vortex eye or inlet, a casing having guide-blades co-operating with the said vortex-eyes and cut-waters or discharge-ducts co-operating with the discharge-nozzles of the rotors, substantially as described. (9.) A multi-stage pump or turbine having a single rotor according to claim 1, and a casing subdivided into compartments each co-operating with a separate portion of a series of fixed guide-ducts whereby the fluid is passed repeatedly through the rotor before being finally discharged, substantially as described. (10.) A multi-stage pump or turbine having a single rotor according to claim 1, and a casing subdivided into compartments each co-operating with a separate portion of a series of fixed injection-nozzles, whereby the fluid is passed repeatedly through the rotor before being finally discharged, substantially as described. (11.) A multiple pump consisting of a set of separate impellers or series of impellers mounted on the same shaft and having separate discharge-nozzles, and means for changing one or more of the discharge-nozzles or varying the sectional area thereof, substantially as described. (12.) In combination with a rotary pump of the character described and claimed, a multiple-jet nozzle, each jet of which is supplied by a branch from the common delivery-pipe of the pump, and means for varying the cross-section of one or more of the branches, substantially as described. (13.) A multi-stage rotary pump consisting of an impeller of the kind described and claimed, and a plurality of non-restricted impellers connected in series and in front of the said impeller and mounted on the same shaft therewith, substantially as described. (14.) In a rotary pump or turbine of the character described, a device for annulling or reducing leakage of pressure fluid which consists in forming spiral grooves on either or both of the opposing surfaces of the rotor and casing, at the inlet or the outlet of the rotor, or both at the inlet and the outlet thereof, the spires of the two sets of grooves, when both opposing surfaces are so grooved, being arranged in opposite senses, substantially as described. (15.) A rotary pump or turbine for incompressible fluids comprising a rotary pressure-fluid reservoir, means for converting the pressure of the said pressure-fluid into velocity, and means for reconverting the velocity into pressure, substantially as described and illustrated.

(Specification, 15s. 6d.; drawing, 5s.)

No. 22589.—20th March, 1907.—BERNHARD ADOLF OTTO PROLLIUS, of Torvegade 50, Copenhagen, Denmark, Engineer. Improvements in or relating to distance-pieces for the insertion-plates of centrifugal machines.

*Claim.*—A process for securing distance-pieces to insertion-plates for centrifugal machines, characterized by the insertion-plate being stamped out to form bent-out lugs, which are pressed against the edge of the distance-piece so that the latter is positioned entirely on the inner, or entirely on the outer, surface of the insertion-plate.

(Specification, 1s. 6d.; drawing, 1s.)

No. 22599.—26th March, 1907.—HUBERT ALFRED ADAMS, of Linton, Victoria, Australia, Newspaper Proprietor. Improvements in document-files and assembling-means.

*Claims.*—(1.) A file (for sheets of material) having two receiving-means or spikes, a fork, upper and lower members adapted to be pressed together by the user, a clamp, spring means to actuate the clamp, means to prevent distortion of the file, and means to prevent damage by spikes, all substantially as described. (2.) A single piece of wire the several parts of which form two spikes, supports for sheets of material, a fork, upper arms, springs, a tongue, and a clamp usable as a punch, all substantially as described. (3.) A file or assembling-means having substantially the respective parts described, illustrated in Fig. 1. (4.) A file or assembling-means having substantially the respective parts described, illustrated in Fig. 3. (5.) In a file or assembling-means,

the respective parts shown in Fig. 6, substantially as described. (6.) In a file or assembling-means, the respective parts shown in Fig. 5, substantially as described. (7.) In a file or assembling-means, the respective parts shown in Fig. 4, substantially as described.

(Specification, 4s. 6d.; drawing, 1s.)

An asterisk (\*) denotes the complete specification of an invention for which a provisional specification has been already lodged.

NOTE.—The cost of copying the specification and drawing has been inserted after the notice of each application. An order for a copy or copies should be accompanied by a post-office order or postal note for the cost of copying.

The date of acceptance of each application is given after the number.

Extracts from the drawings accompanying the foregoing complete specifications appear at the end of this *Gazette*.

J. C. LEWIS,  
Registrar.

*Provisional Specifications accepted.*

Patent Office,  
Wellington, 1st May, 1907.

APPLICATIONS for Letters Patent, with provisional specifications, have been accepted as under:—

- No. 22104.—L. O. Hooker, perch-carrier.  
No. 22265.—A. Le Blanc, rabbit-destroyer.  
No. 22410.—A. Gray and D. G. Thornton, pocket of wearing-apparel.  
No. 22460.—G. E. Bretherton, plough.  
No. 22492.—A. E. Moss, electric shop-alarm mat.  
No. 22547.—A. Todd, seed-sower.  
No. 22550.—T. Stewart, means for cleaning ships' hulls.  
No. 22556.—W. C. Page and R. V. Anderson, concrete structure.  
No. 22557.—C. Jansen, method of draining clothes in washing. (E. J. Hall.)  
No. 22558.—F. H. Lampen, signalling-flag.  
No. 22559.—J. Murdoch, toilet-cabinet.  
No. 22560.—H. W. Gillingham, milking-machine.  
No. 22561.—H. Mackay, bicycle chain-guard.  
No. 22563.—D. W. McLean, tire.  
No. 22574.—B. G. C. Stephens and B. G. Mahoney, tire.  
No. 22575.—M. G. Wilson, collapsible box.  
No. 22581.—A. Storrie, milking-can.  
No. 22590.—K. Gillingham, oven of cooking-range.  
No. 22593.—T. R. Christie, skylight.  
No. 22609.—A. G. Andin, milking-machine.  
No. 22616.—W. Alexander, moisture, &c., tester.  
No. 22619.—J. Sharpe, bottle to contain liquid under pressure.  
No. 22621.—R. R. Douglas, machinery-roller.  
No. 22622.—H. Wilkenning, fastening for belts, conveyors, &c.  
No. 22635.—S. E. Bell, fuel-economizer, &c.  
No. 22639.—E. G. McDougall, machine for dividing and wrapping blocks of butter.  
No. 22643.—H. H. Kerr, apparatus for supplying air round teat-cups.  
No. 22644.—F. J. McDonald, press for compressing material into bales.  
No. 22645.—A. E. Usherwood and W. H. Hanlon, valve gear for engine.  
No. 22646.—F. C. Thompson, bracket attachment for blinds.  
No. 22653.—B. W. Benn, milking apparatus.  
No. 22654.—B. W. Benn, milking-machine.  
No. 22655.—J. B. Davies and H. Bell, nail-manufacture.  
No. 22661.—United Shoe Machinery Company, wire for metallic fasteners. (F. H. Perry.)  
No. 22662.—G. T. Booth, flax-stripper attachment.  
No. 22663.—United Shoe Machinery Company, pulling-over machine. (R. F. McFeely.)  
No. 22689.—F. C. Brown, lining tube-mills, &c.  
No. 22692.—R. R. Douglas, protector for links of running machinery.  
No. 22695.—F. W. Smith, teat-cup.  
No. 22696.—F. Bottrill, vehicle-wheel.  
No. 22723.—P. J. Shanks and W. Scott, cycle-brake.

NOTE.—Provisional specifications cannot be inspected, or their contents made known by this office in any way, until the complete specifications in connection therewith have been accepted.

*Letters Patent sealed.*

LIST of Letters Patent sealed from the 18th April to the 1st May, 1907, inclusive:—

- No. 20544.—J. Dalton, protection of river-banks.  
 No. 20564.—S. Armstrong, leg-rope grip.  
 No. 20776.—H. V. Gazzard, flooring and ceiling cramp.  
 No. 20849.—H. C. Becker, extracting fat and wool from fleshings.  
 No. 20852.—J. Delehanty, rotary engine.  
 No. 21615.—A. Adcroft, gas-burner.  
 No. 21797.—J. R. Rusden, stamping hats, boots, &c.  
 No. 21889.—F. W. Stoddart, liquid-distributor for sewage.  
 No. 21946.—L. Rissmuller, drying, grinding, and screening apparatus.  
 No. 22150.—J. Samuel White and Co., Limited, E. C. Carnit, and A. Forster, marine turbine.  
 No. 22171.—E. W. Barton-Wright and Q. Marino, treatment of wood to be used in chemical apparatus.  
 No. 22186.—E. B. Baker, treating substances under pressure.  
 No. 22204.—J. Eddy, wire cheese-cutter.  
 No. 22212.—T. R. Christie, skylight.  
 No. 22227.—D. Houston, acetylene-gas generator.  
 No. 22249.—C. Butters, slimes-filter.  
 No. 22266.—S. A. M. Rose and H. B. Crowle, target.  
 No. 22283.—T. Whittle and G. G. Turri, ship's-progress indicator. (W. Cumming.)  
 No. 22284.—H. Pataud, wheel-felloe.  
 No. 22285.—E. S. Baldwin and H. H. Rayward, lock-nut. (W. Hubbard.)  
 No. 22297.—W. G. Windham, vehicle-body.  
 No. 22298.—Babcock and Wilcox, Limited, chain grate stoker. (A. E. Parker.)  
 No. 22309.—B. Bidwell, electric motor cooler.

*Letters Patent on which Fees have been paid.*

[NOTE.—The dates are those of the payments.]

*SECOND-TERM FEES.*

- No. 16237.—C. L. Stokes, window-sash balance. 16th April, 1907.  
 No. 16257.—E. Wilkinson, fibre-treatment. 22nd April, 1907.  
 No. 16258.—The Elspass Roller Quartz Mill and Manufacturing Company, pulverising-mill. (J. H. Elspass.) 20th April, 1907.  
 No. 16259.—T. Terrell, incandescent-mantle manufacture. 20th April, 1907.  
 No. 16278.—E. V. Dixon, screw propeller. 26th April, 1907.  
 No. 16445.—G. T. Booth and W. Brew, lubricator for plough-skeith. 27th April, 1907.  
 No. 16528.—J. Gray, seed-sower. 18th April, 1907.

*THIRD-TERM FEES.*

- No. 12340.—E. McGregor, excavating and dredging apparatus. 25th April, 1907.  
 No. 12541.—R. Franklin, ships' ventilation. 20th April, 1907.  
 No. 12599.—The British Westinghouse Electric and Manufacturing Company, Limited, dynamo electric machine. (B. G. Lamme.) 17th April, 1907.

*Subsequent Proprietors of Letters Patent registered.*

[NOTE.—The name of the patentee is given in brackets; the date is that of registration.]

- No. 12255.—Telegraphone Corporation, organized and existing under the laws of the State of Maine, United States of America, and having a place of business at No. 32 Nassau Street, New York, State of New York, United States of America. Storing and reproducing messages, &c. [V. Poulsen.] 19th April, 1907.  
 No. 19363.—Commonwealth Manufacturing and Galvanising Company, Limited, carrying on business at Brisbane, in the State of Queensland. Machine for making tubs, baths, &c. [The Howeroft Company, Limited—W. J. Howeroft.] 26th April, 1907.  
 No. 19750.—Henry Fitch, of Jersey City, County of Hudson, State of New Jersey, United States of America. Apparatus for placer mining. [J. L. Weaver.] 19th April, 1907.  
 No. 21151.—The "Ideal" Pea-sheller Company, of 189 Russell Street, Melbourne, Victoria, Australia. Pea-sheller. [E. McClelland.] 24th April, 1907.

*Applications for Letters Patent abandoned.*

LIST of applications, with which provisional specifications only have been filed, abandoned (*i.e.*, complete specifications not lodged) from the 18th April to the 1st May, 1907, inclusive:—

- No. 21319.—T. Crompton, glazing bars.  
 No. 21320.—E. Lockerbie, adjustable tap.  
 No. 21326.—C. A. Beal, folding gates and partitions.  
 No. 21327.—J. Walcott, elevator for coal and the like.  
 No. 21330.—F. B. C. Allen, lock-nut and bolt.  
 No. 21331.—R. O. Jarrett, disc loading-bar and dumb-bells.  
 No. 21335.—J. L. Kirkbride, street-sweeper.  
 No. 21337.—J. G. Dawson and P. O'Sullivan, cooking-utensil.  
 No. 21341.—N. R. Gordon, flying-machine.  
 No. 21342.—T. Beckett, propelling vessels.  
 No. 21343.—J. Stewart, shifting-spanner.  
 No. 21345.—T. Bush, cap.  
 No. 21346.—J. Cook, trolley-head.  
 No. 21347.—E. Oliver, sewing-machine.  
 No. 21348.—A. L. J. Tait, washing and drying flax.  
 No. 21349.—F. A. Alcock, billiard and dining table.  
 No. 21350.—J. W. Andrew, chamber.  
 No. 21369.—R. P. Park, centrifugal pump.  
 No. 21372.—G. W. Pointon, sen., perpetual motor. (C. Pointon.)  
 No. 21374.—C. Rask and E. A. Cameron, sheep-dipping apparatus.  
 No. 21375.—C. F. Gardner and R. O. Clark, method of advertising.  
 No. 21377.—C. Suggate and W. E. C. Alexander, ore-refining furnace.  
 No. 21378.—W. A. Wilson, connector-cable for connecting electric circuits.  
 No. 21382.—C. B. Smith, cushion tire.  
 No. 21385.—A. H. Bridger, boot-heel.  
 No. 21386.—G. Ritchie, lamp.  
 No. 21389.—A. Ashcroft and C. Strachan, bicycle and motor wheel.  
 No. 21390.—A. H. Brookes and E. Broughton, preventing clogging of sink-pipes.  
 No. 21392.—S. Wilson, room grate and fireplace.

*Applications for Letters Patent void.*

APPLICATIONS for Letters Patent, with which complete specifications have been lodged, void owing to non-acceptance of such complete specifications, from the 18th April to the 1st May, 1907, inclusive:—

- No. 20618.—W. J. Healey, brooch-fastening.  
 No. 20665.—M. McLellan, polishing-compound.

*Applications for Letters Patent lapsed.*

LIST of applications for Letters Patent lapsed, owing to Letters Patent not being sealed, from the 18th April to the 1st May, 1907, inclusive:—

- No. 20205.—D. Buckley, skeith-buckle.  
 No. 20220.—The Horrocks Automatic Vending Machine Company (Limited), vending-machine. (L. B. Horrocks.)  
 No. 20238.—B. E. S. Stocker, rifle and shot-gun cleaner.  
 No. 20255.—J. Mead, generating gas from kerosene, &c., oil.  
 No. 20264.—H. Butters, fencing-dropper.

*Letters Patent void.*

LIST of Letters Patent void through non-payment of renewal fees, and through expiry of term of fourteen years, from the 18th April to the 1st May, 1907, inclusive:—

*THROUGH NON-PAYMENT OF SECOND-TERM FEES.*

- No. 15886.—A. Kitson, vapour-burning apparatus.  
 No. 15887.—A. Kitson, vapour-burning apparatus.  
 No. 15892.—H. C. Woltereck, producing ammonia.  
 No. 15898.—M. Corrington, railway-brake.  
 No. 15899.—C. W. B. Scott, wall-distemper.  
 No. 15901.—A. Ward, yoke for pigs.  
 No. 15902.—T. Stevenson, metal mould or die.  
 No. 15904.—F. H. Green, kettle-hook.  
 No. 15911.—T. Foster and T. T. Paul, loose-leaf account-book.  
 No. 15915.—W. Payne and J. H. Gillies, ore-treatment.  
 No. 15922.—R. L. Lockerbie, hanging sashes.  
 No. 15925.—F. A. Brand, disc plough.

## THROUGH NON-PAYMENT OF THIRD-TERM FEES.

No. 12317.—The Consolidated Pneumatic Tool Company (Limited), direct-acting engine. (H. J. Kimman and E. N. Hurley.)

No. 12323.—A. Skillicorn, wool-press.

No. 12351.—O. Ohlsson, centrifugal separator.

## THROUGH EXPIRY OF TERM.

No. 6147.—J. C. Montgomerie, extraction of gold and silver.

No. 6152.—J. S. Reid, wire-barbing machine.

No. 6156.—W. and B. Trehwella, lever-jack.

## Designs registered.

DESIGNS have been registered in the following names on the dates mentioned:—

No. 321.—George Hamilton Grapes, of the firm of G. H. Grapes and Co., Motor Merchants, of Grey Street, Wellington, and Queen Street, Auckland, New Zealand, Motor Specialist. Class 5. 13th April, 1907.

No. 322.—C. S. and E. S. Pees, trading as the Nonpareil Cycle and Motor Company, of 27 Ghuznee Street, Wellington, New Zealand, Cycle-manufacturers. Class 1. 20th April, 1907.

## Applications for Registration of Trade Marks.

Patent Office, Wellington, 1st May, 1907.

APPLICATIONS for registration of the following trade marks have been received. Notice of opposition to the registration of any of these applications may be lodged at this office within two months of the date of this Gazette. Such notice must be in duplicate, and accompanied by a fee of £1.

No. of application: 6329.

Date: 8th November, 1906.

TRADE MARK.



The essential particular of the trade mark is the following—the distinctive label; and applicants disclaim any right to the exclusive use of the word "Rubberised" and the added matter, save and except the name of the company.

NAME.

RUBBERISED LEATHER AND TYRE COMPANY, LIMITED, of 99 Queen Street, Melbourne, in the State of Victoria, Commonwealth of Australia, Manufacturers.

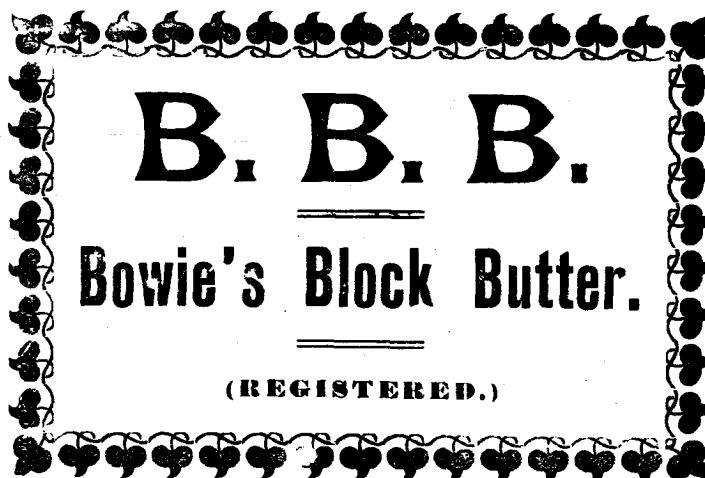
No. of class: 37.

Description of goods: Specially treated leather (prepared under patents) and goods manufactured therefrom, including tires for velocipedes and motor-cars.

No. of application: 6342.

Date: 16th November, 1906.

TRADE MARK.



The essential particulars of this trade mark are the distinctive label and the words "Bowie's Block"; and any right to the exclusive use of any added matter is disclaimed.

NAME.

ROBERT BOWIE AND Co., of Stafford Street, Timaru, in the Colony of New Zealand, Grocers.

No. of class: 42.

Description of goods: Butter.

No. of application : 6402.

Date : 2nd January, 1907.



The essential particulars of this trade mark are the representation of a flaring torch and a set of parallel undulating lines; and any right to the exclusive use of the added matter is disclaimed.

## NAME.

JAMES BOOTH, trading as "Samuel Booth and Co.," of Cheapside Works, Cheapside, Birmingham, England, Brassfounder and Gas and Electrical Fittings Manufacturer.

No. of class : 13.

Description of goods : General brassfoundry goods and gas and electrical fittings.

No. of application : 6438.

Date : 23rd January, 1907.

The word

TRADE MARK.

"DURESCO."

## NAME.

THE SILICATE PAINT COMPANY (J. B. ORR AND Co.), LIMITED, of Charlton, Kent, England, and 46 Cannon Street, London, E.C., England, Manufacturers.

No. of class : 1.

Description of goods : Chemical substances used in manufactures, photography, or philosophical research, and anti-corrosives.

No. of application : 6540.

Date : 19th March, 1907.



The essential particulars of this trade mark are the device and the words "Southern Cross"; and any right to the exclusive use of the added matter is disclaimed.

## NAME.

ENGLISH AND COLONIAL PATENTS AND TRADING COMPANY, LIMITED, of 63 Manners Street, Wellington, in the Colony of New Zealand.

No. of class : 1.

Description of goods : Oils, paints, varnish, or white-lead.

No. of application : 6556.

Date : 2nd April, 1907.

The word

TRADE MARK.

DOLOMENT

## NAME.

WILLIAM DUNZ, of Granville, in the Town of Shoreham, County of Sussex, England, Manager.

No. of class : 50.

Description of goods : Composition flooring and wall panels.

No. of application : 6559.

Date : 10th April, 1907.

The word

TRADE MARK.

"VARNISHINE."

## NAME.

GEORGE ROBERT SAMUEL GILMOUR, of 3 Revans Street, Wellington, in the Colony of New Zealand, Manufacturer.

No. of class : 50.

Description of goods : A polish for linoleum and furniture.


No. of application: 6562.

Date: 10th April, 1907.

TRADE MARK.

# Wyold Fyre Lyters

\*  
No Paper,  
No Wood  
Required.  
\*  
No Sparks  
No Dirt.  
\*



Lights  
from 4 to 6  
Fires Each  
\*  
Absolutely  
the Best  
Fire  
Lighter  
in the  
World.  
\*

**EVERY LIGHTER A DISINFECTANT.**

The essential particulars of this trade mark are the three words "Wyold Fyre Lyters" and the distinctive mark consisting of a horse galloping through a flame of fire with a lady bound to its back and surrounded with a border of briquettes; and any right to the exclusive use of the added matter is disclaimed.

NAME.

SMITH AND SMITH, of Christchurch, in the Colony of New Zealand, Sawmillers.

No. of class: 50.

Description of goods: Devices for lighting or starting fires.

No. of application: 6568.

Date: 13th April, 1907.

TRADE MARK.

The word

**"BAKERSDELITE."**

NAME.

NEILL AND Co., LIMITED, of Lichfield Street, Christchurch, in the Colony of New Zealand, Merchants.

No. of class: 42.

Description of goods: Substances used as food or as ingredients in food, such as cereals, flour, oatmeal, cornflour, bread, scones, pastry, cakes, biscuits, malt, pulses, hops, yeast, baking-powder, custard-powder, powdered gelatine, egg-powder, lard, butter, cream tartar, tartaric acid, citric acid, dripping, honey, condensed milk, tea, coffee, cocoa, chocolate, confectionery, fresh fruit, preserved fruit, canned fruit, dried fruit, preserved pineapples, coconut, milk, cream, sugar, jam, marmalade, bonbons, olive-oil, salad-oil, oil-cakes, sago, essences, jellies, cheese, dairy produce, pepper, mustard, anchovies, vinegar, cayenne pepper, chutney, curry-powder, ketchup, pickles, sauces, condiments, unfermented bitters, chemical food, salt, egg-preserved, eggs, canned vegetables, preserved vegetables, garden produce, beer-clarifier, limejuice, cordials, non-aerated beverages, non-alcoholic beverages, salmon, fish, preserved fish, salted fish, canned fish, dead rabbits, dead hares, dead game, dead poultry, bacon, ham, preserved meat, extract of meat, canned meat, spiced meat, regged meat, salted meat, and frozen meat.

No. of application: 6569.

Date: 13th April, 1907.

TRADE MARK.

The word

**"WEDDINGCAKE."**

NAME.

NEILL AND Co., LIMITED, of Lichfield Street, Christchurch, in the Colony of New Zealand, Merchants.

No. of class: 42.

Description of goods: Substances used as food or as ingredients of food, such as cereals, flour, oatmeal, cornflour, bread, scones, pastry, biscuits, malt, pulses, hops, yeast, baking-powder, custard-powder, powdered gelatine, egg-powder, lard, butter, cream tartar, tartaric acid, citric acid, dripping, honey, condensed milk, tea, coffee, cocoa, chocolate, confectionery, fresh fruit, preserved fruit, canned fruit, dried fruit, preserved pineapples, coconut, milk, cream, sugar, jam, marmalade, bonbons, olive-oil, salad-oil, oil-cakes, sago, essences, jellies, cheese, dairy produce, pepper, mustard, anchovies, vinegar, cayenne pepper, chutney, curry-powder, ketchup, pickles, sauces, condiments, unfermented bitters, chemical food, salt, egg-preserved, eggs, canned vegetables, preserved vegetables, garden produce, beer-clarifier, limejuice, cordials, non-aerated beverages, non-alcoholic beverages, salmon, fish, preserved fish, salted fish, canned fish, dead rabbits, dead hares, dead game, dead poultry, bacon, ham, preserved meat, extract of meat, canned meat, spiced meat, regged meat, salted meat, and frozen meat; but not including wedding-cake or articles of the same description as wedding-cake.

No. of application : 6570.  
Date : 15th April, 1907.

TRADE MARK.  
The word  
"ZOTOL."

NAME.  
ARTHUR MAURICE HENDY, of Princes Street, Dunedin, in the Colony of New Zealand, Hairdresser.

No. of class : 48.  
Description of goods : Perfumery (including toilet articles, preparations for the teeth and hair, and perfumed soap).

No. of application : 6571.  
Date : 17th April, 1907.

TRADE MARK.



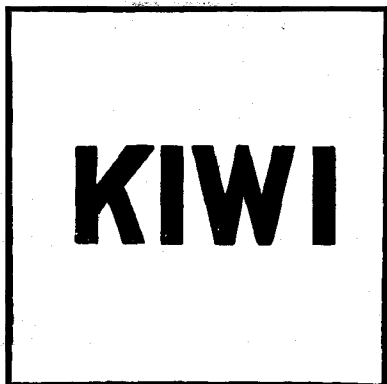
THATCH.

NAME.  
HAROLD MOUNTFIELD BENNETT, of High Street, Dannevirke, Hawke's Bay, in the Colony of New Zealand, Chemist and Druggist.

No. of class : 48.  
Description of goods : Preparation for the hair.

No. of application : 6573.  
Date : 17th April, 1907.

TRADE MARK.  
The word



NAME.

FREDERICK BROOKS and THOMAS BROOKS, of 12 Bath Street, Birmingham, and 154 Gresham House, Old Broad Street, London, E.C., both in England, Merchants, trading as "Ashford, Brooks, and Co."

No. of class : 14.

Description of goods : Goods of precious metals and jewellery, and "imitations of such goods and jewellery."

No. of application : 6574.  
Date : 17th April, 1907.

TRADE MARK.  
The word  
"SCHWEPPE'S"

The applicants claim that the said trade mark has been in use by them and their predecessors in business in respect of the articles mentioned for many years prior to 1st January, 1890.

NAME.

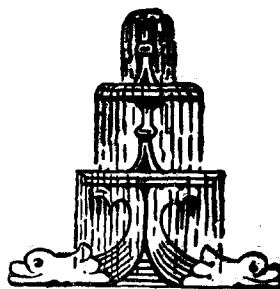
SCHWEPPE'S LIMITED, of 67 Foveaux Street, Sydney, in the State of New South Wales, Commonwealth of Australia, and elsewhere, Manufacturers and Bottlers.

No. of class : 44.

Description of goods : Mineral and aerated waters, natural and artificial, including gingerbeer.

No. of application : 6575.  
Date : 17th April, 1907.

TRADE MARK.



The applicants claim that the said trade mark has been in use by them and their predecessors in business in respect of the articles mentioned for many years prior to the 1st January, 1890.

NAME.

SCHWEPPE'S LIMITED, of 67 Foveaux Street, Sydney, in the State of New South Wales, Commonwealth of Australia, and elsewhere, Manufacturers and Bottlers.

No. of class : 44.

Description of goods : Mineral and aerated waters, natural and artificial, including gingerbeer.

No. of application : 6579.

Date : 17th April, 1907.

TRADE MARK.



The essential particulars of this trade mark are (1) the word "Stopskal," (2) the word "Star," (3) the representation of a star, (4) the device surrounding the star, and (5) the distinctive device above shown; and any right to the exclusive use of the added matter is disclaimed.

NAME.

HARRY SEYMOUR BLAYDES, of 18 Bridge Street, Sydney, New South Wales, Australia, trading at Sydney aforesaid as Manufacturers' Representatives under the name, style, or firm of "H. S. Blaydes and Co."

No. of class : 1.

Description of goods : Boiler and tube compound.

No. of application : 6581.

Date : 18th April, 1907.

TRADE MARK.

The words

"GOLDEN CROP."

NAME.

NEILL AND Co., LIMITED, of Lichfield Street, Christchurch, in the Colony of New Zealand, Merchants.

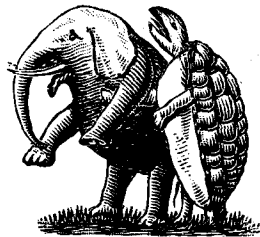
No. of class : 42.

Description of goods : Substances used as food or as ingredients in food, such as cereals, flour, oatmeal, cornflour, bread, scones, pastry, cakes, biscuits, malt, pulses, hops, yeast, baking-powder, custard-powder, powdered gelatine, egg-powder, lard, butter, cream tartar, tartaric acid, citric acid, dripping, honey, condensed milk, tea, coffee, cocoa, chocolate, confectionery, fresh fruit, preserved fruit, canned fruit, dried fruit, preserved pineapples, cocoanut, milk, cream, sugar, jam, marmalade, bonbons, olive-oil, salad-oil, oil-cakes, sago, essences, jellies, cheese, dairy-produce, pepper, mustard, anchovies, vinegar, cayenne pepper, chutney, curry-powder, ketchup, pickles, sauces, condiments, unfermented and non-alcoholic bitters, chemical food, salt, egg-preserved, eggs, canned vegetables, preserved vegetables, garden-produce, beer-clarifier, limejuice, cordials, non-aerated beverages, non-alcoholic beverages, salmon, fish, preserved fish, salted fish, canned fish, dead rabbits, dead hares, dead game, dead poultry, bacon, ham, preserved meat, extract of meat, canned meat, spiced meat, regged meat, salted meat, and frozen meat.

No. of application : 6582.

Date : 18th April, 1907.

TRADE MARK.



NAME.

THE BRITISH XYLONITE COMPANY, LIMITED, of Hale End, London, England, Manufacturers.

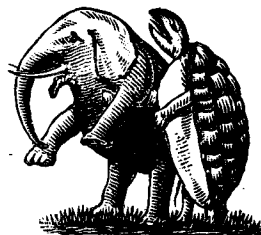
No. of class : 38.

Description of goods : Collars, cuffs, fronts, and scarves.

No. of application : 6583.

Date : 18th April, 1907.

TRADE MARK.



NAME.

THE BRITISH XYLONITE COMPANY, LIMITED, of Hale End, London, England, Manufacturers.

No. of class : 50.

Description of goods : Combs, brushes, and all articles used in connection with toilet-ware included in Class 50.

No. of application : 6585.

Date : 19th April, 1907.

TRADE MARK.

TRADE MARK



The essential particulars of this trade mark are device of a yew tree and the words "Yew Tree"; and applicants disclaim any right to the exclusive use of the words "Trade Mark."

NAME.

ROBERT HALL and HENRY LAWRENCE, trading as "Imperial Manufacturing Company," of Old Customhouse Street, Wellington, in the Colony of New Zealand, Manufacturers.

No. of class : 42.

Description of goods : Margarine and foodstuffs manufactured from oils, fats, and waxes, either animal or vegetable.



No. of application : 6587.

Date : 22nd April, 1907.

TRADE MARK.

**XTRA**

NAME.

MARÉCHAL RUCHON AND Co., LIMITED, of 32 and 33 Ham-sell Street, London, England, and also of 15 and 17 Rue des Balkans, Paris, France, Manufacturers.

No. of class : 50, Subclass 4.

Description of goods : Tobacco-pipes of briar-root and meerschaum, and cases for the same; cigar or cigarette holders, and cases for the same.

No. of application : 6588.

Date : 22nd April, 1907.

TRADE MARK.

**TURBAN****BRAND**

The essential particulars of this trade mark are the device and the word "Turban"; and any right to the exclusive use of the word "Brand" is disclaimed.

NAME.

FIELD AND Co., FRUIT-MERCHANTS, LIMITED, of 10 Monument Street, London, E.C., England.

No. of class : 42.

Description of goods : Substances used as food or as ingredients in food, excepting non-aerated and non-alcoholic cordials and beverages, and preparations for making them.

No. of application : 6589.

Date : 22nd April, 1907.

TRADE MARK.



The essential particulars of this trade mark are the word "Snowdrop" and the device; and any right to the exclusive use of the added matter is disclaimed.

NAME.

SARGOOD, SON, AND EWEN, of Jervois Quay, Wellington in the Colony of New Zealand, Wholesale Merchants.

No. of class : 24.

Description of goods : Cotton piece-goods of all kinds.

No. of application : 6593.

Date : 24th April, 1907.

TRADE MARK.

The word

**DURBAR**

NAME.

ARTHUR GEORGE SIMMONS, of 503 Old Kent Road, London, England, Manufacturers.

No. of class : 50.

Description of goods : Polishing-paste.

No. of application : 6595.

Date : 25th April, 1907.

TRADE MARK.



The essential particulars of the Trade Mark are the following—the combination of devices; and applicants disclaim any right to the exclusive use of the added matter, except their name and address.

NAME.

RESCH'S LIMITED, of Dowling Street, Redfern, Sydney, in the State of New South Wales, in the Commonwealth of Australia, Brewers.

No. of class : 43.

Description of goods : Lager beer.

J. C. LEWIS,  
Registrar.

Trade Marks registered.

LIST of Trade Marks registered from the 18th April to the 1st May, 1907, inclusive:—

Nc. 5035/5869.—J. C. Hobbs. Class 42. (*Gazette* No. 59, of the 12th July, 1906.)

Nc. 5036/6076.—I. and M. Schneideman. Class 38. (*Gazette* No. 74, of the 23rd August, 1906.)

No. 5037/6321.—Schreiber and Co. Class 42. (*Gazette* No. 7, of the 24th January, 1907.)

No. 5038/6322.—Schreiber and Co. Class 44. (*Gazette* No. 7, of the 24th January, 1907.)

No. 5039/6414.—D. Benjamin and Co. Class 48. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5040/6453.—J. Lysaght, Limited. Class 13. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5041/6455.—J. Lysaght, Limited. Class 13. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5042/6442.—J. B. Clarkson, Limited. Class 13. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5043/6443.—J. B. Clarkson, Limited. Class 22. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5044/6444.—J. B. Clarkson, Limited. Class 37. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5045/6445.—J. B. Clarkson, Limited. Class 40. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5046/5696.—Roneo Limited. Class 39. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5047/6374.—The Standard Paint Company. Class 39. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5048/6440.—Barrett Manufacturing Company. Class 50. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5049/6441.—A. Naline. Class 3. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5050/6435.—R. W. Hudson. Class 47. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5051/6436.—R. W. Hudson. Class 48. (*Gazette* No. 13, of the 7th February, 1907.)  
 No. 5052/6415.—The Union Oil, Soap, and Candle Company, Limited. Class 47. (*Gazette* No. 7, of the 24th January, 1907.)  
 No. 5053/6282.—R. J. Roberts. Class 3. (*Gazette* No. 93, of the 1st November, 1906.)  
 No. 5054/6381.—Van Veen, Reid, and Co. Class 42. (*Gazette* No. 3, of the 10th January, 1907.)  
 No. 5055/6382.—Van Veen, Reid, and Co. Class 42. (*Gazette* No. 3, of the 10th January, 1907.)  
 No. 5056/6383.—Van Veen, Reid, and Co. Class 42. (*Gazette* No. 3, of the 10th January, 1907.)  
 No. 5057/6452.—Mrs. B. H. Ward. Class 42. (*Gazette* No. 18, of the 21st February, 1907.)

*Trade Mark Renewal Fees paid.*

**F**EEES paid for the renewal of the under-mentioned Trade Marks for fourteen years from the date first mentioned:—

Nos. 779/605 and 780/606.—8th May, 1907.—The Dresden Pianoforte Manufacturing and Agency Company, Wellington, New Zealand. 25th April, 1907.

Nos. 828/667 and 829/668.—23rd June, 1907.—Henry Campbell and Co., Mossley, Belfast, Ireland. 17th April, 1907.

*Trade Marks removed from the Register.*

**T**RADe Marks removed from the Register owing to the non-payment of the renewal fees from the 4th to the 17th April, 1907, inclusive:—

No. 677/565.—18th January, 1893.—R. M. Begg and Co. of Bull's, New Zealand. Class 42.

No. 691/550.—20th January, 1893.—Dr. Jaeger's Sanitary Woollen System Company, Limited, of London, England. Class 38.

No. 692/592.—20th January, 1893.—The Peter Schoenhofen Brewing Company, of Chicago, U.S.A. Class 43.

No. 693/683.—24th January, 1893.—Henley Co-operative Dairy Company, Limited, of Henley, Otago, New Zealand. Class 42.

*Subsequent Proprietor of Trade Mark registered.*

[NOTE.—The name of the former proprietor is given in brackets; the date is that of registration.]

**N**O. 88/2587.—Wicküler Küpper Brauerei Actien Gesellschaft, of Elberfeld, in Germany. [Bergische Brauerei Gesellschaft.] 19th April, 1907.

*Advertisements.*

**A**DVERTISEMENTS are charged at the rate of 6d. per line for the first insertion, and 3d. per line for the second and any subsequent insertion.

All advertisements should be written on one side of the paper, and signatures, &c., should be written in a legible hand.

The number of insertions required must be written across the face of the advertisement.

Communications should be addressed to the Government Printer, Wellington, to whom post-office money-orders should be made payable. Cheques should be crossed "Public a/c," and exchange added.

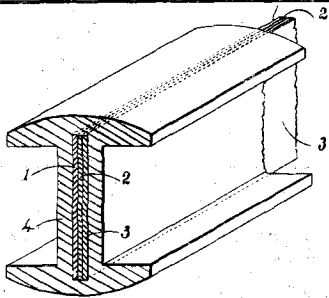
Postage or duty stamps cannot be received in payment from any place at which postal notes or post-office orders are issued.

Prepayment may be demanded in any case. In order to prevent delay in publication a sufficient remittance should accompany every advertisement. Any surplus will be returned with receipted account.

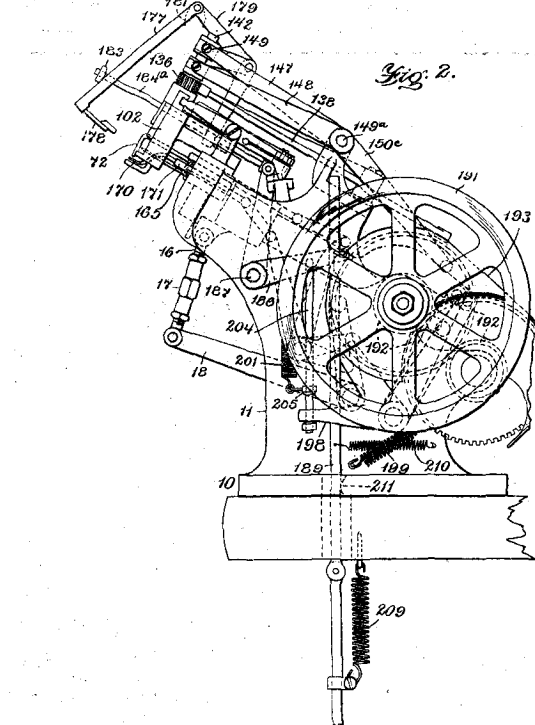
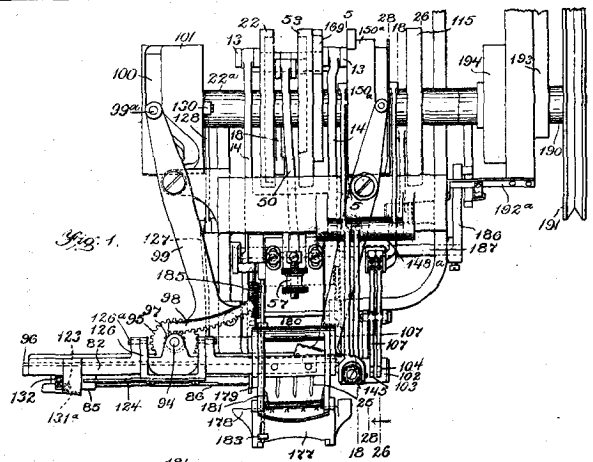
By Authority: JOHN MACKAY, Government Printer, Wellington.

# ILLUSTRATIONS OF INVENTIONS.

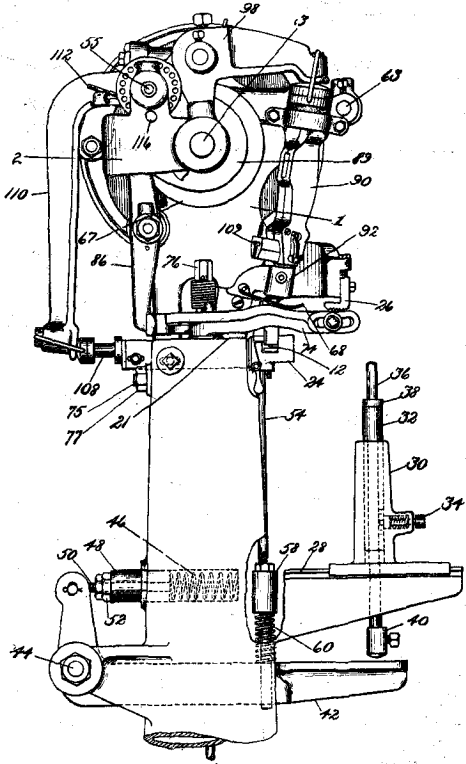
[These illustrations refer to the complete specifications accepted, and advertised in this *Gazette*.]



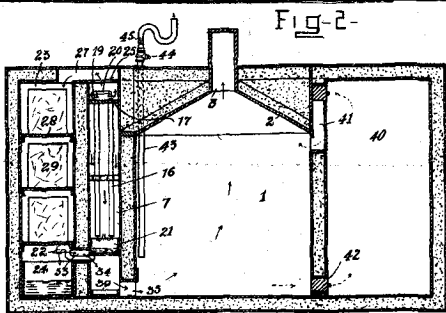
21047  
A. E. and H. G. Bradley. Lead-calme.



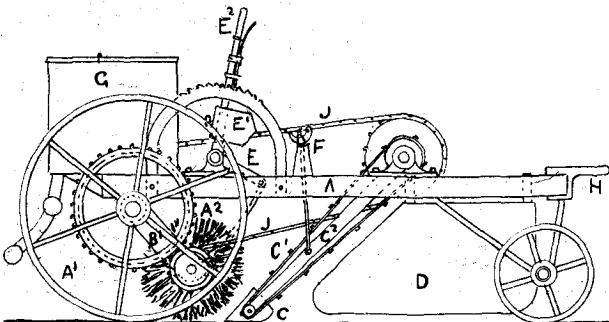
21233  
United Shoe Machinery Co. Lacing-machine. (Smith.)



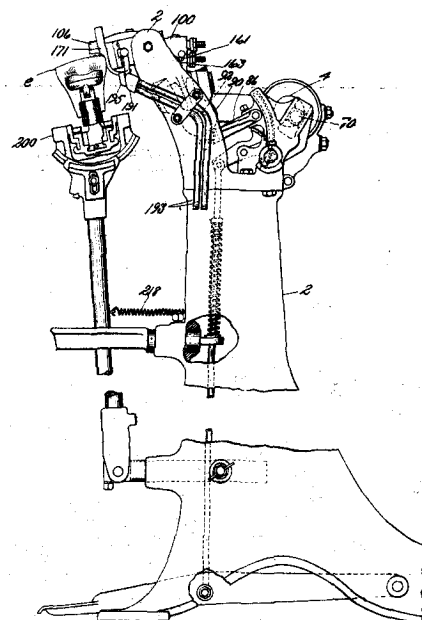
21384  
United Shoe Machinery Co. Assembling Machine. (Ashton.)



21371  
Rayson. Air-cooler.



21750  
Christie. Tram-rail Sweeper.



21365  
United Shoe Machinery Co. Pounding-up Machine. (Ashton.)

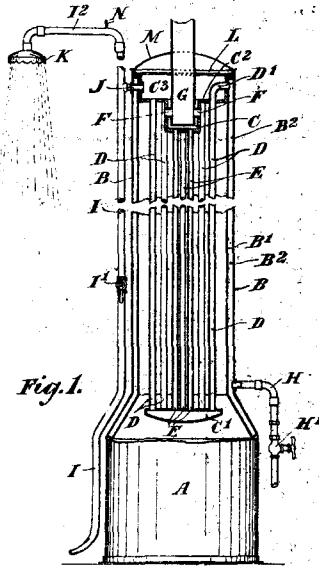
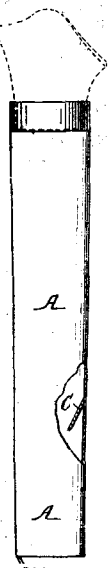


Fig. 1.

21195  
Jackson. Bath-heater.



20871

Cranwell, Allan, and Trudgeon.  
Broadcaster.

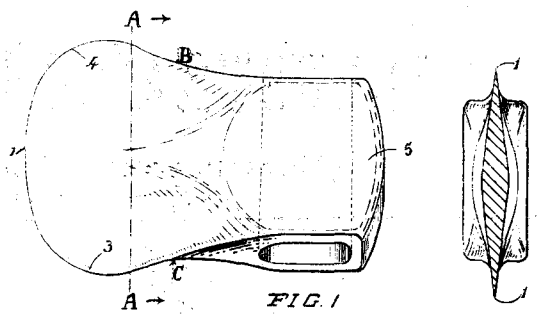


FIG. 1

22109  
Hansen. Axe.

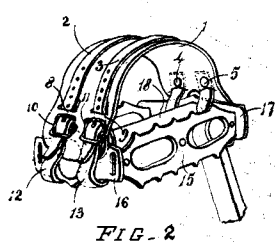


FIG. 2

22573  
Kidd. Pedal-strap.

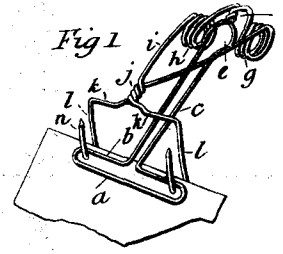
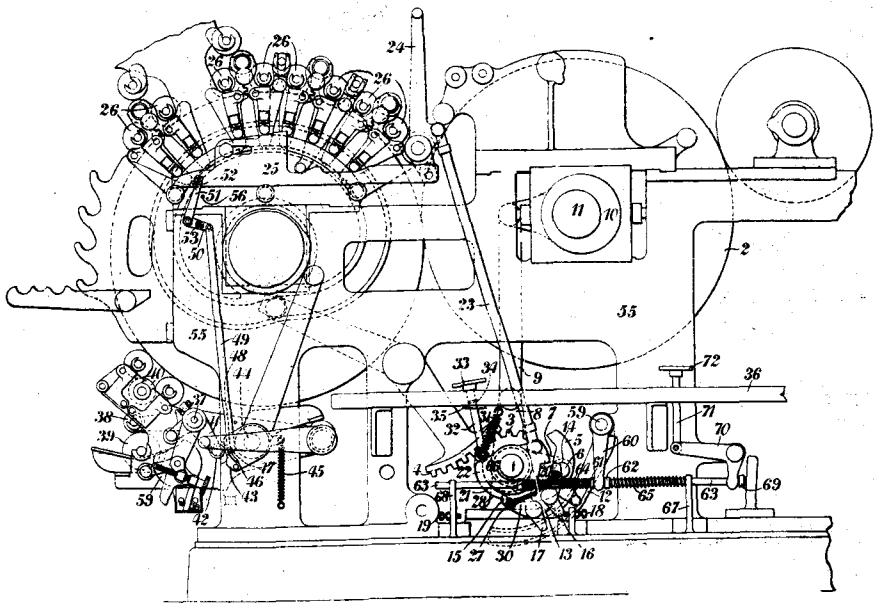
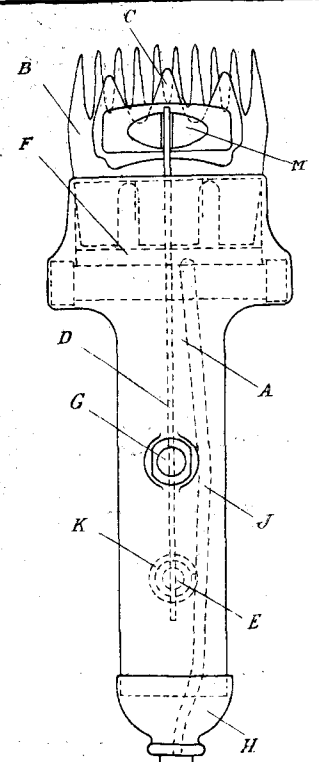


Fig. 1

22599  
Adams. Document-file.



22569  
Linotype and Machinery, Ltd. Printing-machine. (Parker.)



22374

Preston. Sheep-shears.

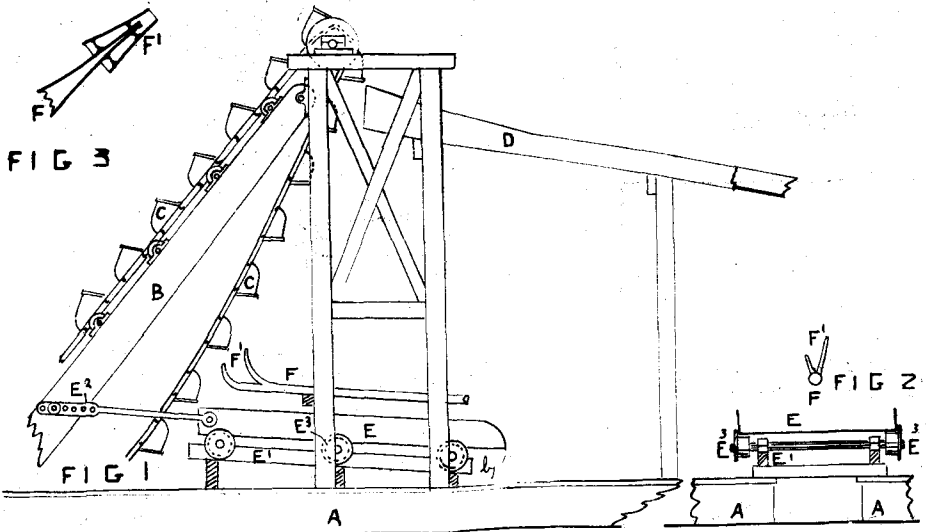
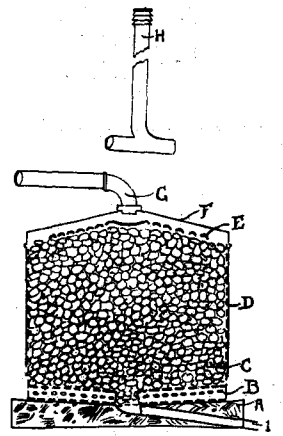


FIG 3

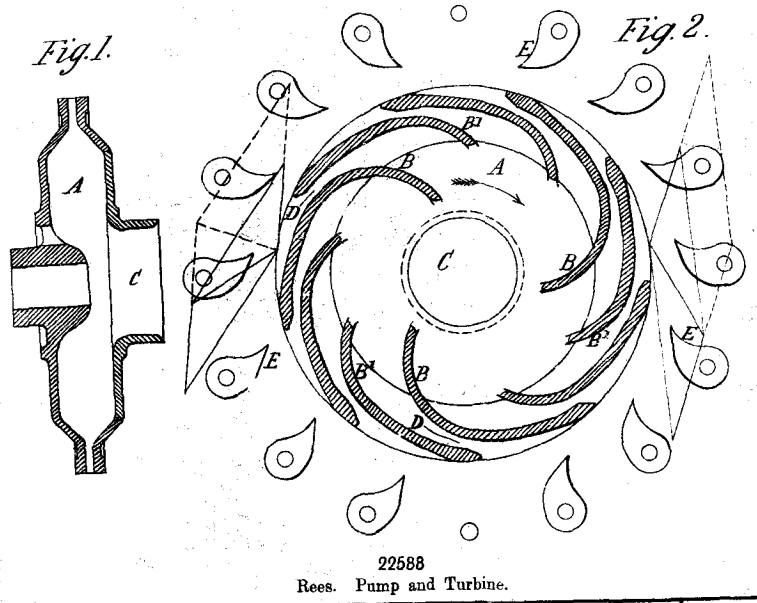
FIG 1

FIG 2

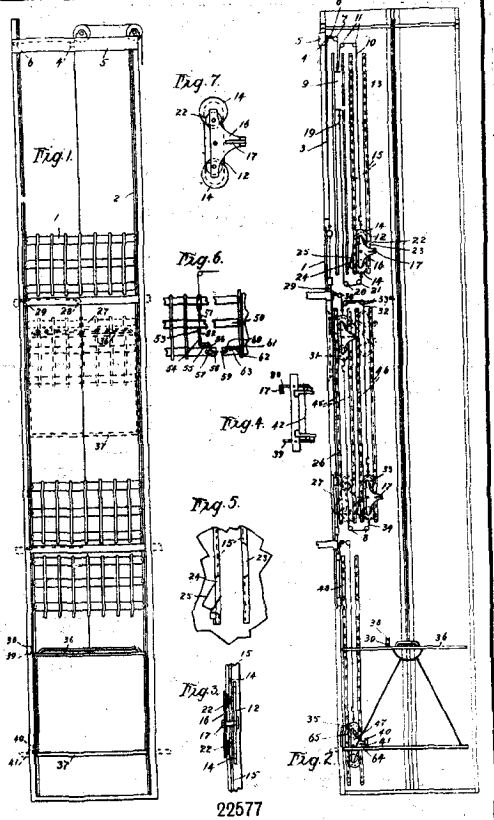
22302  
Potta. Dredge.



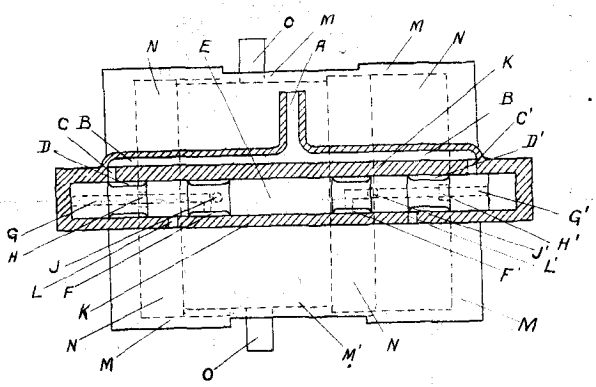
22533  
Joseph. Sewage-treatment.



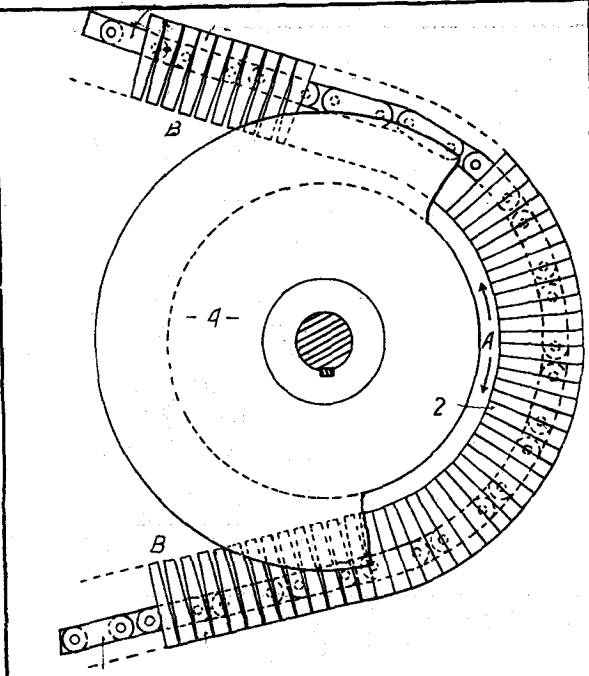
22588  
Rees. Pump and Turbine.



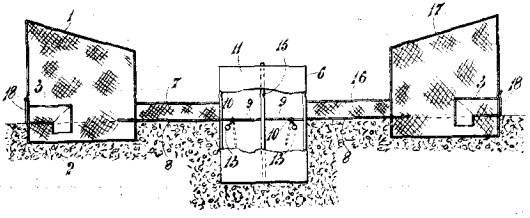
22577  
Walters. Lift-door.



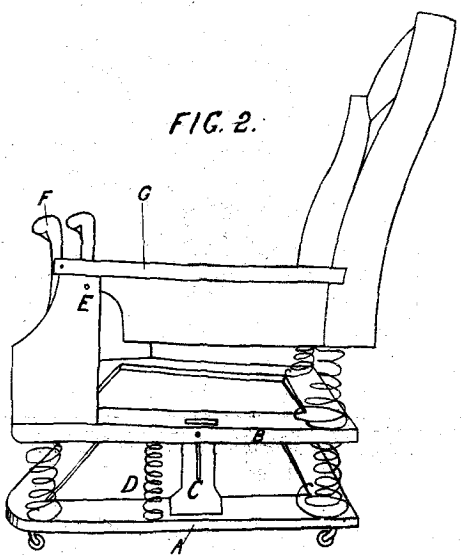
22373  
Preston. Elastic Fluid Motor.



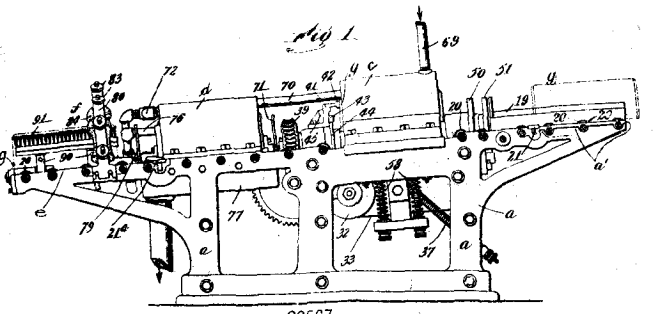
22450  
Bergin. Motor-cycle Belt.



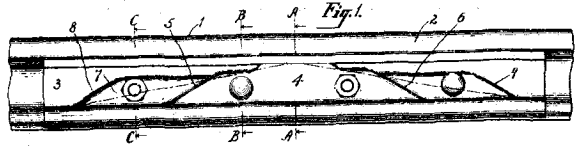
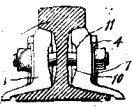
21148  
Barden. Bird-trap.



20905  
McKenzie. Chair.



22567  
Hughes. Stereotype-making. (Printing Machinery Company, Limited—Wood.)



Waters. Splice-bars. (Railway Supplies Limited—Williams and Seward.)

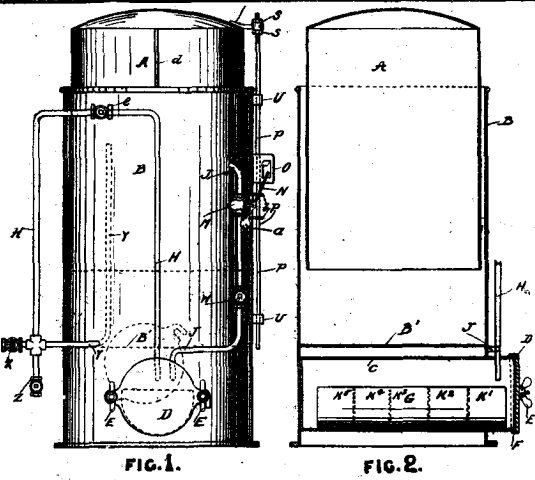


FIG. 1.

FIG. 2.

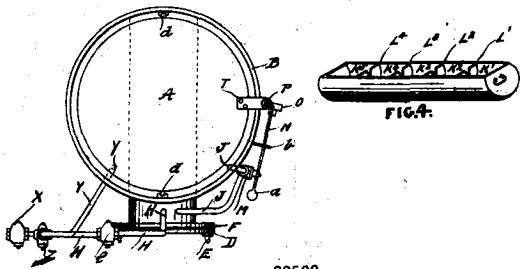


FIG. 4.

22500  
Wakelin. Acetylene-generator.

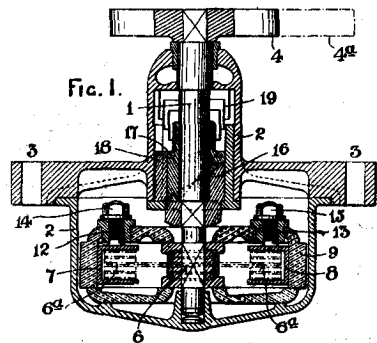


FIG. 1.

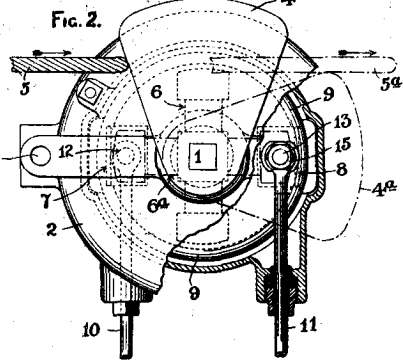


FIG. 2.

22339  
Brown. Electric Switch.

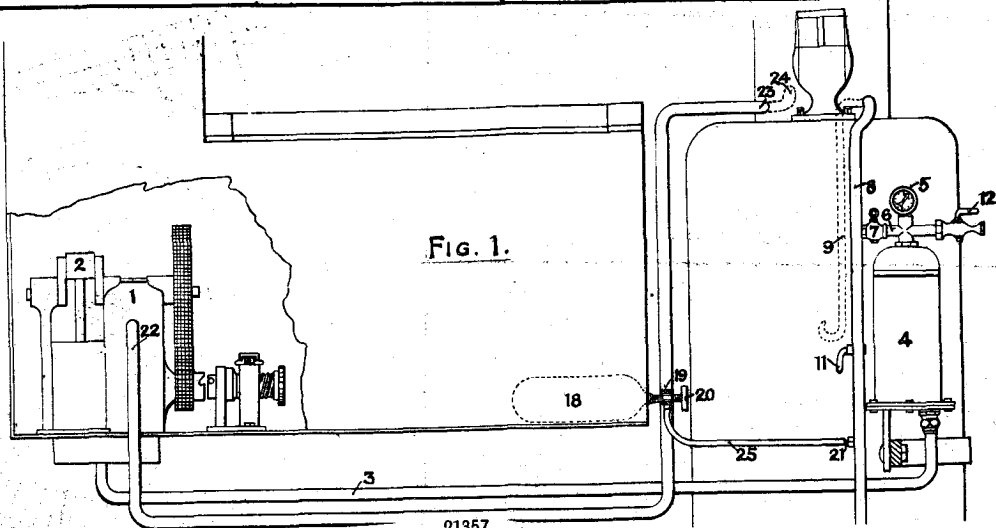
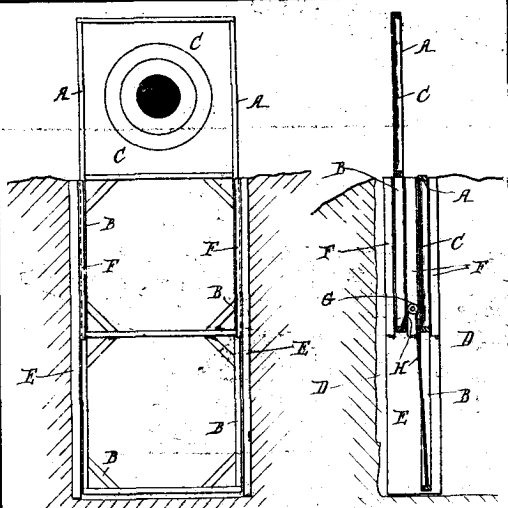
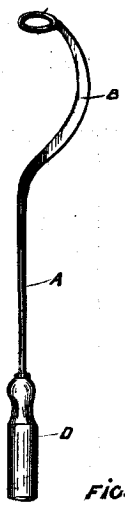


FIG. 1.

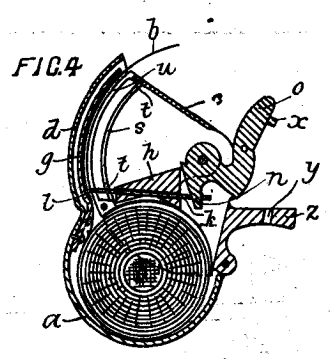
21357  
Sutcliffe. Forced-draught Apparatus.



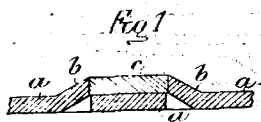
22523  
Newman. Target.



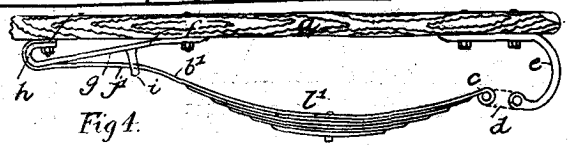
22489  
Bates. Cow-spayer.



22578  
Young and Kerr. Ticket-issuing Machine.



22589  
Prollius. Centrifugal Machine.



22516  
McGinn. Vehicle-spring.