ENGINEERING INVENTIONS.

An operating mechanism for railway switches has been patented by Mr. William B. S. Reed, of Brooklyn, N. Y. This invention provides a mechanism whereby but a single lever is used, and such system at a time, or to open another while one remains

AGRICULTURAL INVENTIONS.

by Mr. Seth Hackett, of Bronson, Mich. It has a comtated to effect the discharge of the seed and secure a re-liable delivery every time the planter is operated or wires being held in place by staples. moved stepwise to the operator.

MISCELLANEOUS INVENTIONS.

An automatic flushing siphon has been patented by Mr. William B. Parsons, Jr., of New York city. This invention covers a main and auxiliary sinhon of novel construction for intermittent flushing, in counection with a water closet or for other similar purpos

A carpet stretcher has been patented by Mr. Robert R. Jones, of Blossburg, Pa. It consists in a bar having at one end a spur to be driven into the floor, and having pulleys, a lever, and a rope, while combined therewith is a sliding crosshead carrying pointed teeth or hooks for engaging the carpet.

A twine and wire cutter has been patented by Mr. William L. Haas, of Charles City, Iowa. It has a handle section with hollow head in which is fulcrumed an upper lever \mathbf{s} ection with cutting edge and movable jaw, with other novel features, making a tool to cuttelegraph wires or the wires or twine bands used for binding sheaves of wheat, etc.

A draught equalizer has been patented by Mr. John L. Powles, of Goodland, Ind. The single and double trees are so pivoted as balanced levers that the draught will be made alike for four horses working abreast, with one horse at one side of the tongue and three horses at the other side, which is often desirable in operating grain harvesters and other machines.

A bag holder has been patented by Mr. Walter S. Kendall, of Grand Rapids, O. This invention relates to a device for holding bags open and in an from, and preventing the spilling of substances over the mouth of the bag.

A windlass has been patented by Mr. Frederick W. Thomson, of Mailland, N. S., Canada. This invention covers a novel arrangement of friction band wheels and bands, with a contrivance of break mechanism comprising brake shoes which may be forced against the interior faces of flanges on the main grabs or

A magazine spring gun has been patented by Mr. Stephen D. Engle, of Hazleton, Pa. It has a longitudinally slotted barrel with a follower fitted to work therein, subject to the control of the trigger, with other novel features, the invention being an improvement on a former patented invention of the same inventor.

A wood sawing machine has been patented by Mr. Samuel P. Dresser, of Pleasant Mount, Mo. It can be operated by one or two persons, by turning one or two cranks, whereby a saw is rapidly reciprocated, the saw blade being pressed downward in the kerf by a spring, the pressure of which can be readily regulated.

An umbrella or parasol has been patented by Mr. George W. Jones, of Brooklyn, N. Y. It has telescopic braces and a runner connected with the ribs, the braces and their runner, in connection with a hollow stick, to hold the ribs! from being forced too far back, with other novel features, to promote convenience in opening and closing umbrellas and parasols.

A barrel making machine has been patented by Mr. Josiah J. Philbrick, of Birmingham, Ala. It'is designed to allow more effective trussing of the staves and hold them even across the edge joints on both faces, keeping the croze of the staves even or in line all around the barrel or cask, so the heads will fill the croze and make a perfectly tight parrel or cask.

A pipe vise has been patented by Mr. Andrew L. Rose, of West Troy, N. Y. This invention provides for vises constructed to hold pipes firmly while being cut, or having screw threads cut in them, and the vise can be readily adjusted to hold pipes of different sizes, and conveniently operated to clamp and release

A saw has been patented by Mr. George and at the same time furnishing a saw which is tough and flexible, and especially adapted for use by butchers, metal workers, etc.

A device for centering vessels in dry docks has been patented by Mr. Adam Bulman, of Jersey City, N. J. This invention consists principally of an attachment made with two sliding blocks adapted to engage with the opposite sides of the keel of a vessel. and to be moved to the center of the dock by draw ing upon ropes attached to the sliding blocks.

A funnel has been 'patented by Mr. Frederick Catlin, of New York city. It has a cock casing formed with longitudinal and transverse apertures, with other novel features, and is adapted for use not only for pouring liquid from one 'vessel into another. but also for measuring and conveying or transporting liquids.

The producing of metallic printing plates has been patented by Mr. Cesar Felix Josz, of Bockenheim, Germany. The process consists in first mechanically graining the plates, then extracting all grease by alkalies, and opening or raising the grains by means of astringents operating mechanically, and giving the metallic surface the affinity for ink, lithographic

A hose or suction tubing forms the subject of a patent issued to Mr. James Jones, of Dublin, Ireland. It is formed of fabric treated with oil to render it air and liquid proof, the fabric being wound on a spiral wire core and held in place by a spiral wire wound around it, the metallic support for the tube lever is inoperative to open more than one switch or proper being intended to prevent any considerable contraction under suction.

A folding box or crate has been patented by Mr. Edward Harris, of Cambria, Wis. The ends are hinged to end pieces and the sides to side pieces of A hand corn planter has been patented the base section, while on the inner surfaces of the ends are held wires which extend from top to bottom, the bination of pocketed disks, which are intermittently ro- lower ends forming hooks projecting from each other

> A ventilator has been patented by Mr. Richard de Logerot, of New York city. It consists of an elastic bulb with valves and tubes, one tube leading utward and the other connecting with perforated dis tributing pipes in au apartment, the bulb being operated by clockwork mechanism to alternately compress and permit the expansion of the bulb, for ventilating buildings, public conveyances, mines, etc.

> A clothes drier has been patented by Messrs. Charles Goodyer and William Morse, of Warren, Pa. It consists in a hollow upright having offsets in the sides, the offsets having openings, with a slide in the upright, and arms or bars pivoted to the side edges and projecting through, making a clothes bar of simple construction, which can be compactly folded when not

NEW BOOKS AND PUBLICATIONS.

POULTRY CULTURE. How to Raise Manage, Mate, and Judge Thoroughbred Fowls. By I. K. Felch. Chicago: W. H. Harrison, Jr., 1886.

Poultry culture has heretofore received from the farmer just as much attention as he regarded necessary to keep the flock alive, after everything else on the farm had been looked after. Now, however, the introduction of business methods into farm work has caused an invasion of the poultry yard also. En-thusiastic exponents like Mr. Felch have brought forward an array of results that is quite astonishing. Few people realize the fact that the egg and poultry product of the United States exceeds in value such upright position to be filled, facilitating the attachment substantial crops as corn, cotton, or hay, and that the of the empty bags to the holder and their removal there- profit, in keeping some of the finer breeds of fowl, amounts to as much as \$4.00 per head. When these are remembered, the industry seems worthy of careful attention, and one can understand why Mr. Felch should recommend it to young men as a possible opening. In presenting the results of his own thirty years' experience in the business, he is able to give a great many valuable hints to those similarly interested.

> Art Age, published monthly, \$2 a year. Turnure & Gilliss Bros., 75 Fulton Street, N. Y. This contains usually one or more supplements-reproductions of paintings, decorative designs, photographs, architectural drawings, etc., specimens sometimes of several different engraving processes. The January number is particularly attractive.

Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in next issue,

A Profitable Investment

can be made in a postal card, if it is used to send your address to Hallett & Co., Portland, Maine, who can furnish you work that you can do and live at home; few there are who cannot earn over \$5 per day, and some have made over \$50. Capital not required; you are started free. Either sex; all ages. All particulars free.

Dynamo Machines

for all purposes. Dynamo machines of highest efficiency, accurately calculated (as to capacity, etc.), and built to meet requirements in connection with all Industrial Applications of Electricity,

including: Electric Lighting, Transmission of Power, Electro Mechanical Machinery, Electro Deposition of Metals, Electro Chemical Work, Telegraphy in place of Batteries, Electric Motors, of various horse power, to be run by Dynamo Currents. All dynamo and motor apparatus built to suit the work required and according to the best of known models for economy and efficiency.

J. H. Bunnell & Co..

106 and 108 Liberty St., New York.

Don't fail to send for circular of new Laboratory Lamp. Dangler V. S. Co., Cleveland, O.

To Manufacturers.—The undersigned, traveling for N. Clemson, of Middletown, N. Y. It has its opposite the past eight years on the European continent in the edges bardoned with a soft hody between the edges edges hardened, with a soft body between the edges, price lists to be sent to him by manufacturers of all sorts making a cutting edge which is very hard and durable, of agricultural and mdustrial machinery, for the purpose of introducing such of them that may be found Belgium.

The Magic Square.-A novel instrument for solving problems in arithmetic by a mechanical method, without mental labor. Equal to a slide rule twenty feet long. By mail, 25c. W. H. Wythe, Ocean Grove, N. J.

A "Pointer."

When Col. Sellers gives you a "pointer" in stocks, my friend, leave them severely alone, but when your own feelings tell you that you have palpitation of the heart. asthma, bronchitis, or catarrh, which, unless checked, are apt to run into consumption, heed the admonition before it is too late. All the diseases enumerated, and others, arise from impure blood. Put the liver in action, the largest gland in the human body, and you will speed ily regain your lost health, and your bad feelings will disappear. Dr. Pierce's "Golden Medical Discovery" will accomplish the work speedily and certainly. Of

Wanted.—Live wild turkeys and deer for stocking a park. Addition, with price, M. N. H., P. O. Box 773, New York.

Best, most convenient, and effective Laboratory Lamp ever made is the Dangler. Cleveland, O.

Safety Elevators, steam and belt power; quick and mooth. D. Frisbie & Co., Philadelphia, Pa.

Wm. Frech, Manufacturer of Sensitive Drills, Turret and Speed Lathes, Power Punching Presses, 68 W. Mon-

For Sale.-One 50 H. P. and one 200 H. P. Corliss Engines, built by Geo. H. Corliss; also one 30 H. P. Portable Engine, built by Erie City Iron Works, nearly new used only few months. Henry I. Snell, 135 North 3d St. Philadelphia.

Modern M'ch. Tools a specialty. Abbe Bolt Forgers. Power Hammers, Lathes, Planers, Drills, and Shapers Send for estimates. Forsaith M. Co., Manchester, N. H

To Manufacturers.—The owner of 260 acres of ground at Pittsburg, on the Allegheny River and Pennsylvania system of railroads, in order to improve the property, of fers to donate a number of excellent manufacturing sites. See adv. of Whitney & Stephenson, this issue.

Order our elegant Keyless Locks for your fine doors Circular free. Lexington Mfg. Co., Lexington, Ky.

Geo. E. Lloyd & Co., Electrotype and Stereotype Machinery, Folding Machines, etc. Send for catalogue. Chicago, Ill.

Nickel Plating .- Sole manufacturers cast nickel an odes, pure nickel salts, polishing compositions, etc. \$100 "Little Wonder." A perfect Electro Plating Machine. Sole manufacturers of the new Dip Lacquer Kristaline Complete outfit for plating, etc. Hanson, Van Winkle & Co., Newark, N. J., and 92 and 94 Liberty St., New York.

Grimshaw.—Steam Engine Catechism. A series of thoroughly Practical Questions and Answers arranged so as to give to a Young Engineer just the information required to fit him for properly running an engine. By Robert Grimshaw. 18mo, cloth, \$1.00. For sale by Munn & Co., 361 Broadway, N. Y.

Woodw'kg. Mch'y, Engines, and Boilers. Most complete stock in U.S. Prices to meet times. Send stamps for catalogues. Forsaith M. Co., Manchester, N. H.

Shafting, Couplings, Hangers, Pulleys. Edison Shafting Mfg. Co.,86Goerck St., N.Y. Send for catalogue and prices

The Knowles Steam Pump Works, 44 Washington St., Boston, and 93 Liberty St., New York, have just issued a new catalogue, in which are many new and improved forms of Pumping Machinery of the single and duplex, steam and power type. This catalogue will be mailed free of charge on application.

Haswell's Engineer's Pocket-Book. By Charles H. Haswell, Civil, Marine, and Mechanical Engineer. Giving Tables, Rules, and Formulas pertaining to Mechanics, Mathematics, and Physics, Architecture, Masonry, Steam Vessels, Mills, Limes, Mortars, Cements, etc. 900 pages, leather, pocket-book form, \$4.00. For sale by Munn & Co., 361 Broadway, New York.

Air Compressors, RockDrills. J. Clayton, 43 Dey st., N. Y. Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 139 Center St., N. Y.

Send for Monthly Machinery List to the George Place Machinery Company 121 Chambers and 103 Reade Streets, New York.

If an invention has not been patented in the United States for more than one year, it may still be patented in Canada. Cost for Canadian patent, \$40. Various other foreign patents may also be obtained. For instructions address Munn & Co., Scientific American patent agency, 361 Broadway, New York.

Supplement Catalogue.-Persons in pursuit of infor mation of any special engineering, mechanical, or scientific subject, can have catalogue of contents of the Sci-ENTIFIC AMERICAN SUPPLEMENT sent to them free The SUPPLEMENT contains lengthy articles embracing the whole range of engineering, mechanics, and physical science. Address Munn & Co., Publishers, New York.

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. Guild & Garrison's Steam Pump Works, Brooklyn, N. Y. Steam Pumping Machinery of every

Wood Working Machinery. Full line. Williamsport Machine Co., "Limited," 110 W. 3d St., Williamsport, Pa.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 46. Hercules Lacing and Superior Leather Belting made by Page Belting Co., Concord, N. H. See adv. page 46. Planing and Matching Machines. All kinds Wood

Working Machinery. C. B. Rogers & Co., Norwich, Conn. Iron Manufacturers wishing to purchase large deposit of high grade magnetic ore, see adv. on page 78

Iron Planer, Lathe, Drill, and other machine tools of modern design. New Haven Mfg. Co., New Haven, Conn. We are sole manufacturers of the Fibrous Asbestos Removable Pipe and Boiler Coverings. We make pure asbestos goods of all kinds. The Chalmers-Spence Co.

419 East 8th Street, New York. Pat. Geared Scroll Chucks, with 3 pinions, are sold at ame prices as common chucks by Cushman Chuck Co.,

Crescent Solidified Oil and Lubricators. Something new. Crescent Mfg. Co., Cleveland, O.

Curtis Return Steam Trap returns all condensations into the boiler without waste. Curtis Regulator Works,

Curtis Pressure Regulator and Steam Trap. See p. 350. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders, R. Dudgeon, 24 Columbia St., New York, Emerson's Proof of Saws free. Reduced prices for 1885. 50,000 Sawyers and Lumbermen. Address

Emerson, Smith & Co., Limited, Beaver Falls, Pa. The new Vapor Laboratory Lamp made by Dangle V. S. Co., Cleveland, O., is a grand success.

Rubber Belting, Cotton Belting, Leather Belting, Economy Belting, and Polishing Belting. Greene, Tweed & Co., New York.

"How to Keep Boilers Clean." Send your address for free 85 page book. Jas. C. Hotchkiss, 86 John St., N. Y.

Barrel, Keg, Hogshead, StaveMach'y. See adv. p. 76. "Wrinkles in Electric Lighting," by V. Stephen with illustrations. Price, \$1.00. E. & F. N. Spon, New

Blake's Belt Studs. The strongest and best fastening for Rubber and Leather Belting. Greene, Tweed & Co., 118 Chambers St., New York.

Machinists' Pattern Letters. Pattern Letters to order. Vanderburgh, Wells & Co., 110 Fulton St., New York.

Brass and Iron Working Machinery, Die Sinkers, and Screw Machines. Warner & Swasey, Cleveland, O. Split Pulleys at low prices, and of same strength and

appearance as Whole Pulleys. Yocom & Son's Shafting Works. Drinker St., Philadelphia, Pa.

Wanted.—Second hand Engine and Boiler, about 8 horse power, to drive yacht. Must be in good condition Send price and description to Jos. Minchener, Lane



HINTS TO CORRESPONDENTS.

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Minerals sent for examination should be distinctly marked or take the office.

(1) A. W. C. asks: Will the attachment of the ground wire from telegraph office to a water pipe effect the freezing of the water? A. No. The freezing must be due to the position of the pipe, and not to the effect of the electric current.

(2) M. L., Jr., writes: A fire alarm telėgraph wiregoes over the house I am in. It is held in place by a glass insulator at the ridge of the roof. Now, I have an electric bell, such as are used for door calls, etc., which I would like to connect with this fire alarm wire if I can without cutting it. A. By connecting the wire with the fire telegraph wire, running it to your bell, and from the bell to a good ground, you will be able to get the alarm; but we think you would render yourself liable by such' an operation, and might also interfere with the efficiency of the fire alarm telegraph.

(3) E. A. C. writes: I wish to make an electric motor one-half the size of the one described in SUPPLEMENT, No. 161, and I am uncertain about the size wire which should be employed in winding the field magnet and armature. Can you inform me through the Scientific American? I also wish to know how many layers of wire should be wound on the field magnet, and how many Robert's batteries e. m. f. 2 volts) would be necessary to run the same? A. For a motor, you should use No. 16 wire on the armature, and the same size on the magnet, employing about four layers on each leg of the magnet. You would require 5 or 6 cells of the battery. 2. What form of motor is best for running a small fan, and where can I get drawings or information in regard to the same? A. Probably there is no better form for a small motor than the one you propose to adopt. 3. I wish to make a spark coil for electric gas lighting, and do not know the size wire which should be employed, or the number of layers which should be yound around the core, in order to secure the best results. A. Supplement. No. 160, will give you information that will enable you make a coil for lighting

(4) W. K. asks: What substance could I add to wax (such as used for artificial flowers), in order to render it pliable in cold weather and at the same time preserve its whiteness? A. Any substance which would render wax pliable in cold weather would render it too soft to preserve its shape in warm weather. Paraffine is sometimes added to wax to toughen it. A small percentage of glycerine might also effect the same result.

(5) J. McC., Jr., writes: I am making a dynamo-electric machine like one described in Scien-TIFIC AMERICAN SUPPLEMENT, No. 161, with permanent magnets. 1. Does increased speed give increased power, or is there a limit to the speed which gives the best results, and if so, what is it? (I use twelve 1 inch magnets, and armature is 3% inches long.) A. Increased speed gives increased power; the limit of speed is governed by the rapidity of magnetization and demagnetization of the core of the armature. 2. Is this machine able to drive a small incandescent light, and how many candle power? A. This machine will drive three or four 4 candle power lamps. 3. Will it be improved for running an incandescent light by using finer wire on the armature, and what number of wire? A. For a single lamp of high resistance, ves. 4. Will a dynamo driving an incandescent lamp (say four candle power) be able to drive four one candle power lamps? I have noticed that one candle power light requires more than one-fourth the number of volts that a four candle power lamp requires. A. It depends, of course, upon the resistance of the lamps and the way in which they are arranged in the circuit. We think, however, that you could drive four onecandle power lamps with a machine that would supply four-candle power lamp.

(6) J. O.—Propeller wheels are named from their form of the section of a screw, and plow through the water in the same manner that any screw runs in a nut, only that the pitch is greater and the nut is water.

(7) C. & D.-Diamond drills are made by setting borts or black diamonds in the ends of iron or steel tubes. The tubes are rotated, cutting a solid core, which, by an arrangement of a nipper in the drill, is lifted out with the drill.

(8) W. A. B.—There are several reckonngs of time. The civil year commences at midnight, December 31. The astronomical year is also reckoned with the civil year. The equinoctial year is reckoned from the vernal equinox. The sidereal year is the time of revolution of the earth in its orbit from a given line between the sun and a fixed star. The perigee is not used in the division of time, only in regard to the moon. Perihelion is the earth's position when nearest the sun.

(9) J. L. asks (1) how Fehling's solution is made. A. Fehling's solution is made by dissolving 34631/2 grms. pure copper sulphate in water and adding a solution of 173 grammes of Rochelle salts in 480 cubic centimeters of sodium hydrate having a density of 1.14 and diluting to one liter. 2. How to detect putty

powder in other mixtures used in polishing plate. grease similar to the common axle grease in the market. A. We know of no means except by chemical analysis. Some of the ordinary tests for tin might be applied. 3. Can good brandy be made from sour, musty wine? A. Brandy can be obtained from the wine designated by distillation. As to the quality, we cannot say. 4. Does the law allow a man having a still for chemical purposes to distill enough liquor for his own use? A. It is necessary to have a license in order to distill liquor, whether for private consumption or public sale. 5. What is good to varnish scraps in /a'scrap book, something that will not stick the leaves rogether? A. Boil clear parchment cuttings in water in a clean glazed pipkin till they produce a very clear size. Strain it and keep it for use

- (10) D. B. asks how the chilled mandrel is made to cast cast-iron box for wagon axle so he will not have to ream them. A. Make the chill mandrel of wrought iron of the proper taper, and make a slot 1/8 inch wide its entire length and nearly through; fill the slot lightly rammed with moulding sand or weak core sand. If this does not spring enough to prevent the box from cracking by shrinkage, cut the slot wider or bore a hole clear through the mandrel.
- (11) D. W. G. desires the formula of Dr. Tebbett's Physiological Hair Regenerator. A. This preparation is an aqueous solution of acetate containing about 6% grains of metallic lead to each ounce of
- (12) G. F. N. asks whether salicylic acid will preserve animal and vegetable oils, and what effect the acid has upon the human flesh or skin. A. See the article on salicylic acid contained in Scientific AMERICAN SUPPLEMENT, No. 226. This acid prevents fermentation and putrefaction. The dry powder of the acid has practically no effect upon the skin, i. e., it is not corrosive.
- (13) J. H. E. asks (1) how to color kerosene different shades, what, and how to use it. A. Use aniline colors sold as soluble in oil. 2. How to nickel plate? A. See the article on "Electro Metallurgy" contained in Scientific American Supplement, No. 310. 3. How to fasten a lamp chimney to a revolving head for cleaning? A. It can be clamped on to a wooden chuck, but the head should be specially adapted for
- (14) C. J. M. asks if there is any way of taking out stains from matting or carpet, caused by dripping from stove pipe. A. The dripping probably consists of so many ingredients that its removal cannot be accomplished. Soot, for instance, cannot be removed. If it is simply coal tar, try water and then
- (15) J. W. P. asks how to make a paste for placing labels on tin and glass. A. See "Reliable Paste for Labels for Glass, Wood, and Metals," page 199, Scientific American for September 26, 1885.
- (16) A. B. asks: What is the process used for covering pills with awhite stratum (not sugar coated) that will be damp proof? A. They are probably gelatine coated, i. e., covered with a strong solution of 6 parts of gelatine and 1 part sugar. See "How to Coat Pills with Gelatine," Scientific American SUPPLEMENT, No. 370.
- (17) G. E. B. writes from Hillsboro, Dakota: At a depth of 126 feet, in drilling an artesian well, a vein of gas was struck, which threw at once all water out of 2 inch pipe to a height of 30 feet. Applying a torch, the flame shot up ten feet, burning with great brilliancy and intense heat until extinguished. Would such a vein, if continuous, be of utility for illuminating or other purposes? A. Yes. Natural gas is now extensively used for illuminating purposes and also as a substitute for coal and wood alumina, but no economical process of extracting the in producing heat.
- animal is generally slaughtered before the parasites mature sufficiently to produce death.
- (19) K. asks if it is possible to get zinc or tin in finely divided state, by any chemical means, from their salts, same as we reduce copper from the sulphate. A. Zinc dust is a commercial article, and is obtained in the manufacture of the metal. Fine crystals of tin can be obtained when water containing zinc dust in suspension is gradually added to a solution of tin chloride. There is no prac tical chemical process that we can recommend.
- (20) J. A. asks how to make the best spirit varnish suitable for varnishing carved wood. A. A shellac varnish will answer, made by dissolving shellac in 95 per cent alcohol. The color of the wood will influence the selection of the gum. Spons' Workshop Receipts, 1st Series, which we can send for \$2. will give you a number of valuable formulas that may be used.
- (21) A. M. asks (1) how to prevent rub ber boots from cracking. A. Rubber boots are coated with a flexible varnish in the course of their manufacture. The application of a solution of rubber on carbon disulphide may be of some help, but it would not be permanent. 2. How to prevent rain coming in a skylight. A. Tight joints will prevent the entrance of rain; we know of no other means.
- (22) G. H. D. desires a receipt for making compressed yeast such as is sold in little flat squares, about an inch square, covered with tin foil. A. This yeast is obtained by straining the common yeast in breweries and distilleries until a moist mass is obtained, which is then placed in hair bags and the rest of the water pressed out until the mass is nearly dry, It is then sewed up into bags for transporta-
- (23) T. R. W. asks how to make a preparation to paint iron cores with, so that they will slip out of the castings easily and leave a perfectly smooth hole. A. Paint the cores with black lead, ground fine, and water. When nearly dry, smooth the surface with a trowel or slicker.
- (24) J. G. W. asks for some process of hardening crude petroleum. He wants to make an axle

- A. Use paraffine or tallow. See the article on "Lubricants," contained in Scientific American Supple-MENT, No. 316. A number of valuable receipts are given in the paper referred to.
- (25) S. L. asks the use and value of bat guano. A. It is used as a fertilizer. Its commercial value is dependent upon its analysis. 20 cents is the market value per unit of bone phosphate contained in the guano, and \$1.75 is the value of nitrogen equivalent to ammonia. These prices are by the ton. Ordinary bat guano seldom contains two per cent of nitrogen equivalent to ammonia, although from 4 to 5 per cent are sometimes found.
- (26) N. L. B. asks: Can the glue in old water color be removed by any simple and cheap process? If so, how? That is, so the pigments may be used again by the addition of fresh glue. A. By soaking the material in water till it becomes disintegrated, then adding fresh water and continuing to do so, in time all of the glue will be washed out, leaving the pigment behind.
- (27) B. C. H. asks: 1, In qualitative analysis, an easy way to separate iron and zinc, both being precipitated by ammonia. A. Zinc is not precipitated by ammonia, therefore filter and test filtrate with hydrogen sulphide for zinc. 2. Of what does the purple solution in the porous cup of a chrome battery consist, and does it clog up the pores at all? A. Probably chrome alum. It crystallizes, and so clogs the battery.
- (28) A. S. G. asks if hydrogen peroxide is one article and Naquet's bismuthic dye another, or do they both mean the same thing? A. They are two independent and separate articles. The bismuth dye referred to is not made commercially in this country, as far as we know. The hydrogen peroxide can be purchased from any wholesale druggist in New York or other commercial center.
- (29) C. E. Q.—Cherry stain can be removed by using a strong solution of oxalic acid, but you will find it preferable to stain it a darker color, by using some of the liquids recommended for
- (30) F. T. asks if there is any receipt for making a pomade for polishing metal that is superior to the German metal put: polishing pomade. A. In answer to query 20, in Scientific American of May 2, 1885, a formula for a paste is given which is cheaper and equally as efficient as the putz pomade.
- (31) G. F. D. asks: What gives beef oil a rye bread taste, or what acid is used to flavor beef oil for butterine purposes? A. Probably butyric acid. See the "Manufacture of Artificial Butter," contained in Scientific American Supplement, Nos. 48 and 49, also Dr. Tidy's article on Butterine Manufacture, in SCIENTIFIC AMERICAN SUPPLEMENT, No. 397
- (32) A. J. W. asks: Is the bite of the skunk sure hydrophobia or is there anything known about it? A. The skunk is often affected by a disease which renders its saliva so poisonous that its bite is more to be feared than that of the rattlesnake. Many instances are given in which persons sleeping on the ground have been bitten, generally with fatal, and always with dangerous, consequences. It has not been shown, as far as we know, that this disease has any connection with hydrophobia.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined with the results stated.

W. H. F.-The amount of alumina contained in sample of clay can only be determined by analysis, the expense of which would be \$12.00. All clays contain metal is as yet known.—J. M. M.—Your own description (18) H. E. D. asks why trichinæ do not of the minerals is quite correct; they appear to be vakill the animal. A. The trichinæ will kill the animal rieties of decomposed silicates, such as feldspar and if they are allowed to develop sufficiently, but the mica. The specimens were examined for tin, but none was found. We would suggest that a larger quantity of the suspected tin ore he sent to us, with \$5.00, to pay for an assay, which would definitely settle the

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted,

January 19, 1886,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.] Air brakes, valve for operating, P. Pickering 334,466

	THE STANCES, TALLY CLOSE OPERATING, I. I. I TOROLLING, I	00 29 200
	Anvil, vise, and drill, combined, J. Weathers	334,626
	Axle box, car, R. M. McGrath	834,540
	Axle box cover, car, F. Hyde	384,705
	Axle, vehicle, H. M. Clark	334,566
	Bag frame fastening, A. Goertz	334,654
	Bag holder, W. S. Kendall	834,589
	Bag holder, I. Steenrod	334,482
İ	Bake pan, G. L. Hinderer	334,662
	Baking wafers, machine for, Meyer & Strickler	834,451
i	Barometers, etc., recording apparatus for, J.	
	Richard	334,613
	Barrel making machine, J. J. Philbrick	334,607
١	Bath or bathing apparatus, S. C. Neal	334,674
	Battery. See Stamp battery.	
	Bed bottom, G. E. Bedell.	334,556
	Bed lounge, E. S. Hemmenway	334,528
	Bed lounge, folding, F. H. Walker	334,550
	Bed lounge, folding spring, F. H. Walker	334,549
	Bedstead and fireplace, combined, Q. S. Backus	334,504
	Bell, bicycle, T. E. Ware	334,495
	Bicycle, E. H. Foote	334.578
	Bicycle saddle, T. J. Regnier	334,469
ı	Bin, J. D. 'Gailor	334,652
	Bird cage, B. A. Drayton	384,573
ı	Boiler. See Steam boiler.	
į	Boiler tube cleaner, R. A. Regester	334,468
1	Bolt. See Sash and door bolt.	
ţ	Bolt heading machine, F. Philips334,464,	334,465
ĺ	Bolts and hooks, machine for forming eyes for	
•	metal, H. V. Hartz	334,433

	American.		
	Book and pamphlet trimming machine, C. A.	334,672	I
ė	Books, pamphlets, and other publications, guard for, J. W. Lovell	334,446	1
t	Bosom form, M. Phillips	934,721	I
1	Brake. See Car brake. Brick moulds, machinery for sanding, D. Ralston.		I
ı -	Brush, tooth, R. S. Lakin Buffer and polisher, J. B. Laughton Buildings, construction of, De Lemos & Cordes	334,671	1
	Bung and faucet plug, vent, C. G. Dodge, Jr Bustle, C. C. Carpenter	334,520	J
5	Bustle, R. Kelso	334,707 334,430	J J
1	Button or glove fastener, A. Kohler	334,419	H
,	Car brake, G. F. Card	334,410	I
-	Car door, E. Y. Moore	834,452 834,591	İΙ
-	Car wheel truing machine, M. E. Dayton	384,665	I
_	Carrier. See Cash carrier.	924 440	I
	Case for embroidery silks, J. V. B. Hoyle	334,599	I
?	Cash carrier propelling mechanism, F. E. Fisher Casks or barrels, machine for cleaning, W. O. Taylor		I
	Chimney, adjustable, J. D. Jillson Churn, T. H. Hester	334,587 534,586	I
	Churn, J. W. Persohn		I I L
	Cigar bunch turner and perforator, Bayler & Strickler	334,687	N
	AldenCigar mould, C. A. Valentin	334,492	A
	Cigar perforator, Bayler & Strickler	334,686	M N N
	frame clamp. Clamp for strings, etc., R. Lorenz Clasp. See Shoe clasp.	334,711	N N
	Cleaner. See Boiler tube cleaner. Clip. See Hame clip.		N N
•	Clock movement, electric, S. C. Dickinson	334,559	N
•	Clutch, friction, J. Macdonald	334,448	N
į	Cooler and liner, combined, Frazee & Thomas	334,426	C
	Cooking vessel, A. W. Obermann	334,409	O
	J. Fleming. Coupling. See Car coupling. Shaft coupling.		P
	Thill coupling. Cover, kettle, D. H. Murphy		P
	Cranberry picker, M. M. Chew	334,648	P
	Cultivator, E. Children	334,641 334,479	P
	Cultivator, tongueless, B. C. Bradley Cup. See Oil cup. Cutter. See Cigar cutter. Twine and wire cut-	334,688	P
	ter. Damper regulator, McDonald & Townsend	834,601	P
:	Damper regulator for steam boilers, McDonald & Townsend		F
	Damper, stovepipe, G. W. Mudd	334,715 334,529	P
	Door securer, D. Bromley	334,636	P
!	Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	924 719	P P
 	Electrical cable, underground, Kruesi & Langton, Jr		P P
	Electrical cables, machine for making, Kruesi & Langton, Jr	334,709	P P P
	Electrical conductors, manufacture of, H. R. Mason		P
	Exercising machine, E. N. Bowen	834,497 334,685	P
	Fan, automatic, P. Murray, Jr	334,717	P
	Fan, summer, G. H. Aylworth	334,534	P P
!	Feed regulator, boiler, M. Crawford	334,691 834.514	P
,	Fence, portable, L. W. Fisher	334,719	R
!	Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb	334,458	R
;	File, distributing, R. F. Leaman Filter bed, elevated, W. S. West Firework stand, portable, H. C. Weeden	334,629	R R R
	Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer		R
	Flood gate, M. A. Emmons	334,611	R
	Frame. See Skylight frame. Frame for draping fringe, etc., I. N. Bachand	· ·	R
	Fruit picker, Strong & Smith	334,533	R
i	Funnel, F. Catlin		H
	Furnaces and stoves, heating attachment for, J. T. Greenwood	834,429	R
i	Gas apparatus, A. O. Granger	334,700 334,447	R
!	Gas, manufacturing, A. O. Granger	834,701	R
	Gate. See Farm gate. Flood gate. Gate, Depp & Selby		8 8
	Generator. See Steam generator. Glass panel, ornamental, C. D. Pease Glass surfaces, ornamenting, J. S. Roberts		S
	Glove, etc., P. F. Cole	834.513 334,499	8
1	Grapple, W. F. Kircher	334,667 334,535	SS
j	Gun, magazine spring, S. D. Engle		S
	H. Davenport		8
•	Harvester cutters, clearer attachment for, C. Potee	834,728	8

Book and pamphlet trimming machine, C. A.		Hay carrier, W. G. Ricker	
Books, pamphlets, and other publications, guard		Heater, W. H. Denslow	
for, J. W. Lovell Boot or shoe sole, Knipe & Day		Heating furcace, air, J. M. Hess	334,661
Bosom form, M. Phillips	934,721	Hook. See Trellis hook.	
Box, R. W. Betts	334,506	Hooks, machine for making, H. V. Hartz Horseshoe, duplex, A. C. Hawes334,658 to	
Brick moulds, machinery for sanding, D. Ralston.		Hose, manufacture of rubber lined and rubber	
Brush, tooth, R. S. Lakin Buffer and polisher, J. B. Laughton		covered, A. Bruegger, Jr	
Buildings, construction of, De Lemos & Cordes	334,694	Irrigation of land, C. B. Cox	
Bung and faucet plug, vent, C. G. Dodge, Jr Bustle, C. C. Carpenter		Jack. See Lifting jack. Joint. See Pipe joint.	
Bustle, R. Kelso	334,707	Journal bearing, anti-friction, W. Kratzer	
Butter, making, L. Guinnip Button or glove fastener, A. Kohler		Journal box, R. W. Traylor Key board, S. Stewart	
Calculating machine, K. Duschanek	334,419	Knitting machine, J. Smalley	
Car brake, G. F. Card		Knitting machine latch guard attachment, G. W. Ents.	334,421
Car coupling, J. H. Williams	334,501	Label, G. C. Henning	334,437
Car door, E. Y. Moore		Lamp, E. B. Bigelow	
Car wheel truing machine, M. E. Dayton	334,647	Lamp, E. B. Requa	334,546
Carpet stretcher, R. R. Jones		Lamp, bracket, A. C. O. Adler Lamp burner, Argand, M. J. Dooley	
Carrier. See Cash carrier.		Lamp shade support, S. S. Woodward	334,502
Cartridge capper and decapper, J. Maloney Case for embroidery silks, J. V. B. Hoyle		Lathe for turning shafting, W. J. Muncaster Lathing, C. E. Merrifield	
Cash carrier, J. C. Martin		Leather waterproof, making, J. A. Dietz	
Cash carrier propelling mechanism, F. E. Fisher Casks or barrels, machine for cleaning, W. O.	204,049	Lifter. See Pot lifter. Lifting jack, J. Weathers	334,627
Taylor		Liquids, centrifugal machine for separating, C.	924 719
Chimney, adjustable, J. D. Jillson Churn, T. H. Hester		R. Mellor	004,110
Churn, J. W. Persohn		Locomotive furnace, T. A. Buckland Loom shuttle, J. C. Sergeson	
Cigar bunch turner and perforator, Bayler &		Lubricator, R. Ruddy	
Strickler		Measure for draughting garments, J. D. McCann Mechanical movement, J. Frist	
Alden	334,405	Metal bending and straightening machine, W. J.	
Cigar mould, C. A. Valentin		Muncaster	
Clamp. See Flooring and ceiling clamp. Miter	,000	Microscopist's turn table, C. Klippert	
frame clamp. Clamp for strings, etc., R. Lorenz	334,711	Mill. See Roller mill. Windmill. Mining machine, coal, F. L. Clerc	334,642
Clasp. See Shoe clasp.	,	Miter frame clamp, G. R. Hammond	
Cleaner. See Boiler tube cleaner. Clip. See Hame clip.		Mould. See Cigar mould. Moulding flower 'pots, machine for, H. Ammen-	
Clock movement, electric, S. C. Dickinson		heuser	334,406
Clothes drier, J. A. Bogle		Motor. See Churn motor. Nail driving machine, E. L. Wheeler	334,552
Clutch, friction, J. Macdonald	334,448	Nail machine, wire, E. S. Morton	334,604
Cockle separator, B. Cloutier		Nails, manufacture of ornamental, J. F. Thayer Oil cup, W. Krutzsch	
Cooler and filter, combined, Frazee & Thomas	334,426	Ointment, Berry & Butler	334 ,684
Cooking vessel, A. W. Obermann Cotton sweep, J. C. Awalt		Ointment, Musgrave & Barton Oven door catch, L. E. Ziegle	
Cores, apparatus for brushing and shaping sand,		Package for liquid glue, etc., C. H. Leggett	834,592
J. Fleming	334,423	Packing for piston and valve rods, metallic, Sleeper & Hubbard	
Thill coupling. Cover, kettle, D. H. Murphy	334.716	Packing for surface condensers, tube, D. B. Cobb. Packing, piston rod. O. J. Garlock	334,512 334,579
Cranberry picker, M. M. Chew	334,565	Paint, mixed, T. J. Venema	
Cue tip fastener, T. Dougherty Cuff, W. P. Groom		Pan. See Bake pan. Paper machines, steam condensing doctor for, F.	
Cultivator, E. Children	334,641	Brewer	
Cultivator, H. Skelton		Piano action, I. Bullard	994,911
Cup. See Oil cup. Cutter. See Cigar cutter. Twine and wire cut-	i	Pin. See Safety pin. Pipe. See Tobacco pipe,	
ter.		Pipe joint, H. Green	
Damper regulator, McDonald & Townsend Damper regulator for steam boilers, McDonald &	834,601	Pipe testing machine, D. Giles Pitman eye and connection, W. P. Drake	
Townsend		Planter, check row corn, W. B. Chambers	
Damper, stovepipe, G. W. Mudd		Planter, hand corn, S. Hackett	334,588
Digger. See Post hole digger.		Planter, seed, P. & F. W. Boxendale	
Door securer, D. Bromley	334.636	Plaster or cement. J. Thomlinson	334,459
Drier. See Clothes drier.	334,636	Plaster or cement, J. Thomlinson	334,408
	334,636	Plow fender, R. H. Avery Plow, sulky, G. H. Fowler Plug, turning, F. W. Polle	384,408 834,424 334,722
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather		Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 834,424 334,722 384,543
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather Electrical cable, underground, Kruesi & Langton, Jr	834,712	Plow fender, R. H. Avery Plow, sulky, G. H. Fowler Plug, turning, F. W. Polle Plumber's fitting, J. Noble	384,408 834,424 334,722 384,543 934,609 334,653
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather Electrical cable, underground, Kruesi & Langton, Jr Electrical cables, machine for making, Kruesi &	\$34,712 3\$4,708	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler	384,408 834,424 334,722 384,543 834,609 334,653 334,473
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 3\$4,708 334,709	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,653 334,653 334,473 334,666 334,456
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & I.angton, Jr. Electrical conductors, manufacture of, H. R. Mason.	\$34,712 384,708 334,709 334,450	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,653 334,473 334,666 334,456 334,456
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 384,708 334,709 334,450 334,507 834,497	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,653 334,473 334,666 334,456 334,485 334,714 334,500
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,709 334,450 334,507 334,497 334,685	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler	384,408 334,424 334,722 384,543 334,663 334,473 334,666 334,456 334,456 334,456 334,456 334,456 334,450 334,697 334,697
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 334,709 334,450 334,507 334,507 334,697 334,635 334,474 334,717	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,653 334,473 334,473 334,486 334,486 334,486 334,500 334,697 334,491 334,632
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather Electrical cable, underground, Kruesi & Langton, Jr Electrical cables, machine for making, Kruesi & I.angton, Jr. Electrical conductors, manufacture of, H. R. Mason Engraving machine, M. Bock Excavator, S. F. Welch Excavator, S. F. Welch Excavator, Machine, E. N. Bowen Fabrics, machine for singeing, J. Ryle	\$34,712 384,708 334,709 334,450 334,507 334,495 334,695 334,474 334,717 334,684	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,663 334,473 334,666 334,456 334,485 334,714 334,500 334,697 334,692 334,692 334,692 334,693
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 334,708 334,709 334,507 334,507 334,685 334,474 334,717 334,684 334,684 334,684	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,722 334,723 334,663 334,663 334,456 334,456 334,456 334,450 334,697 334,697 334,693 345 345 345 345 345 345 345 34
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & I.angton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross.	\$34,712 384,709 334,507 334,507 334,507 334,697 334,694 334,717 334,684 334,717 334,684 334,727 334,691 334,534 334,534 334,534	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,723 334,563 334,663 334,473 334,666 334,456 334,456 334,714 334,500 334,691 334,692 334,693 334,693 334,693 334,693 334,653 334,653 334,553 334,554
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 384,708 334,450 334,507 334,635 334,474 334,613 334,634 334,634 334,634 334,634 334,634 334,534 334,577	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,603 334,633 334,456 334,456 334,456 334,714 334,500 334,697 334,692 334,693 334,593 334,605
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles.	\$34,712 334,708 334,709 334,507 334,637 334,634 334,717 334,694 334,727 334,691 334,514 334,719	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,653 334,456 334,456 334,456 334,571 334,697 334,692 334,593 334,593 334,593 334,593 334,593 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,594 334,694 334,694 334,694 334,594 334,694 346 346 347 347 347 347 347 347 347 347
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 \$34,709 \$34,450 \$34,507 \$34,497 \$34,691 \$34,717 \$34,717 \$34,717 \$34,717 \$34,691 \$34,527 \$34,517 \$34	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,543 334,609 334,653 334,456 334,456 334,456 334,450 334,697 334,693 334,693 334,693 334,693 334,693 334,693 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,696
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Ellectric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Ellectrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman.	334,712 384,709 334,450 334,567 334,695 334,474 334,717 334,635 334,634 334,534 334,531 334,531 334,536 334,536 334,536	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,472 334,569 334,660 334,666 334,473 334,666 334,485 334,714 334,597 334,692 334,693 346 346 347 347 347 347 347 347 347 347
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 \$34,708 \$34,709 \$34,450 \$34,507 \$34,497 \$34,634 \$34,717 \$34,717 \$34,717 \$34,717 \$34,717 \$34,717 \$34,717 \$34,517 \$34,517 \$34,517 \$34,517 \$34,518 \$34,527 \$34,518 \$34,528 \$34,632 \$34	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plumber's fitting, J. Noble	384,408 384,424 384,722 384,543 384,609 384,653 384,456 384,456 384,714 384,500 384,491 384,682 384,491 384,682 384,483 384,806 384,408 384,606 384,608 384,427 384,608
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Ellectric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Feence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localiz-	\$34,712 384,709 334,507 334,507 334,635 334,474 334,673 334,673 334,673 334,514 334,577 334,577 334,573 334,573 334,573 334,536 334,458 334,532 334,639 334,458	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,472 334,569 334,660 334,663 334,473 334,666 334,485 334,714 334,597 334,697 334,693 346 346 347 347 347 347 347 347 347 347
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 384,708 334,709 334,450 334,507 334,497 334,634 334,717 334,631 334,727 334,691 334,577 334,591 334,577 334,536 334,458 334,532 334,632 334,632 334,632 334,461 334,420	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,472 384,543 334,609 334,653 334,473 334,666 334,473 334,666 334,714 334,500 334,491 334,632 334,590 334,608 334,483 334,597 334,608 334,608 334,427 334,606 334,428 334,444 334,488 334,444
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Ellectric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fan automatic, P. Murray, Jr. Feed regulator, boiler, M. Crawford. Feerce making machine, field, S. B. Cross. Feence, portable, L. W. Fisher. Feence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed.	\$34,712 384,709 334,507 334,507 334,653 334,474 334,633 334,727 334,634 334,531 334,531 334,531 334,532 334,633 334,633 334,633 334,633 334,458 334,532 334,633 334,463 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461 334,461	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,609 334,666 334,473 334,666 334,485 334,714 334,697 334,697 334,697 334,696 334,491 334,696 334,491 334,696 334,491 334,597 334,597 334,597 334,597 334,597 334,597 334,597 334,597 334,597 334,597 334,597 334,598
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	\$34,712 \$34,708 \$34,709 \$34,450 \$34,507 \$34,497 \$34,634 \$34,717 \$34,717 \$34,717 \$34,717 \$34,719 \$34,514 \$34,532 \$34,532 \$34,634 \$34,532 \$34,634 \$34,634 \$34,635 \$34,461 \$34,461 \$34,461 \$34,451 \$34,551	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,722 384,543 334,609 334,653 334,473 334,666 334,473 334,500 334,500 334,500 334,692 334,692 334,693 334,693 334,693 334,693 334,693 334,693 334,693 334,493 334,593 334,593 334,593 334,427 334,608 334,427 334,608 334,428 334,428 334,428 334,438 334,438
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Bngraving machine, M. Bock. Excavator, S. F. Welch Excarcising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed. elevated, W. S. West. Firework stand, portable. H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flooring and ceiling clamp, E. A. Reed.	\$34,712 334,709 334,450 334,507 334,497 334,634 334,717 334,634 334,727 334,631 334,727 334,631 334,536 334,536 334,458 334,532 334,458 334,532 334,458 334,532 334,461 334,461 334,450 334,451 334,551 334,451	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,666 334,473 334,666 334,485 334,714 334,597 334,597 334,597 334,597 334,597 334,593 334,491 334,593 334,491 334,597 334,597 334,594 334,493 334,493 334,493 334,493 334,493 334,594 334,595 334,493 334,596 334,493 334,596 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,507 334,450 334,507 334,497 334,634 334,717 334,717 334,717 334,719 334,536 334,536 334,536 334,536 334,636	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,666 334,473 334,666 334,485 334,714 334,597 334,597 334,597 334,597 334,597 334,593 334,491 334,593 334,491 334,597 334,597 334,594 334,493 334,493 334,493 334,493 334,493 334,594 334,595 334,493 334,596 334,493 334,596 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fear recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Feence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks; making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I., N. Bachand. Fruit picker, Strong & Smith. Fuence. See Heating furnace. Locomotivefur-	334,712 384,708 334,507 334,450 334,507 334,497 334,634 334,717 334,717 334,717 334,719 334,536 334,536 334,536 334,536 334,636	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble. 334,542, Pocketbook, Putnam & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot litter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Punn, hand force, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway circuit. electric, F. L. Pope. Railway rorosing, J. Gray. Railway rail fastening, H. L. De Zeng. Railway track clearer, J. Gray. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling mechanism, C. H. Morgan. Refrigerator, J. Stephenson. Regulator. See Damper regulator. Electric machine regulator. Feed regulator. Pressure	384,498 334,722 384,543 334,666 334,473 334,666 334,485 334,714 334,597 334,597 334,597 334,597 334,597 334,593 334,491 334,593 334,491 334,597 334,597 334,594 334,493 334,493 334,493 334,493 334,493 334,594 334,595 334,493 334,596 334,493 334,596 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,507 334,497 334,497 334,497 334,717 334,717 334,717 334,534 334,631 334,531 334,531 334,531 334,532 334,632 334,632 334,632 334,632 334,633 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,458 334,534 334,458 334,458 334,458 334,458 334,458 334,458	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plum, turning, F. W. Polle. Plumber's fitting, J. Noble. Posketbook, Putnam & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot lifter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Pump, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway crossing, J. Gray. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reeling machiner, silk, E. W. Serrell, Jr., 334,618, Reeling machinery, silk, E. W. Serrell, Jr., 334,618, Reeling mechanism, C. H. Morgan. Refrigerator, J. Stephenson. Refrigerator, J. Stephenson.	384,408 334,424 334,722 384,543 334,609 334,663 334,473 334,666 334,485 334,714 334,697 334,693 334,693 334,491 334,632 334,491 334,632 334,493 334,597 334,698 334,493 334,594 334,493 334,594 334,493 334,594 334,493 334,594 334,493 334,594 334,493 334,594 334,493 334,594 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks; making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I., N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Frunnel, F. Catlin. Furnace. See Heating furnace. Locomotivefurnace. Furnaces and stoves, heating attachment for, J. T. Greenwood.	334,712 384,709 334,507 334,507 334,635 334,474 334,717 334,635 334,631 334,531 334,531 334,531 334,532 334,633 334,633 334,633 334,461 334,531 334,461 334,531 334,461 334,461 334,531 334,461 334,461 334,531 334,461 334,461 334,561	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,669 334,453 334,473 334,666 334,485 334,714 334,597 334,597 334,593 334,695 334,491 334,693 334,695 334,695 334,695 334,695 334,695 334,696 334,696 334,697 334,597 334,593 334,597 334,593 334,597 334,593 334,597 334,593 334,597 334,596 334,696 334,696 334,696 334,428 334,428 334,428 334,433 334,597 334,596
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,450 334,507 334,497 334,634 334,717 334,631 334,727 334,691 334,577 334,513 334,536 334,536 334,436	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plum, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,693 334,666 334,473 334,666 334,486 334,714 334,697 334,697 334,697 334,590 334,695 334,597 334,554 334,573 334,554 334,573 334,653 334,4724 334,488 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483 334,483
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Ellectric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fear recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks; making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., L. N. Bachand. Fruit picker, Strong & Smith. Fuence. See Heating furnace. Locomotivefurnace. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas burner, automatic safety, G. Doutney.	334,712 384,709 334,507 334,507 334,695 334,473 334,717 334,635 334,474 334,571 334,571 334,571 334,571 334,571 334,532 334,633 334,633 334,496 334,461 334,551 334,461 334,551 334,461 334,551 334,461 334,551 334,461 334,551	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,609 334,666 334,473 334,666 334,485 334,714 334,632 334,507 334,632 334,608 334,608 334,608 334,608 334,608 334,608 334,608 334,428 334,534 334,537 334,538 334,428 334,444 334,585 334,428 334,428 334,444 334,488 334,444 334,488 334,444 334,488 334,470 334,400 334,464 334,464 334,464 334,464 334,464 334,464 334,464 334,464 334,464 334,662
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,709 334,450 334,507 334,497 334,517 334,717 334,717 334,717 334,719 334,534 334,534 334,532 334,639 334,461 334,458 334,458 334,532 334,636 334,461 334,458 334,458 334,458 334,458 334,458 334,458 334,458	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plum, turning, F. W. Polle. Plumber's fitting, J. Noble. Pocketbook, Putnam & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot lifter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Pump, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway crossing, J. Gray. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machinery, silk, E. W. Serrell, Jr 334,618, Reeling machinery, silk, E. W. Serrell, Jr 334,617, 334,618, Reeling machinery, silk, E. W. Serrell, Jr 334,617, 334,617, 334,617, Saellong mechanism, C. H. Morgan. Refrigerator, J. Stephenson. Regulator. See Damper regulator. Electric machine regulator. Feed regulator. Pressure regulator. Ripping tool, J. Ruekstuhl. Roller mill, J. T. Obenchain. Rolling mill, wire rod, C. H. Morgan. Rolling mill, F. C. Tegethoff.	384,498 334,723 384,543 334,669 334,466 334,473 334,666 334,485 334,714 334,697 334,697 334,590 334,697 334,590 334,695 334,491 334,590 334,695 334,590 334,695 334,590 334,695 334,596 334,597 334,554 334,554 334,554 334,554 334,554 334,705 334,406 334,476 334,476 334,705 334,4705 334,4705 334,4705 334,4705 334,4705 334,4705 334,4604 334,6604
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather Electrical cable, underground, Kruesi & Langton, Jr Electrical cables, machine for making, Kruesi & Langton, Jr Electrical conductors, manufacture of, H. R. Mason Engraving machine, M. Bock. Exacrising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles Fertilizer dropper, tobacco, A. McNabb Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flooring and ceiling clamp, E. A. Reed Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I. N. Bachand Frunaces and stoves, heating attachment for, J. T. Greenwood Gas apparatus, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, manufacturing, A. O. Granger. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gate, Depp & Selby	334,712 384,709 334,507 334,507 334,635 334,474 334,613 334,613 334,613 334,613 334,514 334,514 334,514 334,514 334,514 334,513 334,629 334,461 334,531 334,461 334,551 334,461 334,551 334,461 334,561 334,461 334,561 334,461 334,561 334,461 334,561 334,461 334,561 334,461 334,561	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,408 334,424 334,722 384,543 334,609 334,653 334,473 334,666 334,485 334,714 334,632 334,507 334,632 334,608 334,400 334,608 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,428 334,438 334,428 334,444 334,585 334,428 334,444 334,585 334,428 334,444 334,585 334,428 334,444 334,585 334,428 334,438 334,444 334,585 334,438 334,585 334,438 334,444 334,585 334,454 334,585 334,585 334,585 334,585 334,585 334,585 334,585 334,585
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,709 334,450 334,507 334,497 334,534 334,717 334,717 334,717 334,719 334,536 334,536 334,536 334,536 334,461 334,420 334,611 334,536 334,536 334,536 334,536 334,536 334,536 334,486 334,537 334,536 334,486	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble. Posketbook, Putama & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot lifter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Punn, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway circuit. electric, F. L. Pope. Railway rossing, J. Gray. Railway rail fastening, H. L. De Zeng. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling mechanism, C. H. Morgan. Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Refrigerator, J. Stephenson Reflator. See Damper regulator. Electric machine regulator. Feed regulator. Pressure regulator. Roller and pulverizer, combined, S. R. Houser. Roller mill, J. T. Obenchain. Rolling mill, wire rod, C. H. Morgan. Rolling mill, wire rod, C. H. Morgan. Rolling mill, wire rod, C. H. Morgan. Rolling metal, F. C. Tegethoff. Sash and door bolt, F. C. Robinson.	384,408 384,424 384,724 384,543 384,609 384,666 384,473 384,666 384,456 384,471 384,652 384,491 384,692 384,493 384,696 384,493
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Exectsing machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Filtiger dropper, tobacco, A. McNabb. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flooring and ceiling clamp, E. A. Reed. Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I. N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Funnel, F. Catlin. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, apparatus, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, manufacturing, A. O. Granger. Gas, manufacturing, A. O. Granger. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gate. See Steam generator. Glass panel., ornamental, C. D. Pease. Glass surfaces, ornamentang, J. S. Roberts.	334,712 384,708 334,507 334,450 334,597 334,497 334,471 334,511 334,534 334,577 334,513 334,528 334,528 334,528 334,496 334,461 334,420 334,461 334,420 334,461 334,486 334,533 334,564 334,486 334,486 334,486 334,533 334,564	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,666 334,473 334,666 334,485 334,714 334,697 334,697 334,697 334,697 334,693 334,597 334,594 334,593 334,594 334,594 334,594 334,594 334,594 334,595 334,491 334,595 334,491 334,596 334,491 334,596 334,491 334,596 334,491 334,596 334,491 334,596 334,490 334,596 334,496 334,496 334,496 334,496 334,596 334,596 334,596 334,596 334,596 334,596 334,596 334,596 334,596
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence evire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I., N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Funnel, F. Catlin. Furnace. See Heating furnace. Locomotivefurnace. Gas, apparatus, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, stop-of valve for, J. L. Chapman. Gate, See Farm gate. Flood gate. Gas, stop-of valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-of valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-of valve for, J. L. Chapman. Gate. See Steam generator. Glass panel, ornamental, C. D. Pease.	\$34,712 \$34,708 \$34,709 \$34,450 \$34,507 \$34,497 \$34,497 \$34,471 \$34,717 \$34,717 \$34,717 \$34,717 \$34,717 \$34,534 \$34,534 \$34,531 \$34,531 \$34,531 \$34,532 \$34,632 \$34,632 \$34,632 \$34,632 \$34,632 \$34,633 \$34,458 \$34,532 \$34,633 \$34,458 \$34,532 \$34,633 \$34,458 \$34,532 \$34,633 \$34,458 \$34,532 \$34,458 \$34,532 \$34,400 \$34,401 \$34,401 \$34,401 \$34,401 \$34,501 \$34,601 \$34	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble. Posketbook, Putama & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot lifter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Pump, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit, electric, F. L. Pope. Railway rail fastening, H. L. De Zeng. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machiner, silk, E. W. Serrell, Jr 334,619, Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling machin	384,498 334,424 334,722 384,543 334,666 334,485 334,473 334,666 334,485 334,714 334,697 334,697 334,693 334,693 334,693 334,693 334,695 334,491 334,590 334,696 334,491 334,596 334,493 334,597 334,596 334,493 334,597 334,596 334,493 334,596 334,493 334,596 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,493 334,593 334,493 334,593
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Exectsing machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Ferdilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flooring and ceiling clamp, E. A. Reed. Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., L. N. Bachand. Fruit picker, Strong & Smith. Funnel, F. Catlin. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, top-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Glass panel, ornamentang, J. S. Roberts. Glove, etc., P. F. Cole. Gran binder, C. Whitney.	334,712 384,708 334,507 334,507 334,595 334,474 334,717 334,635 334,534 334,577 334,536 334,461 334,536 334,461 334,536 334,461 334,461 334,536 334,461 334,536 334,461 334,537 334,536 334,461 334,537 334,536 334,536 334,461 334,537 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,537 334,577 334,572 334,570 334,577 334,572 334,570 334,573 334,572 334,570 334,573	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,666 334,453 334,456 334,456 334,456 334,456 334,456 334,597 334,697 334,696 334,491 334,597 334,594 334,595 334,491 334,596 334,491 334,596 334,491 334,596 334,491 334,596 334,491 334,596 334,596 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,596
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence ovire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable. H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., I., N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Funnel, F. Catlin. Furnace. See Heating furnace. Locomotivefurnace. Gas apparatus, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, apparatus, A. O. Granger. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve fo	\$34,712 384,709 334,507 334,507 334,635 334,474 334,634 334,634 334,531 334,536 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,537 334,537 334,538	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plum, turning, F. W. Polle. Plumber's fitting, J. Noble. Pocketbook, Putnam & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot lifter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Pump, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway circuit. electric, F. L. Pope. Railway switches, operating mechanism for, W. B. S. Reed. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machinery, silk, E. W. Serrell, Jr 334,618, Reeling machinery, silk, E. W. Serrell, Jr 334,617, 334,618, Reeling machinery, silk, E. W. Serrell, Jr 334,617, 334,618, Reeling mechanism, C. H. Morgan. Refrigerator, J. Stephenson. Regulator. See Damper regulator. Electric machine regulator. Feed regulator. Pressure regulator. Ripping tool, J. Ruekstuhl. Roller mill, J. T. Obenchain. Rolling mill, wire rod, C. H. Morgan. Rolling tools, J. Ruekstuhl. Roller mill, J. T. Obenchain. Rolling mill, wire rod, C. H. Morgan. Rolling mill, wire	384,498 334,724 334,569 334,466 334,485 334,473 334,666 334,485 334,714 334,697 334,697 334,697 334,590 334,697 334,590 334,697 334,590 334,695 334,491 334,596 334,493 334,597 334,554 334,488 334,580 334,580 334,580 334,580 334,586 334,688 334,586 334,688 334,586 334,688
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Exectsing machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable. H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks; making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., L. N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, stop-off valve for, J. L. Chapman. Gas, stop-off valve for, J. L. Chapman. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. D. Pease. Glass surfaces, ornamenting, J. S. Roberts. Glove, etc., P. F. Cole. Gran binder, C. Whitney. Grapple, W. F. Kircher. Gun, magazine, J. M. Marlin Gun, magazine, J. M. Series.	\$34,712 384,709 334,507 334,507 334,635 334,474 334,634 334,634 334,531 334,536 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,458 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,536 334,537 334,537 334,538	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble	384,498 334,722 384,543 334,666 334,466 334,473 334,666 334,485 334,714 334,697 334,697 334,693 334,693 334,693 334,693 334,693 334,693 334,693 334,693 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,593 334,696 334,696 334,693
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch. Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, summer, G. H. Aylworth. Fare recorder and register, H. Marshall. Farm gate, T. B. Thorn. Feed regulator, boiler, M. Crawford. Fence making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable. H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks, making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., L. N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Funnel, F. Catlin. Furnace. See Heating furnace. Locomotivefurnace. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, burner, automatic safety, G. Doutney. Gas, manufacturing, A. O. Granger. Gas, spaparatus for producing, P. W. Mackenzie. Gas, spaparatus, A. O. Granger. Gas, spaparatus for producing, P. W. Mackenzie. Gas, spaparatus, For producing, P. W. Mackenzie. Gas, spaparatus, Gor producing, P. W. Mackenzie. Gas, spaparatus, A. O. Granger. Gas, spaparatus, A. O. Granger. Gas, spaparatus, See Bly. Generator. See Steam generator. Glass panel, ornamental, C. D. Pease. Glass panel, ornamental, C. D. Pease. Glass surfaces, ornamenting, J. S. Roberts. Glove, etc., P. F. Cole. Grain binder, C. Whitney. Grapple, W. F. Kircher. Gun, magazine, J. M. Marlin. Gun, magazine spring, S	334,712 384,708 334,507 334,5507 334,553 334,474 334,634 334,534 334,536 334,536 334,536 334,458 334,536 334,458 334,536 334,458 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,556 334,458 334,556 334,557 334,577	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plumber's fitting, J. Noble	384,498 334,724 334,543 334,669 334,663 334,473 334,666 334,485 334,714 334,697 334,697 334,697 334,590 334,697 334,590 334,697 334,590 334,697 334,590 334,590 334,590 334,597 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,555 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,653 334,557 334,563
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather	334,712 384,708 334,507 334,5507 334,553 334,474 334,634 334,534 334,536 334,536 334,536 334,458 334,536 334,458 334,536 334,458 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,458 334,556 334,556 334,458 334,556 334,557 334,577	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plow, sulky, G. H. Fowler. Plumber's fitting, J. Noble	384,498 334,493 334,543 334,569 334,453 334,473 334,666 334,485 334,714 334,697 334,697 334,697 334,697 334,696 334,491 334,696 334,491 334,597 334,590 334,696 334,491 334,597 334,596 334,491 334,597 334,596 334,491 334,596 334,493 334,597 334,596 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,498 334,596 334,698 334,596 334,698
Drier. See Clothes drier. Dropper. See Fertilizer dropper. Electric machine regulator, dynamo, R. H. Mather. Electrical cable, underground, Kruesi & Langton, Jr. Electrical cables, machine for making, Kruesi & Langton, Jr. Electrical conductors, manufacture of, H. R. Mason. Engraving machine, M. Bock. Excavator, S. F. Welch Exercising machine, E. N. Bowen. Fabrics, machine for singeing, J. Ryle. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Fan, automatic, P. Murray, Jr. Ferd regulator, boiler, M. Crawford. Ferce making machine, field, S. B. Cross. Fence, portable, L. W. Fisher. Fence, portable, L. W. Fisher. Fence wire stretcher, E. J. Miles. Fender. See Plow fender. Fertilizer dropper, tobacco, A. McNabb. File, distributing, R. F. Leaman. Filter bed, elevated, W. S. West. Firework stand, portable, H. C. Weeden. Fires in houses and vessels, apparatus for localizing and extinguishing, P. L. Palmer. Flood gate, M. A. Emmons. Flooring and ceiling clamp, E. A. Reed. Forks; making, T. E. Wawrinsky. Frame, See Skylight frame. Frame for draping fringe, etc., L. N. Bachand. Fruit picker, Strong & Smith. Fuel economizer, Lowcock & Sykes. Funnel, F. Catlin. Furnaces and stoves, heating attachment for, J. T. Greenwood. Gas apparatus, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, apparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, stop-off valve for, J. L. Chapman. Gate. See Farm gate. Flood gate. Gas, stop-off valve for, J. L. Chapman. Gas, spaparatus, A. O. Granger. Gas, spaparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, spaparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, spaparatus, A. O. Granger. Gas, spaparatus, A. O. Granger. Gas, spaparatus, A. O. Granger. Gas, spaparatus for producing, P. W. Mackenzie. Gas, manufacturing, A. O. Granger. Gas, manufacturing, A. O. Granger. Gas, spaparatus, A. O. Granger.	334,712 384,708 334,709 334,450 334,507 334,497 334,534 334,717 334,717 334,719 334,536 334,536 334,536 334,536 334,536 334,637 334,636 334,637	Plow fender, R. H. Avery. Plow, sulky, G. H. Fowler. Plug, turning, F. W. Polle. Plumber's fitting, J. Noble. Pocketbook, Putama & Hoffman. Post hole digger, W. & E. W. Gibbs. Postal clerks, practice case for, L. Rogers. Pot litter, J. B. Kibler. Potato digging machine, W. H. McCall. Press, J. Stewart Pressure regulator, fluid, G. Metzger. Printer's quoin, W. R. Whitmore. Printing tickets, apparatus for, J. P. Dunn. Privy seat, G. & J. Turnbull. Propeller, ship's, H. C. Bender. Propulsion of ships, F. Girein. Pump, I. W. Numan. Pump, hand force, A. Stevens. Pump, steam jet, J. A. Marsh. Punching device, R. Allstatter. Railway circuit. electric, F. L. Pope. Railway crossing, J. Gray. Railway rail fastening, H. L. De Zeng. Railway switches, operating mechanism for, W. B. S. Reed. Railway track clearer, J. Gray. Rake, H. P. Lander. Raking, hoeing, shoveling, and pitching, combined tool for, W. Heston. Rat trap, C. F. A. Kobelke. Recorder. See Fare recorder. Reel for coiling lead pipe, C. E. Heiss. Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling machinery, silk, E. W. Serrell, Jr 334,619, Reeling mechanism, C. H. Morgan. Refrigerator, J. Stephenson. Refrigerator, J. Stephenson. Refrigerator, J. Stephenson. Refulstor. See Damper regulator. Electric machine regulator. Feed regulator. Pressure regulator. Roller and pulverizer, combined, S. R. Houser. Roller mill, J. T. Obenchain. Rolling mill, wire rod, C. H. Morgan. Rolling tubes, machine for, S. P. M. Tasker. Rolling tubes, machine for, S. P. M. Tasker. Rolling tubes, machine for, S. P. M. Tasker. Rosanh balance, J. Weathers. Sash and door bolt, F. C. Robinson. Sash balance, J. Weathers. Sash fastener, J. Y. Bassell. Sash holder, M. A. Cutter. Saucepan and cover, G. A. Bradford. Saw, G. N. Clemson. Saw, A. B. Ireland. Sawmill feed carriage, G. M. Hinkley. Saws, machine for jointing and dressing circular, C. Schoch. Sawing machine, eiccular, G. M. Hinkley. Sawing machine, wood, S. P. Dresser.	384,498 334,722 384,543 334,609 334,666 334,485 334,473 334,666 334,486 334,411 334,697 334,697 334,697 334,590 334,697 334,590 334,697 334,590 334,697 334,590 334,697 334,590 334,590 334,597 334,554 334,554 334,554 334,554 334,554 334,554 334,554 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,696 334,697 334,697 334,696 334,696 334,697