#### Business and Personal.

The charge for Insertion under this head is (me 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 the following week's issue

The new material, "Linenoid," Westfield, Mass. "U. S." metal polish. Indianapolis Samples free. Best drying machines. S. E. Worrell, Hannibal, Mo. For pile driving engines. J. S. Mundy, Newark, N. J. Heading machinery. Trevor Mfg.Co., Lockport, N.Y. Microbe Killer Water Filter, McConnell Filter Co., Buffalo, N. Y.

Wanted-Light machinery or specialties to build. P. G. Fleming's Machine Works, Elizabeth, N. J.

Pipe frame truck baskets, steel and wooden trucks, etc. L. M. Moore, Rochester, N. Y. See page 157.

Wanted-A first class patented lock for folding paper

boxes. Address Boxes, care of Scientific American Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Screw machines, milling machines, and drill pre The Garvin Mach. Co., Laight and Canal Sts., New York. Centrifugal Pumps. Canacity, 100 to 40,000 gals, ner minute. Ali sizes in stock. IrvinVan Wie, Syracuse, N.Y. Carborundum - bardest abrasive known. Send for rices of wheels, powder, etc. The Carborundum Co.

Guild & Garrison, Brooklyn, N. Y., manufacture steam pumps, vacuum pumps, vacuum apparatus, air pumps, acid blowers, filter press pumps, etc.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4; Munn & Co., publishers, 361 Broadway, N.Y.

For the original Bogardus Universal Eccentric Mill, Foot and Power Presses, Drills, Shears, etc., address J. S. & G. F. Simpson, 26 to 36 Rodney St., Brooklyn, N. Y. Patent Electric Vise. What is claimed, is time saving.

No turning of handle to bring jaws to the work, simply one sliding movement. Capital Mach. Tool Co., Auburn, Competent persons who desire agencies for a new popular book, of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361

Broadway, New York, First class electrical, experimenting, en incering and draughting. New inventions developed. Careful, intelligent, and confidential work. Henry Van Hoevenbergh, 145 Elm St., New York.

For Sale-Patents on a line of goods handled by the hardware trade. I will sell all or part of the Eastern We cannot reach that territory to advantage. H.R. Van Eps, Peoria, Ill.

Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway New York. Free on application.



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.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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.

Hooks referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(5873) F. S. M. writes: 1. I am working Smee battery two 6×10 zinc and one carbon plate in 3 gallon jar. Is the jar large enough to obtain the best results. or would a larger jar be more economical? In silver plating brass forks, all of which were treated apparently precisely the same, some of them stripped entirely upon applying the burnisher, while the rest held the deposit nicely. Why? A. You would gain nothi g by a larger jar, except that your battery would run for a longer period before exbaustion, and would give naturally a more constant current, or one more lasting, owing to slowerexhaustion of the acid. You should have "quicked" your goods before plating. 2. What will cause brase articles to turn black and corrode in places when in the silver bath? A. Possibly want of cleanliness or irregularities in current strength. If spots appear while in the bath remove article, rinse, scratch brush, dip in cyanide of caustic soda solution, dip in quicking bath and start again. "Treatise on Electro Metallurgy," \$3.50 by gives many details.

(5874) A. W. B. asks: 1. The glass or joint snake, as it is sometimes called, will fly into pieces on being suddenly struck. I wish to know if an instance has ever been known where these pieces have united again, forming a perfect live snake (or lizard). A. We have no absolutely reliable record of such happening. See the SCIENTIFIC AMERICAN, September 3, 1887, 2, Will the Holtz electric machine generate electricity when to do so. The generation depends on the proper rela lation of the collectors and armatures.

(5875) J. H. T. writes: My house is wired for electric bells and burglar alarm, using a Leclanche battery of four jars. I want to place two or three automatic gas burners in cellar, etc., and would like to know whether I can make use of the same battery for this new gas lighting circuit? I would straight pieces of iron wire, and wind it with four or open circuit.

five pounds of No. 22 magnet wire. We can supply Badt's "Bell Hanger's Hand Book," price \$1, which treats on electric gas lighting apparatus.

(5876) P. G. asks: 1. What power can I xpect from a water motor of the Pelton type, diameter of wheel ten inches twelve buckets, water pressure eighty pounds, diameter of orifice one-quarter inch. A. Five eighths of a horse power. 2. What would be the speed with no load? A. Nearly 2,000 revolutions per minut . 3. What would be the power, if the pressure were increased to one hundred pounds and the diameter of the orifice increased to three eighths inch? A. Two horse

(5877) T. R. says: I have some mercury which is impure and adheres to the glass, render ing it useless for barometric purposes, for which I wish to employ it. Kindly state how it can be purified. A. Squeeze the mercary through chamois skin, then clean the mercury by covering with dilute nitric acid, one part of acid to three of water; allow the acid to remain on the mercury overnight. Pour off the acid and wash the mercury with water and remove the superfluous water with blotting paper.

(5878) L. M. B. asks: What power has a gasoline engine, double cylinder, 4 x 5 inches, at 300 revolutions, explosion every alternate stroke? What speed will above engine drive a 25 foot launch by 7 feet beam? What size propeller or wheel should I use? A. The gas engine is equal to 216 horse power. Will give a speed of about 4 miles per hour. Wheel should be 20 inches diameter and make 175 revolutions per minute.

(5879) J. W. T. writes: 1. My wife makes sirup (molasses) for table use. Taking four tea cups of New Orleans sugar, she puts it iuto a pan containing two teacupe of water, allowing it to boil to sirup It granulates when cool. Are there ingredients to prevent granulation? If so, how many and what is the theory of each? A. We suggest that you make your sirup by the cold process, or if by heat, that you use more water. Evaporation repeated often enough produces uncrystallizable sugar. A long cooking with addition of water from time to time would tend to produce genuine molasses. 2. Will pieces of zinc thrown in the stove rid the stove and stove pipe of soot? If so, what is the theory? How often should it be used? A. This we think is a fiction. No discernible action takes place in the direction of removing soot.

(5880) W. E. H. asks (1) how the broken end of any ocean cable is found. A. The end may be found by determin ng the resistance. Knowing the resistance pemile, the total resistance divided by this gives the disance of the break. If the conducting wire is parted within the insulation, the capacity is determined instead of resistance, and the location found by dividing this capacity by the capacity per mile of cable. 2. What, if any, difference between rocking and swinging motion? A. In swinging motion the body moves through the arc of a circle convex downward. In rocking, cycloidal curves are followed.

(5881) S. S. H. asks: 1. The proportion by volume of gas from gasoline and air that is used in the ordinary explosion engine? A. 30 to 40 vols. 2. The pressure per square inch exerted at moment of explosion? A. About 150 pounds per square inch. 3. The reason for using but one end of piston, or exploding in only one end of cylinder, and consequently exerting power on but half of each revolution? A. To avoid overheating. See SUPPLEMENT, Nos. 715 and 716, on the ga engine.

(5882) H. B. asks: 1. What are the elements in a battery using bisulphate of mercury in solution with water as exciting fluid? A. Zinc and carbon. 2. I have a polarized Leclanche porous cup that I have refilled with black oxide of manganese and powdered carbon, but it does not work. What is the reason it fails to fix it? A. Possibly your carbon was of poor quality or your binoxide of manganese may be poor. The pores of the cup may be choked. 3. What is the granulated chemical inside of the carbon cylinder of the Samson battery? A. Sal ammoniac.

(5883) J. C. W. writes: 1. Would it be any disadvantage to have the core to the field magnet to the motor described in the Supplement, No. 641, cast instead of built as therein directed? A. It would be a slight disadvantage, but might be counteracted by making the core thicker and shorter. 2. What fraction (approximately) of a horse power would it develop with 6 cells, plates 5 inches by 6 inches, of plunge battery connected in series? A. Two or three one-hundredths of a horse power. 3. Would that be sufficient power to run a wood-turning lathe, swing 6 inches and 3 feet bed, by belting upon a light countershaft? A. Yes: for light work, 4. In a tangent-spoked bicycle wheel are all the spokes subjected to an equal strain if the wheel is stationary and the weight, of course, being applied at the center? A. Yes; if nipples are properly set up

(5884) C. E. asks: On holding a piece of metal of some size closely against the vibrating spring We can supply books on the subject, such as McMillan's or iron armature of a large induction coil, sparks pass to the metal, although this is insulated from the circuit. Is this phenomenon due to the extra current of the primary wire? A. The phenomenon is one of discharge from the primary or from the condenser connected thereto

(5885) P. F. M. asks: 1. Can motor in SUPPLEMENT, No. 641, be used as a dynamo? If not, what changes are necessary? A. It should have a cast iron field or else have a separate exciting current for the field. 2. Can a storage battery be charged by a dynamo deriving its power from a windmill, or would the variaturned backward? If not, why? A. It is not arranged | tions of speed in the windmill cause trouble to the dynamo? A. It can be so charged, arrangements being provided to open the circuit if the windmill ran too

(5886) H. R. B. asks: Is there a difference between an electric bell that will ring only with two wires and one that will ring on a single wire, ground return? How many gravity cells will be required to ring it through 200 feet of copper wire No. 11 B. W. G. ? A. also like to know how to make a small spark coil to use | There is no difference. If for occasional and not conwith it. A. You can use the battery as described. For tinuous ringing, use two or three Leclanche cells. Three sparkcoil make a core 1/4 inch thick and 8 inches long, of or four gravity cells would answer, but would not do on

#### TO INVENTORS.

An experience of forty-tour years, and the preparation of more than one h ndred thousand applications for patents at home and abroad, enable us to laws and practice on both continents, and to possess un equaled facilities for procuring patents everywhere. synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices which are low, in accordance with the times and our ex-tensive facilities for conducting the business. Address MUNN & CO., office Scientific American, 361 Broad-

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Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Escapement wheel duplex, H. J. Eisen
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Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	rence wire stretcher, wyssinger & Baer
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Filter, H. Schneider
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Filtering apparatus, W. Balz
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	lor, Jr. 515,333 Fire generator, A. Mistaro. 51,763 Fireplace furnace or heater, open, G. R. Scates. 515,943 Figh spear, J. D. Droose
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Flies on animals, trap for R. H. Guthrie. 516,048 Floor washing mucbine, J. C. Garrott. 516,877 Flour bolt, S. D. Barr. 515,812
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Flywheel band brake, L. Luckhardt 516,915 Folding box, S. F. Sherman 516,124 Folding table, R. Ettinger 515,966
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	Food compound, J. J. Angus
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	or bag frame. Screen frame. Fruit cutter and press, F. D. Ridge
Garning machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gaming machine, R. J. Ladiaw Gas burner, automatic, G. Leyers Gear cutter, multiplex, U. & H. E. Eberhardt Gear cutter, multiplex, U. & H. E. Eberhardt Governor, engine, H. Aspinall Governor, etam engine, S. P. Lathrop Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Grinding and pollathing machine, C. F. Roper Hair purpor, T. Caldwell Hame book, P. B. Danworth Hame book, P. B. Danworth Hamener, See Pipe banger, Trolley wire hanger, Harwonica, month, G. Kaiser, Harworth, O. Henderson Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting or plantine pouch, King & Truitt Haryosting, N. O. Henderson Heater, No. Henderson Heater, Hot air and hot water heater, Por- Heating apparatus, electric, A. E. Appleyard Haryosting, N. O. Henderson Heater, A. C. Mott Heating apparatus, bot water, J. C. Norton Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Heating apparatus, bot water, J. C. Norton Heater, See Curlink iron heater, Electrical Hollow articles, apparatus for manufacturing, M. A. Jucet-Pastre Hook, See Hame hook. Hot variation and how water heater, Por- Heating apparatus, bot water, J. C. Norton House of the Haryon and the Harthy Haryon and house heater Hollow articles, Liber and house heater Hollow artic	automatic, W. H. Cooke
Gas burner lighting device, G. I. Ewers. 515,779 Gate. See Bridge gate. Swinging gate. Gate. See Bridge gate. Swinging gate. Generator. See First enerator. Glover astener, G. E. Banforth. 515,906 Generator. See First enerator. Glover fastener, G. E. Banforth. 515,907 Governor, steam engine, S. P. Lathrop. 515,907 Governor, steam engine, S. P. Lathrop. 515,908 Governor, steam engine, S. P. Lathrop. 515,908 Grate bar, E. J. St. John. Wide. 515,607 Grate bar, E. J. St. John. Wide. 515,618 Grate bar, E. J. St. John. Wide. 515,618 Grate bar, E. J. St. John. Wide. 515,618 Griding and pollishing machine, C. F. Roper. 516,188 Hair ourier, E. Deucher. 515,908 Hair ourier, E. Deucher. 515,908 Hair ourier, E. Deucher. 515,908 Hanger. See Pipe hanger. Trolley wire hanger. Harmonica, month, G. Kaiser. 516,908 Har ventilage of planting pouch, King & Truitt. 516,909 Hat. ventilage of L. H. Devies. 516,909 Hat. ventilage of L. H. C. Bevy. 516,909 Hat. Devies. 516,909 Hat. Devie	Furnace for roasting and distilling refractory ores, A. Spier
Gas burner lighting device, G. I. Ewers. 515,779 Gate. See Bridge gate. Swinging gate. Gate. See Bridge gate. Swinging gate. Generator. See First enerator. Glover astener, G. E. Banforth. 515,906 Generator. See First enerator. Glover fastener, G. E. Banforth. 515,907 Governor, steam engine, S. P. Lathrop. 515,907 Governor, steam engine, S. P. Lathrop. 515,908 Governor, steam engine, S. P. Lathrop. 515,908 Grate bar, E. J. St. John. Wide. 515,607 Grate bar, E. J. St. John. Wide. 515,618 Grate bar, E. J. St. John. Wide. 515,618 Grate bar, E. J. St. John. Wide. 515,618 Griding and pollishing machine, C. F. Roper. 516,188 Hair ourier, E. Deucher. 515,908 Hair ourier, E. Deucher. 515,908 Hair ourier, E. Deucher. 515,908 Hanger. See Pipe hanger. Trolley wire hanger. Harmonica, month, G. Kaiser. 516,908 Har ventilage of planting pouch, King & Truitt. 516,909 Hat. ventilage of L. H. Devies. 516,909 Hat. ventilage of L. H. C. Bevy. 516,909 Hat. Devies. 516,909 Hat. Devie	Games, score card for football, A. A. Irwin
Governor, engine, H. Aspinall.  Governor, team engine, S. P. Lathrop.  515,934 Grain heading machine, F. W. Nessly.  515,936 Grain heading machine, F. W. Nessly.  515,936 Grain heading machine, D. Wilde.  516,436 Grain bear, E. St. John.  Grain bear, F. St. John.  Grain bear, E. St. John.  516,937 Hair curier, E. Deucher.  516,938 Hair pin, T. Caldwell.  515,938 Hair pin, T. Caldwell.  515,937 Hammer, drop, E. W. Merrill.  Hamer one, E. Pipe hanger.  Hamerone, B. W. Merrill.  Hamerone, B. W. Merrill.  Hamerone, E. W. Merrill.  Hamerone, E. W. Merrill.  Harmone, E. G. W. Merrill.  Heater, See Curlins fron heater.  Electrical and how water heater.  Fortheating apparatus, hot air, S. H. La Rue.  516,077  Heating apparatus, hot water, J. C. Norton.  516,081  Heating apparatus, hot water, J. C. Norton.  516,082  Heating apparatus, hot water, J. C. Norton.  516,083  Heating apparatus, hot water, J. C. Norton.  516,083  Heating apparatus, hot water, J. C. Norton.  516,081  Heating apparatus, hot water, J. C. Norton.  516,082  Heating apparatus, hot water, J. C. Norton.  516,083  Heating apparatus, hot water, J. C. Norton.  516,087  Heating apparatus, hot water, J. C. Norton.  516,08	Gas burner heating attachment, E. Copland 515,155 Gas burner lighting device, G. I. Ewers 515,759 Ga ængine, Hartley & Kerr 515,770 Gate. See Bridge gate. Swinging gate.
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Gear cutter, multiplex, U. & H. E. Eberhardt
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Governor, steam engine, S. P. Lathrop. 515,364 Grain heading machine, F. W. Nessly. 515,871 Grain meter, oscillating, D. Wilde. 516,143
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Grinding and polishing machine, C. F. Roper. 516,168 Hair curler, E. Deucher 515,998 Hairpin, T. Caldwell 515,746
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Hammer, drop, E. W. Merrill
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Harvesting or planting pouch, King & Truitt. 516,097 Hat, ventilated, C. H. Davies. 516,063 Hatchway, self-closing, W. R. Wemple. 516,037 Hay curling machine, K. Wessel. 515,891
Heating apparatus, hot air, S. H. 1s & Sue. 516,051 Heel nast, G. A. Curtis. 515,621 Heel nast, G. A. Curtis. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 515,821 Hitching poet, L. W. Cline. 516,066 Holos. See Hame hook. 516,066 Horseshee, Z. Birdsall. 516,066 Horseshee, Z. Birdsall. 516,066 Hose coupling, R. F. O'Meara. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hose fastaning, A. L. Bally. 515,838 Hot air and hot water heater, combined, A. C. Mott. 516,069 Hub attaching device, S. Robinson. 515,069 Hydraulic motor, E. C. Nichols. 516,069 Hydraulic motor, E. C. Nichols. 516,060 Holos. 516,060 Hydraulic motor, See Street or station indicator. 516,060 Hydraulic hydra	Hay loader, N. O. Henderson
Hook. See Hame hook. Horseshoe, Z. Birdsall	Heating apparatus, electric, A. E. Appleyard
Hot air and bot water heater, combined, A. C. Mott. Mott. 516,089  Hot water furnace, A. C. Mott. 516,089  Hydrocarbon burner, W. H. Ames. 516,082  Hydrocarbon burner, W. H. Ames. 516,083  Hydrocarbon burner, C. J. Mullshey. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Ice breaker for tings, et. L. C. Bovy. 516,387  Implement, compound pocket, J. C. Schlarbaum. 515,973  Implement, compound pocket, J. C. Schlarbaum. 515,973  Implement, compound pocket, J. C. Schlarbaum. 516,080  Incandescent elements, composition for, Craw. 516,080  Incandescent elements, making, Crawford & Sohm. 516,080  Insulator, Strain, H. H. Luscomb. 516,779  Ironing table, J. M. Moore. 515,869  Jack. See Wasgon jack. 516,080  Insulator, Strain, H. J. Luscomb. 516,080  Killn, See Wasdon jack. 516,080  Killn, See Wasdon jack. 516,080  Killn, See Malt killn. 516,086  Killn, See Pocket knife. Table knife. 516,086  Killting machine, straight, Wilson & Hutchinson 516,144  Knitting machine, electric stop motion for, A. A. Merritt. 516,086  Knitting machines, electric stop motion for, S. 516,086  Knitting machines, electric stop motion for, A. A. Merritt. 516,086  Knitting machines, electric stop motion for, S. 516,086  Land, electric alvo, S. 516,086  Land, electric alvo, S	Hitching post, L. W. Cline
Hot water furnace, A. C. Mott	HOSE I ascening, A. D. Dany
ford & Bohm Incandescent elements, making, Crawford & Bohm Incandescent elements, making, Crawford & Bohm Incandescent elements, making, Crawford & Bohm Index purposes, slip cutter for, A. J. Rudolph. 516,119 Indicator. See Street or station indicator. Insulator, Strain, H. H. Luscomb. 515,779 Ironing table, J. M. Moore. 515,779 Ironing table, J. M. Moore. 515,669 Jack. See Wagon jack. Jar holder, J. A. Parry. Joint. See Electric cable joint. Railway rail joint. Joints, means and method of maintaining tight, E. Stowell. 516,668 Keybole guide, J. L. Easley 516,668 Killn. See Malt killn. See Malt killn. See Malt killn. See Malt killn. Snife. See Pocket knife. Table knife. Knives or kindred articles of cutlery, making, E. C. Lombard. 515,635 Knitting machine, straight, Wilson & Hutchinson 516,144 Lacing fastener, shoe, S. J. Simmons. 515,840 Lacing fastener, shoe, S. J. Simmons. 515,544 Ladder, extension, J. B. Moore. 515,783 Lamp, electric arc, J. J. Wood. Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,960 Lead furner, A. W. Gitchell. 516,068 Level and key seat rule, F. Schaefer. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,124 Lifter. See Plate lifter. Liquors. apparatus for cooling and aerating, P. Hildenbrand. Lock. See Nut lock. 106, W. Stafford. 516,162 Level and key seat rule, F. Schaefer. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,124 Lifter. See Plate lifter. Liquors. apparatus for cooling and aerating, P. Hildenbrand. 515,861 Loom shedding mechanism, G. W. Stafford. 516,162 Level and key seat rule, F. Schaefer. 516,024 Level and key seat rule, F. Schaefer. 516,024 Level and key seat rule, F. Schaefer. 516,026 Loom shedding mechanism, G. W. Stafford. 516,162 Loom shedding mechanism, G. W. Stafford. 516,162 Lubricator, M. F. Nester. 516,027 Match stick bunching machine, E. H. Elsenbart. 516,028 Match stick bunching machine, E. H. Elsenbart. 515,762 Match stick bunching machine, G. Dunham. 515,762 Meter. See Grain meter. 516,024 Multing machines, D. Hepp. 516	Mott
ford & Bohm Incandescent elements, making, Crawford & Bohm Incandescent elements, making, Crawford & Bohm Incandescent elements, making, Crawford & Bohm Index purposes, slip cutter for, A. J. Rudolph. 516,119 Indicator. See Street or station indicator. Insulator, Strain, H. H. Luscomb. 515,779 Ironing table, J. M. Moore. 515,779 Ironing table, J. M. Moore. 515,669 Jack. See Wagon jack. Jar holder, J. A. Parry. Joint. See Electric cable joint. Railway rail joint. Joints, means and method of maintaining tight, E. Stowell. 516,668 Keybole guide, J. L. Easley 516,668 Killn. See Malt killn. See Malt killn. See Malt killn. See Malt killn. Snife. See Pocket knife. Table knife. Knives or kindred articles of cutlery, making, E. C. Lombard. 515,635 Knitting machine, straight, Wilson & Hutchinson 516,144 Lacing fastener, shoe, S. J. Simmons. 515,840 Lacing fastener, shoe, S. J. Simmons. 515,544 Ladder, extension, J. B. Moore. 515,783 Lamp, electric arc, J. J. Wood. Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,960 Lead furner, A. W. Gitchell. 516,068 Level and key seat rule, F. Schaefer. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,124 Lifter. See Plate lifter. Liquors. apparatus for cooling and aerating, P. Hildenbrand. Lock. See Nut lock. 106, W. Stafford. 516,162 Level and key seat rule, F. Schaefer. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,124 Lifter. See Plate lifter. Liquors. apparatus for cooling and aerating, P. Hildenbrand. 515,861 Loom shedding mechanism, G. W. Stafford. 516,162 Level and key seat rule, F. Schaefer. 516,024 Level and key seat rule, F. Schaefer. 516,024 Level and key seat rule, F. Schaefer. 516,026 Loom shedding mechanism, G. W. Stafford. 516,162 Loom shedding mechanism, G. W. Stafford. 516,162 Lubricator, M. F. Nester. 516,027 Match stick bunching machine, E. H. Elsenbart. 516,028 Match stick bunching machine, E. H. Elsenbart. 515,762 Match stick bunching machine, G. Dunham. 515,762 Meter. See Grain meter. 516,024 Multing machines, D. Hepp. 516	Hydrocarbon burner, W. H. Ames
Incandescent elements, making, Crawford & Bohm   S16,079     Indicator   See Street or station indicator   Insulator, strain, H. H. Luscomb   S15,779     Ironing table, J. M. Moore   S55,689     Jack   See Wagon jack   Jarholder, J. A. Parry   S16,168     Joint   See Electric cable joint   Railway rail joint     Joint   See Electric cable joint   Railway rail joint     Joint   Stewell   Stewell   S15,887     Keyhole guide, J. L. Easley   S16,086     Kilin   See Malt klin   Knife   See Malt klin     Knife   See Pocket knife   Table knife     Knives or kindred articles of cutlery, making, E     C. Lombard   Statish   Statish   S15,835     Knitting machine, straight, Wilson & Hutchinson   S16,144     Knitting machine, straight, Wilson & Hutchinson   S16,144     Knitting machine, straight, Wilson & Hutchinson   S15,835     Ladder extension   J. B. Moore   S15,835     Ladder extension   J. B. Moore   S15,835     Ladder extension   J. B. Moore   S15,835     Lamps, automatic cut-out for incandescent, E     H. Johnson   S15,835     Latch   H. Arnet   S15,836     Levels, adjustable index for spirit, H. Wheeler   S16,038     Loom shedding mechanism, G. W Stafford   S16,138     Loom shedding mechanism, G. W Stafford   S16,138     Lubricator, J. F. Evans   S16,136     San J. Kauffmann   S16,138     Mail kiln and method of drying malt, W. H. Prinz   S16,138     Mail kiln and method of drying malt, W. H. Prinz   S16,138     Mail kiln and method of mal apparatus for   S16,138     Mould	
Joint. Joints, means and method of maintaining tight, E. Stowell. E. Stowell. E. Stowell. Keybole guide, J. L. Easley. Killn. See Malt killn. Knife. See Pocket knife. Table knife. Knives or kindred articles of cutlery, making. E. C. Lombard. Knitting machine, straight, Wilson & Hutchinson S16,144 Knitting machine, straight, Wilson & Hutchinson S16,144 Knitting machine, electric stop motion for, A. A. Merritt. A. Merritt. A. Merritt. Lacing fastener, shoe, S. J. Simmons. Sil5,845 Ladder, extension, J. B. Moore. Sil5,845 Lamp, electric arc, J. J. Wood. Lamps, automatic cut-out for incandescent, E. H. Johnson. Sil5,940 Lemps, automatic cut-out for incandescent, E. H. Johnson. Letch, H. Arnet. Sil5,940 Level and key seat rule, F. Schaefer. Sil6,122 Levels, adjustable index for spirit, H. Wheeler. Liquors, apparatus for cooling and aerating, P. Hildenbrand. Lock. See Nut lock. Logs, rossing, E. C. Hargrave. Sil6,142 Loom shedding mechanism, G. W. Stafford. Sil6,143 Lubricator, J. F. Evans. Sil6,144 Lubricator, J. F. Evans. Sil6,145 Lubricator, J. F. Evans. Sil6,146 Lubricator, J. F. Evans. Sil6,147 Lubricator, J. F. Evans. Sil6,148 Lubricator, J. F. Evans. Sil6,149 Lubricator, J. F. Evans. Sil6,140 Martising and method of drying malt, W. H. Pring. Mait kiln and method of drying malt, W. H. Pring. Mait kiln and method of drying malt, W. H. Pring. Maiting grain, method of and apparatus for, W. Matter, See Grain meter. Mill. See Rolling mill. Mine door, G. D. Warren Mill. See Rolling mill. Mout. See Rubber mould. Mortising machine, D. Hepp. Motor. See Current motor. Electric motor. Hydraulic motor. Toy motor. Wave motor. Mower, rotary lawn, A. B. Schermerhorn. Sic. 348 Nut polishing or edging machine, G. Dunham. Sil5,349 Organ, place, E. Howard. Sil5,349 Package for goods, J. W. Kirkpatrick. Sil5,350 Package for goods. J. W. Kirkpatrick. Sil5,350 Package for goods. N. Pelletier. P	
Joint. Joints, means and method of maintaining tight, E. Stowell. E. Stowell. E. Stowell. Keybole guide, J. L. Easley. Killn. See Malt killn. Knife. See Pocket knife. Table knife. Knives or kindred articles of cutlery, making. E. C. Lombard. Knitting machine, straight, Wilson & Hutchinson S16,144 Knitting machine, straight, Wilson & Hutchinson S16,144 Knitting machine, electric stop motion for, A. A. Merritt. A. Merritt. A. Merritt. Lacing fastener, shoe, S. J. Simmons. Sil5,845 Ladder, extension, J. B. Moore. Sil5,845 Lamp, electric arc, J. J. Wood. Lamps, automatic cut-out for incandescent, E. H. Johnson. Sil5,940 Lemps, automatic cut-out for incandescent, E. H. Johnson. Letch, H. Arnet. Sil5,940 Level and key seat rule, F. Schaefer. Sil6,122 Levels, adjustable index for spirit, H. Wheeler. Liquors, apparatus for cooling and aerating, P. Hildenbrand. Lock. See Nut lock. Logs, rossing, E. C. Hargrave. Sil6,142 Loom shedding mechanism, G. W. Stafford. Sil6,143 Lubricator, J. F. Evans. Sil6,144 Lubricator, J. F. Evans. Sil6,145 Lubricator, J. F. Evans. Sil6,146 Lubricator, J. F. Evans. Sil6,147 Lubricator, J. F. Evans. Sil6,148 Lubricator, J. F. Evans. Sil6,149 Lubricator, J. F. Evans. Sil6,140 Martising and method of drying malt, W. H. Pring. Mait kiln and method of drying malt, W. H. Pring. Mait kiln and method of drying malt, W. H. Pring. Maiting grain, method of and apparatus for, W. Matter, See Grain meter. Mill. See Rolling mill. Mine door, G. D. Warren Mill. See Rolling mill. Mout. See Rubber mould. Mortising machine, D. Hepp. Motor. See Current motor. Electric motor. Hydraulic motor. Toy motor. Wave motor. Mower, rotary lawn, A. B. Schermerhorn. Sic. 348 Nut polishing or edging machine, G. Dunham. Sil5,349 Organ, place, E. Howard. Sil5,349 Package for goods, J. W. Kirkpatrick. Sil5,350 Package for goods. J. W. Kirkpatrick. Sil5,350 Package for goods. N. Pelletier. P	Indicator. See Street or station indicator. Insulator, strain, H. H. Luscomb
Knites of kinded articles of cutlery, making, E. C. Lombard	Jar holder, J. A. Parry
Knitting machine, straight, Wilson & Hutchinson 515,835 Knitting machine, straight, Wilson & Hutchinson 516,144 Knitting machines, electric stop motion for, A. A. Merrit. 515,845 Lacing fastener, shoe, S. J. Simmons. 515,848 Ladder, extension, J. B. Moore. 515,859 Lamp, electric arc, J. J. Wood. 515,860 Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,960 Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,960 Leaf, H. Arnet. 515,960 Leaf turner, A. W. Gitchell. 515,960 Level and key seat rule, F. Schaefer. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,124 Lougr. see Plate lifter. Liquors. apparatus for cooling and aerating. P. Hildenbrand. Lock. See Nut lock. 515,860 Loom sheedding mechanism, G. W. Stafford. 516,169 Loom selectrically, apparatus for forming sheds. 516,169 Lubricator, J. F. Evans. 516,169 Lubricator, J. F. Evans. 516,169 Lubricator, J. F. Evans. 516,169 Mait kiln sod method of dryling mait, W. H. Prinz. 515,840 Mait kiln sod method of dryling mait, W. H. Prinz. 515,840 Math sick bunching machine, E. H. Elsenbart. 515,960 Match stick bunching machine, G. Dunham. 516,082 Moutising machine, D. Hepp. 516,082 Moutising machine, G. Dunham. 515,760 Ore concentrator. C. G. Pingel. 516,082 Nut polishing or edging machine, G. Dunham. 515,760 Ore concentrator. C. G. Pingel. 516,082 Padlewheel, boat. N. Velletier. 5	E. Stowell 515.887 Keybole guide, J. L. Easley 516,086 Kiln. See Malt kiln. 516,086 Knife, See Pocket knife, Table knife.
Lacing fastener, shoe, S. J. Simmons. 515,848 Ladder, extension, J. B. Moore. 515,783 Lamp, electric arc, J. J. Wood. 515,860 Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,865 Learby automatic cut-out for incandescent, E. H. Johnson. 515,865 Leach Jress, H. B. Cobb. 515,865 Lear furner, A. W. Gitchell. 516,008 Level and key seat rule, F. Schaefer. 516,024 Level, adjustable index for spirit, H. Wheeler. 516,024 Levels, adjustable index for spirit, H. Wheeler. 516,122 Lifter. See Plate lifter. 516,122 Lifter. See Plate lifter. 516,122 Liquors, apparatus for cooling and aerating, P. Hildenbrand. 516,122 Look. See Nut lock. 100,100,100,100,100,100,100,100,100,100	
Leaf turner, A. W. Gitchell. 516,08 Leaf turner, A. W. Gitchell. 516,08 Level and key seat rule, F. Schaefer. 516,084 Levels, adjustable index for spirit, H. Wheeler. 516,084 Levels, adjustable index for spirit, H. Wheeler. 516,084 Levels, adjustable index for spirit, H. Wheeler. 516,082 Lifter. See Plate lifter. Liquors, apparatus for cooling and aerating, P. Hildenbrand. Lock. See Nutlock. 516,082 Loom spirit, H. W. Stafford. 516,082 Loom shautle, O. Tper Loom shuttle, O. Tper Lubricator, J. F. Evans. 516,087 Lubricator, J. F. Evans. 516,087 Lubricator, J. F. Nester. 516,087 Mait him and method of drying mait, W. H. Fring. 515,840 Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and method of and apparatus for, W. Mait him and hi	A. Merritt. 545,965 Lacing fastener, shoe, S. J. Simmons. 515,844 Ladder, extension, J. B. Moore. 515,783
Hildenbrand Lock See Nut lock Loom sharpers mother Loom sharpers m	Lamps, automatic cut-out for incandescent, E. H. Johnson. 515,980 Latch, H. Arnet. 515,986
Hildenbrand Lock See Nut lock Loom sharpers mother Loom harness mother Loom sharpers mo	Leaf turner, A. W. Gitchell
Malting grain, method of and apparatus for, W. H. Prinz	Hildenbrand
Malting grain, method of and apparatus for, W. H. Prinz	Loom harness motion, J. Magee
Malting grain, method of and apparatus for, W. H. Prinz	Looms electrically, apparatus for forming sheds  ** in, J. Kauffmann 51,775 Lubricator, J. F. Evans 516,687 Lubricator, M. F. Nester 516,104
Metal working, electric, Lemp & Meody	Malting grain, method of and apparatus for, W.
Mine door, G. D. Warren 516,098 Mirror, G. L. Hills 516,098 Mould. See Rubber mould. 516,098 Mould. See Current motor. Electric motor. Hydraulic motor. Toy motor. Wave motor. Hydraulic motor. Toy motor. Wave motor. Mower, rotary lawn, A. B. Schermerhorn 516,798 Mowln machine attachment, W. Storey 515,898 Nail. See Heel nail. Nut lock, B. F. Sweet. 515,898 Nut polishing or edging machine, G. Dunham 515,759 Offer concentrator, C. G. Pingel. 516,999 Ore concentrator, C. G. Pingel. 516,999 Organ, pipe, E. Howard. 516,999 Packag ef or goods, J. W. Kirkpatrick. 515,898 Pad. See Pouncing pad. Paddlewheel, boat. N. Pelletier. 515,898 Pamp blet wheel, boat. N. Pelletier. 515,898 Pamp blet wheel, boat. N. Pelletier. 515,898	Match stick bunching machine, E. H. Eisenhart 515,750
Motor. See Current motor. Electric motor.  Hydraulic motor. Toy motor. Wave motor.  Hydraulic motor. Toy motor. Wave motor.  Mower, rotary lawn. A. B. Schermerhorn. 515.796  Mowin machine attachment, W. Storey. 515.896  Nail. See Heel nail.  Nut lock. B. F. Sweet. 515.896  Nut polisning or edging machine, G. Dunham 515.796  Oller for shatting, mechanical, G. H. Cole. 535.796  Orle concentrator, C. G. Pingel. 516.897  Organ, pipe, E. Howard. 515.897  Packag ef or goods, J. W. Kirkpatrick. 515.897  Pad. See Pouncing pad.  Paddlewheel, boat. N. Pelletier. 515.887  Fampllet stapling machine, D. A. Flavell. 515.897	Mine door, G. D. Warren 516,08 Mirror, G. L. Hills 516,08 Mould See Rubber mould
Mown   machine attachment, w. Storey	Motorsing machine, D. Hepp. 516,012 Motor. See Current motor. Electric motor. Hydraulic motor. Toy motor. Wave motor. Mower: rotary lawn. A. B. Schermerhorn. 516,79
Oller for shalting, mechanical, G. H. Cole. 36.74 Ore concentrator, C. G. Pingel. 56.14 Orean, pipe, E. Howard. 515.85 Packag e for goods, J. W. Kirkpatrick. 515.85 Pad. See Pouncing pad. 515.89 Paddlewheel, boat. N. Pelletier. 515.88 Pamp let stapling machine, D. A. Flavell. 516.16 Paper holder, roll, 8. Wheeler. 515.48 Paper pail making machine, E. Hobbard. 515.48 Faper pail making machine, E. Hobbard. 515.48 Fayer pail making machine, E. Hobbard. 515.48 Fayer pail making machine, E. M. Bruner. 215.80 Easterney artificial stone, P. M. Bruner. 215.80	Mowin machine attachment, W. Storey
Pad. See Pouncing pad. Paddlewheel, boat. N. Pelletier. 515.88 Pamphlet stapling machine, D. A. Flavell. 516.186 Paper holder, roll, S. Wheeler. 515.841 Paper mill stuff chest. E. L. Navage. 515.441 Paper pail making machine, E. Hubbard. 515.65 Pavement, artificial stone, P. M. Bruner. 515.00	Oller for shatting, mechanical, G. H. Cole. 535.7% Ore concentrator, C. G. Pingel. 516.12 Organ, pipe, E. Howard. 515.98
Paper mill stuff chest, E. L. Savage. 515,46 Paper pail making machine, E. Hubbard. 515,46 Pavement, artificial stone, P. M. Bruner. 515,06	Pad. See Pouncing pad. Paddlewheel, boat. N. Pelletier
The same of the sa	Paper holder, roll, S. Wheeler. 515-24  Paper mill stuff cheet, E. L. Savage. 515-34  Paper pail making machine, E. Hubbard. 515-55  Pavement, artificial stone, P. M. Bruner. 505-50  Penholder finger rest, M. Goetze. 516,00

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Photographic apparatus, coin-controlled, J. W. Burton	515,8 <b>11</b> 516,076 515,026	
Piano or organ case, upright, W. T. Smith. Picker. See Fruit picker. Pin. See Hairpin. Pipe de liling and tapping tool, M. F. Smith. Pipe banger, steam, S. O'Brien. Pipe nipples, device for holding. T.Gibney. Planter furrow closing attachment, corn, A. W. Trotter. Pate lifter, A. W. & H. L. Burnbam. Plow, M. P. M. Davis. Plow, R. Finot.	515,976 515,922 515,826	
Trotter.  Plate lifter, A. W. & H. L. Burnbam.  Plow, M. P. M. Davis.  Plow, R. Finot.  Pocket knife, B. Von Bultzingslowen	516,067 515,902 515,752 515,876 515,743	
Polishing machines, article fiolding table for, F. H. Barnard Portable heater, J. Graves. Post. See Hitching post. Pouncing pad. flexible, G. E. Brush	515,986 516,010 515,992	
Power, electrical transmission of, C. F. Scott Preserving food by cold, etc., F. M. Peck. Press. See Baling press. Lead press. Press for veneers, etc., J. J. Hayes Printer's chase, J. W. Osborne	515,885 515,789 516,012 516,106	
Printing marcine, municolor, J. Davies. Printing presses, adjustable roll for. P. Splithoff Pulley, differential, L. Kleritj. Pump, J. S. Losch. Pump, air compressor beer, J. Braun. Pumpling and pinking machine E. B. Stimpson.	516,127 516,098 516,162 515,740 515,927	
Purse or bag frame, Mergott & Hiering Puzzle, H. Walton. Radiator, electric, S. B. Jenkins. Railway rail joint, Muehlfeith & Ibel Railway signal, E. W. Harden.	515,918 516,035 516,095 515,785 516,049	
Railway signal, R. S. Wiles. 515,807, Railway switch, S. W. Harden. Railway switch, shifting, H. E. Lowe. Railway tie, J. Dyson. Ranke boiler, G. Booth.	515,808 516,050 516,100 516,001 516,073	
H. Barnard Portable heater, J. Graves. Post. See Hitching post. Pouncing pad. flexible, G. E. Brush. Power, electrical transmission of C. F. Scott. Preserving food by cold, etc., F. M. Peck. Press. See Baling press. Lead press. Press for veners, etc., J. Hayes. Printing machine, multicolor, J. L. Davies. Printing machine, multicolor, J. L. Davies. Printing presses, adultable roll for. P. Splithoff. Pulley, differential, L. Kieritj. Pump, J. S. Losdon. Pump, air compressor beer, J. Braun. Punching and pinking machine, E. B. Stimpson. Purse or bag frame, Mergott & Hiering. Puzzle, H. Walton. Radiator, electric, S. B. Jenkins. Railway rail joint, Muehlfeith & Ibel Railway signal, E. W. Harden. Railway switch, S. W. Booth. Recorder. See Cash resorder. Time recorder. Register. See Cash resorder. Time recorder. Register. See Cash resorder. Fine register. Regilator. See Electric current regulator. Ribbon bolder, A. E. Hartzell. Roads, machine for making or repairing, M. G. Bunnellion.	516,051 515.744	
Bunnell.  Rod. See Violoncello rod. Roller. See Shade roller. Rolling mill, continuous, W. H. Maddock Roofs or masonry, composition of matter for coating, J. Daymon	515,917 515,859	
Rotary engine, R. Z. Pooler. Rubber mould or pattern and manufacturing same M. Smith. Rubber moulds and patterns, apparatus for the manufacture of M. Smith. Reference of M. Smith.	516,022 516,028 516,029 515,078	
Sash cord guide, C. Wolcott. Sash holder, J. F. Blurrlund Scaffold, E. Bonnlender Scale, hydrostatic, J. H. Digeon Scraper, road, W. H. Diedrick	515,809 516,173 515,738 515,763 515,999	
Roller. See Shade Folier. Rolling mill, continuous, W. H. Maddock. Roofs or masoury, composition of matter for coating, J. Daymon Rotary engine, R. Z. Pooler. Rubber mould or pattern and manufacturing same M. Smith. Rube moulds and patterns, apparatus for the manufacture of, M. Smith. Rule, calculating, E. F. Steck. Sash cord guide, C. Wolcott. Sash cord guide, C. Wolcott. Sash holder, J. F. Blurlund. Scaffold, E. Bomlender. Scale, hydrostatic, J. H. Digeon. Scraper, road, W. H. Diedrick. Scraper, wheeled, J. R. Williams. Scrapers, lock and dumping mechanism for wheeled, A. F. Bernard. Screw, R. Stilwell. Seal, W. L. Carr. Sealing device, bottle, G. A. Boyden. Seat. See Car seat. Cycle saddle.	515,982 516,044 515,814 516,134	
Seally device, bottle, G. A. Boyden. Seat. See Car seat. Chair seat. Cycle saddle seat. Seeding machine, A. Lindgren. Separator. See Bean separator.	515,9	
Separator. See Bean separator. Sewing machine, A. E. Lindner. Shade roller, D. Lauer. Shargening razors, shears, etc., machinefor, C. A. Worden. Shutter bower, R. Zoll.	516,020 516,018 516,146 516,148	i
Stargen of razors, snears, etc., machineror, C. A. Worden Shutter bower, R. Zoll Sign, fence, J. W. Wilson Sign, street car, Rauch & Keith Signal. See Railway signal. Switch signal. Signal box, electric, T. F. Gaynor Signaling and communication, system for, T. F. Gaynor.	515,945 515,967 515,762 515,761	
Signaling and communication, system for, T. F. Gaynor. Sleigh, hob. J. H. Jackson Smokestack hood, Perree & English Soda crystals, making, H. R. Browne. Spinning spindle supporting device, R. Atherton. Sprinz. See Treadle spring. Stamp mill mortar, H. Bolthoff. Stay, dress, F. W. Lyon. Stay, dress, F. W. Lyon. Steam boiler or generator, C. D. Mosher. Steam by electricity, apparatus for generating.	516,094 516,062 516,075 516,042	
Stamp mill mortar, H. Bolthoff	515,896 515,916 515,804 515,784	
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Telephone directory holder, C. C. McCloskey, Jr Telephone exchange system, E. Pope. Telephone receiver, C. Selden. Telephone system, B. Pope. Tent pole, A. S. Comstock. Thermostat, E. Barney. Thread holder and cutter, D. R. Porter.	515,921 515,939 515,797 515,940 516,078	
Thermostat, E. Barney Thread holder and cutter, D. R. Porter. Tie. See Railway tie. Time recorder, employe's, N. M. Watson. Tire, pneumatic, J. J. Fox.	516,043 515,790 515,805 515,908	
Tool, combination, H. W. Smith. Tool or implement holder, L. M. Burbank. Tooth, artificial. C. F. Rutterford. Torpedowrapper, J. Cook. Toy motor, automatic. H. Hensel.	515,799 515,817 516,120 515,981 515,956	i
The ad noticer and cutter, D. R. Porter Tie. See Rallway tie. Time recorder, employe's, N. M. Watson. Tire, pneumatic, J. J. Fox. Toilet sets, supporting frame for, N. O. Bond. Tool, combination, H. W. Smith. Tool or implement holder, L. M. Burbank. Tooth, artificial. C. F. Rutter ford. Torpedowrapper, J. Cook. Toy motor, automatic, H. Hensel. Traction wheel, bicycle or other, C. A. Ives. Transit instruments over physical points, device for centering, C. H. Brightly et al. Trap. Turner & Fletcher. Traveling bag, extension, E. W. Thompson. Treadle spring, G. Frank, Jr. Trolley wire hanger, G. Forbus. Trowel, R. Walrath. Truss, G. W. Bell. Upholstery spring support, J. A. Staples. Valve for gas saving regulators, J. C. Richardson Valves, etc., automatic regulator for, E. H. C. Oeblmann.	516,054 515,815 515,980 515,928	
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wave motor, J. C. Walker. Weed cutter, J. F. Dole. Weighing and registering machine, W. B. Dickson Wheel. See Escapement wheel. Paddlewheel. Traction wheel. Vehicle wheel	516,034 516,000 515,953	
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Shirt, J. F. Quinn Siding board, G. R. Boyd Spoon, E. W. Campbell Spoon, B. B. Freeman Spoon, C. B. Peets. Tool rack, T. R. Callan	23,095 23,097 23,098 23,098 23,104
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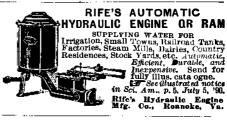
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