#### ENGINEERING INVENTIONS.

A car axle lubricator has been patented by Messrs. William H. Sterling and Dyson D. Wass, of New York city. This invention consists in a spring wire frame of novel construction, carrying oiling rollers intended to give a constant and uniform lubrication of the journals of car and other axles by devices that can be readily inserted into and removed from the box.

An electric grip for railways has been patented by Mr. John C. Henderson, of New Yorkcity. This invention consists in a novel combination of adjustable gripping and contact making devices and conducting bars or rails, combined within a longitudinally slotted box or tube arranged between the rails of the track, and is an improvement on a former patented invention of the same inventor.

A car coupling tool has been patented by Mr. Edward A. Hamilton, of New Bethlehem, Pa. It is an implement for holding up the free ends of car coupling links, so train men can do the coupling without going between the cars, and consists of a link holder with arms held to a shank adapted to slide along the handle, but which may be set, and a spring to draw the arms backward from between the drawheads.

A means for coaling locomotives has been patented by Mr. Henry McLaughlin, of Bangor, Me. It consists of an elevated track crossing the track on which the locomotives run, and tracks leading to the coal heaps, a traveling derrick frame running on the elevated track, provided with a hoisting apparatus, making an advantageous combination of tracks, ways, cars, cranes, etc.

A feed water heater and purifier has been patented by Mr. Dyson D. Wass, of San Francisco, The heater is suspended in the boiler above the Cal. water level, with a feed pipe dividing into two branches, each with a cluck valve, an extension of the feed pipe attached to one of the branches, and a blow off pipe and valve, so that impurities will be delivered at any desired point of the boiler, and to scour and clean the heater by water contained in the boiler.

### .... AGRICULTURAL INVENTIONS.

A plow and cultivator has been patented by Mr. Robert M. Henderson, of Leesville, Ind. This invention relates to plows used by corn growers, in which the driver's seat is supported forward near the team, while the weight of the driver is almost entirely removed from the necks of the team, with various other novel features of construction and arrangement of parts.

An adjusting mechanism for harvesters has been patented by Mr. Newton W. Miller, of Marshall, Ind. Combined with a drive wheel and hollow axle is a shaft working therein, a guide plate and bearing carrying a sliding bar, with other novel features, to facilitate the vertical adjustment of harvesters and other machines mounted upon wheels.

A corn harvester has been patented by Mr. Samuel H. Young, of Bankston, Iowa. This invention covers a construction to facilitate guiding the machine along a row of corn hills, so the front of the machine can be readily adjusted to the height of the corn, so fallen stalks will be raised, and whereby bunches of stalks are drawn against the dividers, with other novel features

A cutting apparatus for mowers and reapers has been patented by Mr. Luman Rundell, of New Baltimore, N.Y. The cutting teeth throughout one-half the length of the cutter bar, when moving in either direction, are, by this invention, made to complete or nearly complete their cut before the cutting teeth on the other half of the bar come into cutting position with the fingers or guards, thus dividing up and easing the cut to reduce shock and jerk.

#### -+++ MISCELLANEOUS INVENTIONS.

A device for handling boxes has been patented by Mr. Alfred Ayer, of Lake Weir, Fla. Combined with two side bars are clamps pivoted to their ends, with a strap uniting the clamps, making a device especially applicable to the handling of orange and lemon boxes, and other such packages too cheaply constructed to have handles.

A horse block or step has been patented by Mr. Martin B. Duncan, of Angelica, N. Y. The framework upon which the treads of the steps are mounted is formed of hollow tubes or pipes, united by T and elbow couplings, the uprights being fastened in buried anchor blocks, the whole making a cheap and durable device.

A plane guide has been patented by Mr. William W. Preston, of Coldwater, Mich. This inven-tion provides an improved guide for attachment to planes to enable the edges of lumber to be squared or beveled at any desired angle either way by the planes, with accuracy, and without the aid of a try square or bevel.

A fastening for blind slats has been pa

consisting of a novel construction of locking device and with curved radial flanges and connected by gearing catch, the standard being quickly and easily attached to and removed from the bolster, staying firmly in place when locked, and being cheaply made.

A cutter head has been patented by Mr. Benjamin R. Hand, of Camden, N. J. This invention relates to wood planing machinery in which the knives are held by a revolving head o in connection with the mechanism for moving the material to be planed, and is intended to provide a cutter head which will firmly hold the knives after their adjustment.

A necktie fastening has been patented by Mr. Benjamin F. Hutches, Jr., of Galveston, Texas. Combined with an apertured collar button is a disk with a spring loop, the disk being adapted to be secur-ed to the back of the cravat shield with a loop projecting through an aperture in the same, making a device to be used in place of the elastic loop and other means.

A stack cover has been patented by Mr. Albert Coolev. of Osceola, Iowa. It consists of sections with projecting cross bars, bars on adjacent sections being at different distances, and the sections having edge notches to receive locking bars, so the cover . may be put on and taken off in sections, and may be of Shippensburg, Pa. It consists of segmental sections extended to any desired length.

been patented by Mr. Bernard M. Munn, of Elizabeth, N.J. The machine has a drum, cable, boom, and means for revolving the drum, in combination with vertically movable plates, arms, and scoops, the whole so arranged as to facilitate the handling of coal or other material without the use of shovels.

A faucet has been patented by Mr. Frank F. Wolff, of New York city. Combined with a bushing adapted to be held in a barrel or cask head is a valve for closing the outer end and a plate for closing the inner end of the bushing, or a tube held on the same, both the valve and plate being held on the same spindle. the device being intended to facilitate the drawing of liquids from casks or barrels.

A fanning mill sieve has been patented by Mr. Siver J. Aasen, of Republican, Dakota Ter. The intended to be fastened to the horse's hoof without construction is such that fine seeds are deposited in a receiving box under the sieve, and larger seeds, such as buckwheat, cockle, oats, etc., slide down over the sieve into a suitable box, making possible the separation of the seed into four lots of different sizes, while thoroughly cleaning the seed.

A dental jaw brace has been patented by Mr. Willis J. Bickford, of North Attleborough, Mass. This is a device for keeping the mouth of a patient open when gas is administered, and consists of a tube inclosing a spiral spring on the end of which is a slide spring to force and hold the mouth open, the prop melted condition, and from this chamber definite thus formed being properly cushioned at top and bot-

A canal convoy has been patented by Mr. William F. Cowden, of Cumberland, Md, This invention covers novel constructions and combinations so the convoy may be allowed to drop some distance astern, means for maintaining a given distance between the boats, and means whereby the separating device may be disengaged and the boats drawn close together for passing through locks.

A sash holder has been patented by Mr. Henry Staib, of Jeffersonville, N. Y. A face plate is formed with side flanges having spindle perforations and recesses on their inner faces extending from the MAGNETO AND DYNAMO ELECTRIC MAface plate to the perforations, with eccentric, removable spindle, and other novel features, making a simple mechanism for supporting and locking window sashes in any desired position.

An oil strainer has been patented by Mr. William Connolly, of South Norwalk, Conn. It is made with an outer case and one or more filtering chambers with perforated side walls, and an imperforate bottom tapering downward, the device being especially intended for use in connection with the oil drip pans for sewing machines formerly patented by the same inventor

A machine for cleaning and repairing roller skates has been patented by Mr. Rufus F. Hull, of Fonda, Iowa. It has a rotary shaft with a pair of wheels having a space between them equal to the distance between a pair of skate wheels, t he wheels having inclined grooves whereby the rollers may be cleaned and evened, while there are chucks, abrading disk, and drill, for leveling, reboring, and repairing.

An automatic swinging chair has been patented by Mr. John C. McMullen, of St. Augustine, Pa. By this invention the lever through which the chair is moved is not connected with the supporting bangers of the chair, being thereby freed from the weight of the operator and giving a greater movement to the chair, so the occupant can originate and easily maintain a continuous swinging motion.

A chain saw has been patented by Mr. Walter S. Shipe, of Minerva, Ohio. Each link of the ready clearance, which is done by a single cutter of principal ones now in use. The series is introduced in peculiar construction applied to each link, the saw, in this country by Van Nostrand.

with a rear wheel of the machine, the size of the dis charge openings being regulated by sliding plates, the lime in the lower part of the hopper being agitated and made to pass out freely by a shaft with radial pins.

A cracker machine has been patented by Messrs. William H. Bromley and Philip J. Gately, of Brooklyn, N. Y. It has an elastic bed plate resting upon eccentric rollers, so that by turning the latter the bed plate can be readily adjusted according as the desıred thickness of the sheet of dough or the wear of the cutters may require, the rollers having worm wheels and a worm to facilitate their operation.

A car starter has been patented by Mr. Theodore F. Bourne, of Bloomfield, N. J. A ratchet wheel is fixed to the car axle, and a lever is pivoted to a swinging support and carrying a pawl adapted to engage the ratchet wheel, a chain or coupling connecting the lever to the draught bar, there being a stop between the lever and the swinging support, the lever operating to help turn the axle on a continued draught strain.

A plaster of Paris splint has been patented by Messrs. John W. Bender and James C. Hinkle, moulded internally to the shape of the limb, and hav A coal hoisting machine or dredge has ing on their meeting edges interlocking projections and sockets, with coincident strap grooves in their outer sides, the sections to be made in any desired number of pieces, so that one or more may be removed at a time by the surgeon or nurse.

A roving frame has been patented by Messrs. Richard Curtis and William H. Rhodes, of Manchester, Eng. This invention relates to slubbing, intermediate, and roving or jack frames, and is intended to improve the mechanism for imparting a gradully decreasing speed to the bobbins, so they will always draw the slubbing or roving from the front rollers at a uniform speed, notwithstanding the increase of the diameter of the yarn on the bobbins as they become filled.

A horseshoe has been patented by Mr. Lawrence Schwaab. of New York city. This shoe is nails, and is made in two parts hinged to each other at their forward ends with an inwardly inclined rim on their outer edges, and having a plate formed on one part to overlap the other part; the shoe has a pad with a buckle and strap at its rear end, and projections on its sides to engage with apertures in the sides of the rim of the shoe, to protect the hoof from jar in traveling.

A candy machine and a cake machine re the subjects of two patents insued to Mr. Daniel M. Holmes, of Arlington, N. J. The first machine has a steam heated chamber, which keeps the candy in a quantities are fed, either upon plates on an intermittent ly moved endless apron or into pits or moulds formed in starch trays, in an automatic and continuous manner, for the rapid and economical production of formed or moulded candles: the cake machine is of that class in which the dough is fed down from a hopper into a series of cylinders, whence it is forced by reciprocating plungers in small lumps upon pans carried by an end less apron, and the invention covers improvements in the several parts of the machine to increase its efficiency and range of use.

#### NEW BOOKS AND PUBLICATIONS.

CHINES. From the German of Glaser Send for catalogue. de Cew, by F. Krohn, and edited Machinery for Light Manufacturing, on hand and with many additions by Paget Higgs, LL.D., D.Sc. London: Symons and Co., 1884. N.Y. Stean Fully a Send for catalogue. Machinery for Light Manufacturing, on hand and built to order. E. E. Garvin & Co., 139 Center St., N. Y. Nickel Plating.—Sole manufacturers cast nickel an odes, pure nickel salts, polishing compositions, etc. Com-

This volume is the first of a new Specialists' Series edited by Dr. Paget Higgs and Professor Charles Forbes, and intended to present in popular form the latest information in regard to recent technical subjects. It is the object of the series to provide practical hand-books. both thorough and easily understood, and, though treating of apparatus in the market, entirely devoid of any commercial advocacy. It is admittedly hard to be perfectly impartial, but the high character of the editors will insure a belief in the honesty of their criticism, if not always in its correctness. The present volume treats of a comparatively new subject, where our experience is necessarily limited, and is, therefore, particularly welcome as a conscientious effort to acquaint the public with the principles underlying the construc-tion of electrical machines. The introduction will be found useful to those but little familiar with the theories of induced currents, as well as interesting histori-cally to all readers. The subject has been divided under the head of machines generating alternating or direct currents rather than in strict accordance with the differences between magneto-electric machines and dynamos. The chapter on storage batteries is of special interest just at this time, as the subject is attracting such general attention. In the appendices is given considerable information in regard to the practical conchain is made to displace the whole chip, and effect a struction of dynamos, and a comparison between the

## 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. perating

Pure Turkey Emery, English Walrus, and Polishing Supplies. Greene, Tweed & Co., 118 Chambers St., N. Y. Upright Power Hammers. Beaudry & Cunningham, Boston, Mass.

Wanted .- Mechanical Automatic Figures. Must be new and original designs and work natural. Address, with full description and price, Lock  $Bo_X B$ , Waterbury, Conn.

One-third interest in patented "Lock Whip Socket" for sale. Address E. D. Bryant, Circleville, O.

Wanted.-A Foreman of a foundry would like to change his position. Canfurnish best of references in re-gard to qualifications, and also good reasons. "W.S.," P. O. Berlin, Ontario, Canada.

Business for Sale.—A new ornamental and cheap Wrought fron Fence Patent. H. B. Van Eps, Peoria, Ill.

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., 351 Broadway, New York.

Combination Pliers, Gas Pliers, Wire Cutters, Wrench, and Screwdriver combined. Billings & Spencer Co., Hartford, Conn.

Small High Speed Steam Yachts complete or in parts. Geo. F. Shedd, Waltham, Mass.

One 20 x 48 Corliss Engine, in good order, for sale by Henry I. Snell, 135 North Third Street, Philadelnhia

Cotton Factory, complete equipment, for sale. Address W. W. Jennings, Harrisburg, Pa.

Astronomical Telescopes, from 6" to largest size. Observatory Domes, all sizes. Warner & Swasey, Cleveland. O.

Peerless Leather Belting. Best in the world for swift running and electric machines. Arny & Son, Phila

"How to Keep Boilers Clean." Send your address for free 88 page book. Jas. C. Hotchkiss, 86 John St., N. Y. Shafting, Couplings, Hangers, Pulleys. Edison Shafting Mfg. Co., 86 Goerck St., N.Y. Send for catalogue and prices Air Compressors, Rock Drills. Jas. Clayton, B'klyn, N.Y. Iron Planer, Lathe, Drill, and other machine tools of odern design. New Haven Mfg. Co., New Haven, Conn. Wanted.-Patented articles or machinery to manufacare and introduce. Lexington Mfg. Co., Lexington, Ky. Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J. For Power & Economy, Alcott's Turbine, Mt. Holly, N.J.

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.

Guild & Garrison's Steam Pump Works, Brooklyn, N.Y. Steam Pumping Machinery of every description.

Machinery for Light Manufacturing, on hand and

Nickel Plating.-Sole manufacturers cast nickel anodes, pure nickel salts, polishing compositions, etc. Com-plete outfit for plating, etc. Hanson, Van Winkle & Co. Newark, N. J., and 92 and 94 Liberty, St., New York.

For Steam and Power Pumping Machinery of Single and Duplex Pattern, embracing boiler feed, fire and low pressure pumps, independent condensing outfits, vac-uum, hydraulic, artesian, and deep well pumps, air comessers. address Geo. F. Blake Mfg. Co., 44 Washington, ., Boston; 97 Liberty St., N. Y. Send for catalogue.

Rubber Belting, Packing, and Hose for all purposes. reene. Tweed & Co., 118 Chambers St., New York.

SupplementCatalogue .- Persons in pursuit of information 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.

Knots, Ties, and Splices. By J. T. Burgess, A Handbook for Seafarers and all who use Cordage. 12mo., cloth, illustrated. London, 1884. Sent, postage prepaid, on receipt of 75 cts., by Munn & Co., New York.

Send for catalogue of Scientific Books for sale by Munn & Co., 361 Broadway, N. Y. Free on application C. B. Rogers & Co., Norwich, Conn., Wood Working Machinery of every kind. See adv., page 62.

If you want Engines, Boilers, or Machinery of any kind, send your address to Henry I. Snell, 135 North Third Street, Philadelphia.

tented by Mr. George F. Evans, of Corpus Christi, Tex. It consists of brackets adapted to be secured to the lower rail of the blind and to receive the slat rod between them, together with a binding screw projecting through one of the brackets, to hold the slats more or less open or closed as desired.

A tree ladder has been patented by Mr. James M. Cunning, of Haskins, Ohio, Combined with upright bars are top bars hinged to the upper ends of the uprights, and having hooks projecting from the bottom edges, with braces so pivoted that the ladder can be swung around a tree, and the outer ends of the branches reached thereby.

by Mr. Albert L. Platt, of Bowling Green, Mo. The freezing cylinder has a hollow trunnion fitted to admit the refrigerant, and having a hopper supported on and revolving with the trunnion, with other novel features to facilitate quick freezing, and convenient for taking apart for repairing, replacing, and cleansing.

A wagon standard has been patented by Mr. Jeffrey Starmer, of Levering, Ohio. It is a removable bolster standard or stake for wagons or sleds,

cutting logs or felling trees, being started by placing CANOE AND CAMP COOKERY. A Practic its front end partially around the tree or log, and then drawing the chain over the timber.

A door has been patented by Mr. Jeueos Gambllee, of Creskill, N. J. Combined with a door having top and bottom openings are slides for closing and uncovering them, and a mechanism for operating the slides automatically and by hand, so the door can be opened and closed without affecting the covers camping-out life for it brings one directly to the pracof the openings, or the openings can be uncovered and closed while the door is shut.

A sheep shears has been patented by An ice cream freezer has been patented Mr. Elijah Kellogg, of Reno, Nev. Combined with a handle having on the forward end of its under side a slotted stud is another handle having a stud at the rear end of its outer side, with a strap secured to both studs. making a pivoted joint with large bearing surfaces capable of supporting the shear blades and preventing them from being separated when doing heavy shearing.

> by Mr. John Hotham, of Hillside, Pa. It has wheels can be easily tucked in a side pocket, might well be pivoted beneath the discharge openings of the hopper counted an essential of a perfect outfit.

cal Cook Book for Canoeists and Outers. By "Seneca." Forest and Stream Publishing Company, New York.

At this time of year, such little books as this seem to introduce the urban resident, and worker in store and counting room, at once to the realities of a roving and tical details on which the comfort and solid enjoyment

of such summer excursions perhaps most largely depend. The author speaks from experience, and his suggestions as to outfit, choice of menu to lay out for different kinds of expeditions, management of the fire, and the best wavs of cooking afford sufficient variety to satisfy a taste with a good deal of discrimination, while the directions are so simple that the veriest novice cure of Nervous Debility, loss of Vitality and Man-in such matters cannot fail to quickly acquire therefrom, hood, and all kindred troubles. Also for many other the knack of preparing his own food. Take nothing but what is necessary and which can be compactly manhood guaranteed. No risk is incurred. Illustrated A lime distributer has been patented stowed, is the author's rule, and this little book, which pamphlet, with full information, terms, etc., mailed

Curtis Pressure Regulator and Steam Trap. See p. 12.

Wood Working Machinery. Full line. Williamsport Machine Co., "Limited,"110 W. 3d St., Williamsport, Pa. We are sole manufacturers of the Fibrous Asbestos Removable Pine and Boiler Coverings. We make pure asbestos goods of all kinds. The Chalmers-Spence Co., 419 East 8th Street, New York.

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

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

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Nervous, Debilitated Men.

You are allowed afree trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent diseases Complete restoration to health, vigor, and

> Voltaic Belt Co., Marshall, Mich.

# Scientific American.

Emerson's pre- Book of Saws free. Reduced prices for 1885. 50,000 Sawyers and Lumbermen. Address Emerson, Smith & Co., Limited, Beaver Falls, Pa.

Barrel, Keg, Hogshead, StaveMach'y. See adv. p. 76. Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 46. The "Improved Green Engine," Automatic Cut-off.

ProvidenceSteam Engine Co., R. 1., Sole Builders. For best low price Planer and Matcher, and latest improved Sash, Door, and Blind Machinery, send for

catalogue to Rowley & Hermance, Williamsport, Pa Domestic Electricity. Describing all the recent inventions. Illustrated. Price, \$3.00. E. & F. N. Spon New York

Patent Elevators with Automatic Hatch Covers. Circular free. Tubbs & Rumphreys, Cohoes, N. Y.

Pat. Geared Scroll Chucks, with 3 pinions, are sold at same prices as common chucks by A. F. Cushman, Hartford. Conn.

ForSale .- Patent on Exercising Bars described in SCIENTIFIC AMERICAN of June 2, 1583. Address Geo. Worthington, 57 Second St., Baltimore, Md.

Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.



#### 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

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 Information** requests on matters of parsunal rather than general interest, and requests for **Prompt Answers by Letter**, should be accompanied with remittance of \$1 to \$5, according to the subject as we cannot be expected to nearorm to the subject, as we cannot be expected to perform such service 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 labeled.

(1) P. & M. ask if running an electric motor on awatch maker's bench would tend to magnetize watch balances, or would it be safe to operate an induction coil for the purpose of giving shocks where the above work is going on? A. Either the mo-



on hand? A. By means of the voltmeter or ammeter placed in a shunt of the main circuit.

(3) H. W.—Ordinary machinery steel is generally used for telephone magnets; they are hardened at the ends only, usually by heating to a red heat and plunging into cold water. Cast steel is no better than machinery steel, but if used its temper should be drawn to a dark straw color

(4) P. W. B.-The north-seeking pole of a magnet is attracted by the earth's north pole, and the south seeking pole is repelled by the earth's north pole, but the "why" has never been ascertained.

(5) O. Z. writes: How is paraffine dissolved quickly? I receive tools and toys from the old country (Germany) covered with a coat of paraffine, to preventrust I suppose. It makes them sticky to the feeling, and I want to remove the paraffine before selling the articles. A. Naphtha or gasoline dissolves paraffine; a little on a small rag, and rub the articles.

(6) W. F. L.—Fishes balance themselves in water by the muscular contraction of the air bladder. By death the muscles relax and the air bladder expands, raising the fish to the surface. The center of gravity being in the air bladder, which is located in the abdomen, brings the belly up when the fish floats .- In regard to electroplating, see SCIENTIFIC AMERICAN SUPPLEMENT, No. 310, and Wahl's Galvanoplastic Manipulations, \$7.50, Watt's Electro Metallurgy, \$1.00, which may be had through this office .-- We charge for an analysis of minerals only, not for an opinion of what they are.

(7) J. L. M.-We know of no special

speaking magnetic telephone that can be heard through a large hall by an entire audience? A. No. 5. Would the invention of an efficient magnetic separator capable of separating 15 or 20 tons of magnetic, sand per day be of any great value to the industries? A. Separators of this class are in use; any improvement will have some value. 6. Is magnetic sand used in any part of the country in the manufacture of iron and steel on a large scale? A. We believe it is used to some extent.

(9) S. B. G. writes: It is said that the magnetic needle stands at right angles to a current of electricity which encircles the earth eastward and westward. If it is so, please explain what causes the variation of the magnetic needle, or rather the variation of the magnetic current. A. We do not know that the explanation of the action of a magnetic needle is correct. We believe an explanation of the variation of the earth's magnetism is yet wanting. We regret that we are unable to supply it.

(10) H. I., Jr., asks for a mineral or substance that; when placed between a horseshoe magnet and a piece of iron, the former will not affect or draw the latter toward it. A. No substance having the properties you require has yet been discovered.

(11) E. J. R. asks how many 2 gallon cells of Bunsen battery, converted into the bichromate of potash battery described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 485, would be required to run one 6 candle incandescent lamp of 108 volts and 1.43 amperes. Also what carbon surface, and how deep, should the zincs be immersed? A. You would require 11 to 12 cells. Better use your cells as Bunsen bichromate batteries. They will be more constant than the plunging battery. If you desire to use them as plunging batteries, you may use in each cell 1 zinc plate and two carbon plates, each 4x6 inches. Place a carbon plate on each side of the zinc plate and about 1/2 inch distant. You will be obliged to plunge the elements more and more as the solution grows weaker.

(12) F. A. writes: I wish to construct dynamo, twice as large as shown in SUPPLEMENT, No. 160. 1. Shall Luse the same number of wire? A. Use the same number for the armature and No. 12 for the field magnet. 2. Aow much wire shall I use for the electric magnet, and for the armature? A. It would be more or less a matter of experiment: better put on about six layers on the magnet, and 'bring ends out so that you could connect the different coils up in series or in parallel circuit. 3. How many candle power will it give (arc lamp), how much power required to run it? The amount of light produced by such a machine depends entirely upon the manner in which it is constructed. It will probably require at least 1/2 horse power to drive it.

(13) J. B. W. asks: 1. How many cells of Fuller batteries will it require to light an incanleaner: lamp of 5 candle power? A. It depends upon he resistance of the lamp. Probably from 10 to 20. 2. What effect do large wires have for a core in an inuction coil over small wires? I have made an inducion coil after your SUPPLEMENT, and have heard some actricians argue for large wire in core and some in avor of small wires in core. Please state the advanages. Mine is for a shocking machine. A. The smaller irer are preferable, because they are more readily mag ctized and demagnetized. 3. What advantage is there in having a large core over a small one? Mine is  $\frac{1}{2}$  inch in diameter, and some say if I had it 1 inch it would be stronger. A. By using a large core you would be able to get a larger and stronger magnetic field. 4. Would it not be better to use No. 10 cotton covered wire for primary and No. 18 silk covered for secondary for an induction coil for a shocking machine, for street use? A. Better use No. 16 for your primary and No. 34 or 36 for your secondary.

(14) F. W. W. writes: 1. I have a huntng jacket made of common ducking. Can you tell me what preparation I can put over it to make it waterproof, and not make it stiff and uncomfortable? A. For waterproofing your duck coat, dip it in a solution containing 20 per cent of soap, and afterward into a solution containing 20 per cent of sulphate of copper. Then wash and dry. Another: 1 pound alum, 1 pound sugar of lead; pulverize both finely, and thoroughly mix dry and pour on 2 quarts boiling water. Let it stand 6 hours, when it will be ready. Sponge the coat until it is saturated, then iron dry. 2. If the muzzle of a shot gun is worn a little bell-mouthed, will it have a tendency to make the gun scatter? A. Yes. 3. When brass shells for shot gun expand, through continuous use, how can they be contracted to gauge again? Only by using a compressing die, which a machinist should be able to make.

(15) P. P. B.-Balloons, unless of very large size, should be made of the lightest material. Balloons of small sizes would be of littleor no service with hot air if made of cotton cloth or ducking. See SCIEN-TIFIC AMERICAN SUPPLEMENT, No. 127, 312, and 413 on

the construction of balloons. A returning bullet increases its velocity from the turning point until it

Axes, manufacture of, V. Halter		Cotton gin, O. Washburne
Axle box, car, Dooly & O'Callaghan		Cotton picker, J. T. Martin
Axle lubricator, car, Sterling & Wass		Countersink, N. Schenkel.
Bag. See Mail bag. Bag holder, J. L. Worrell	323 617	Coupling. See Car cou Thill coupling.
Barber's chair, <b>A</b> . Geise		Cracker machine, Bromley
Barber's chair, E. E. Koken Barber's comb, Smith & <b>H</b> olland		Crate, fruit, I. S. Platt
Barrel filler, J. McKenzie		Crucible furnace, T. McBr Cuffholder, D. W. Brown.
Barrels, machine for hooping, E. A. Delano	323,565	Cuffholder, A. Schiffling.
Basket, fruit, I. S. Platt Battery. See Secondary or storage battery.	323,527	Cultivator, J. F. Packer
Beams and girders, cutting and employing wood-		Cutter. See Tobacco plan Cutterhead, B. R. Hand
en, P. A. Jackson	323,424	Cutting double pile fabr
Bed bottom, bolster, W. I. Fielding		Greenhaigh
Bed, folding, C. Fenton         Bed or fugniture spring connection, A. Bell		Cutting-off tool, A. A. Wo Damper, automatic, S. P.
Beer cooler, J. Meyer	323,712	Damper, stovepipe, J. A.
Selt supporter, C. & E. Hinshaw		Dental jaw brace, W. J. B
Bengal lights, composition for, C. Gerhard Bit. See Auger bit.	323,002	Dental lip holder, A. Garn Derrick, revolving, A. N.
Blast furnace, F. Brown		Die stock. J. W. Strong
Blind slat fastening, G. F. Evans Block. See Horse block.	323,863	
Blower, steam fan, J. C. Hendry	323.677	Door bolt, prison, W. Corr Drawing rods and shafti
Blowing engine, W. Kent	323,427	White
Bodies, device for transporting human, Marston		Drawing rods, machine fo
& Clapp Boiler. See Magazine boiler. Steam boiler.	3 <b>4</b> 3,3 <b>1</b> 3	Drawing rods or bars, mac Dressing case, R. Sayer
Boiler cleaner, 🖪. Estelle		Drier. See Fruit drier.
Boiler furnace, Knight & Thode		Drier, Carter & Johnson
Boiler water purifier, G. M. Brauninger Bolt. See Door bolt.	323,494	Drilling machine, J. <b>H</b> . W Dyeing, etc., apparatus for
Bolting reel clothing, A. Reine	323,579	Ejector and injector,
Book holder, R. M. Lambie		Griffiths
Boot machine, felt, W. A. Smith Boot or shoe uppers, crimping machine for, L.		Ejector, perfume, R. F. Fi Elastic tired wheel, W. H.
Knetzger		Electric machines, cut-out
Boring machine, E. H. Parks		Depoele
Bottle, nursing, W. R. Prime Bottle stopper, W. L. Roorbach		Electric motor, M. G. Fari
Bottles with highly aerated liquids without press-	· · · · · ·	Electric motor regulator, Electro dynamic motor, F
ure, apparatus for filling, A. Werner	323,612	Electro magnetic motor, M
Box. See Shipping box. Box for bottled liquids, P. & R. P. Aitcheson	323 486	Engine. See Blowing eng
Box or trunk fastener or catch, <b>H</b> . A. Seymour		Exercising machine, Coop Extension table, Neumer
Boxes, device for handling, A. Ayer	323,844	Eyeglass nose guards, cus
Brace. See Dental jaw brace. Brake. See Car brake. Wagon brake.		Eyeglasses, J. W. Rigland Fan, E. W. Hoefle
Breastpin pin tongue, A. Thommen	323,543	Fare recorder, E. Baldwin
Brick kiln, continuous, Boehncke & Rohwer		Farm gate, T. E. Wilson
Brick machine, W. M. LoganBridge joint, draw, G. W. Mershon		Faucet for wash bowls, T.
Bridle overdraw check, F. M. Amsbry		Feed mill, T. C. Cadwgan. Feed water heater and pu
Brooch or breastpin, R. R. Hug.		Fence barb, G. H. Pattiso
Brush or broom support, A. L. PritchettBuffing roll, S. B. Bredd		Fence machine, wire, O. J
Building blocks, press for Plastic material for,		Fence making machine, W Fence post, E. R. Copeland
Walker & Jervey	323,757	Fence stay, wire, W. M. C
urglar alarm, Aerrick & Babcock Burner. See Gas burner. Aydrocarbon burner.		File case, bill, C. H. Moult
Vapor burner.		File cutting machine, <b>R</b> . I Filter bed, <b>E</b> . <b>R</b> olden
Bustle, F. G. Moore		Firearm, breech-loading,
Sustle, woven wire, R. Kelso		Firearm lock, Landers & V Firearm, revolving, D. B.
Sutton fastener, P. H. Sweet, Jr.		Firearm safety lock mecha
Sution setting machine, Mosher & Ham	323,717	
attons, apparatus for manufacturing covered, <b>H</b> . W. French		Fire extinguisher, automa
uttons to wearing apparel, setting instrument		Fire extinguisher, chemics Fire extinguisher, hand, A
for attaching, P. A. Sweet, Jr	323,466	Fire, protecting buildings
ake machine, D. M. Holmes	323,681	Flooring, S. C. Little
anal convoy. W. F. Cowden	323,639	Flower pot shelf, R. W. Pe Flower stand, A. Iske
andy machine, D. M. Holmes	323,682	Frame. See Roving fram
ane, machine for slicing sugar, E. Schulze		Fruit drier, steam, M. M. I Furnace. See Blast fur
ap for exploding dynamite, J. Paulus aps, mechanism for shearing, <b>H</b> anford &		Crucible furnace. (
McLoughlin	323,869	Steam generator furna
apsule machine, F. J. Reinhold		Furnaces and forges, air
apsule machine, <b>H. H.</b> Taylorar brake, F. S. Gerrard		Walker Furniture, guide track for
ar brake, automatic, J. B. Gathright	323,659	Gauge. See Water gauge.
ar brake, automatic, W. A. Wildear coupling, A. Goldsmith		Garter, A. E. Fuechsel
ar coupling, R. R. Munt		Gas burner, F. Siemens Gas burner, heat generating
ar coupling, E. F. O'Haver	323,720	Gas compressor, J. B. Stot
ar coupling, D. Sturgis		
ar coupling, L. Van Camp ar coupling tool, E. A. Hamilton	323,672	Gas distribution, W. A. <b>F</b>
ar, dumping, J. M. <b>H</b> artman	323,417	Gas lighter, percussion, J.
ar, dumpiug, T. F. Seeryar for cable railways, grip, F. P. <b>A</b> . Loftis	323,744	Gas, manufacturing illumi
ar for cable railways, grip, F. P. H. Lottis ar, live poultry, Jenkins & Streeter (r)		Gate. See Automatic gat
ar starter, T. F. Bourne	323,629	gate.
ar wheel, R. N. Allen		Gate, J. B. Campbell
ar window, J. M. Fennerty ard beveling machine, C. A. Wright		Gate, C. P. Howe Gathering and ruffling fab
ard holder, S. N. Rosenbaum	323,598	Trowbridge
arpet fastener, R. S. Gould		Generator. See Steam gen
arriage and cradle, convertible, Bond & Sadler arriage, child's, J. A. Crandall		Glass, etc., furnace for me Gold from its ores by chlor
arriage spring. A. R. Schmidt		the separation of, E. P.

Carriage window, F. & C. Forder... .... 323.865 Carrier. See Clay and brick carrier. Hay car-

rier. Case. See Dressing case. File case. Seed case. Casting rolls and other articles, mould for, W.

Hainsworth..... Chain, ornamental, B. F. Evans..... Chair. See Barber's chair. Reclining chair. .... 323,86 Swinging chair.

Chair, P. E. Dowe..... ...... 323,79

Chairs, etc., extensible bottom for, A. Van Wie... 323,610 Change how signaling attachment W J. Aber-

11 15	Cotton gin, O. washburne	oz3,548 323,702
)5	Countersink, N. Schenkel	323,448
17	Coupling. See Car coupling. Pipe coupling. Thill coupling.	
51	Cracker machine, Bromley & Gately	
29 39	Crate, fruit, I. S. Platt Crucible furnace, T. McBride <i>et al</i>	
18	Cuffholder, D. W. Brown	
15 27	Cuffholder, A. Schiffling	
57	Cultivator, J. F. Packer Cutter. See Tobacco plant cutter.	323,440
	Cutterhead, B. R. Mand	
24 72	Cutting double pile fabrics, machine for, R. C. Greenhargh	
00		323,480
55 12	Damper, automatic, S. P. Smith	323,539
	Damper, stovepipe, J. <b>A</b> . Dohert <b>y</b> Dental jaw brace, W. J. Bickford	
12	Dental lip holder, A. Garner	323,573
34	Derrick, revolving, A. N. Simmerly	
3	Door, J. Gamblee	323,658
7	Door bolt, prison, W. Corry	323,855
7	Drawing rods and shafting. machine for, B. C. White	323,762
	Drawing rods, machine for, B. C. White	323,763
15	Drawing rods or bars, machine for, B. C. White Dressing case, R. Sayer	
1	Drier. See Fruit drier.	
1 14	Drier, Carter & Johnson Drilling machine, J. <b>H</b> . Wesson	
	Dyeing, etc., apparatus for, W. Mather	
9 1	Ejector and injector, combined, Fergus &	
7	Griffiths Ejector, perfume, R. F. Fisher	323,503 323 409
	Elastic tired wheel, W. A. Chapin	323,635
15 13	Electric machines, cut-out for dynamo, C. J. Van Depoele	
97	Electric motor, M. G. Farmer	323,653
37	Electric motor regulator, M. G. Farmer	
2	Electro dynamic motor, F. J. Sprague Electro magnetic motor, M. G. Farmer	
	Engine. See Blowing engine.	
66 10	Exercising machine, Coop & Boms Extension table, Neumer & Derx	
4	Eyeglass nose guards, cushion for, G. W. Wells	
	Eyeglasses, J. W. Riglander	
13	Fan, E. W. Hoefle Fare recorder, E. Baldwin	
2	Farm gate, T. E. Wilson	323,476
.8 1	Faucet for wash bowls, T. C. Clark Feed mill, T. C. Cadwgan	
90	Feed water heater and purifier, D. D. Wass	323,611
18 17	Fence barb, G. <b>A</b> . Pattison Fence machine, wire, O. Jackson	
9	Fence making machine, Williams & Reynolds	
57	Fence post, E. R. Copeland	323,793
0	Fence stay, wire, W. M. Clow	
ĺ	File cutting machine, <b>H</b> . F. W. Liebmann	202 074
		040,014
9	Filter bed, E. Folden	323,680 323.501
9	Filter bed, E. Folden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson	323,680 323,501 323,873
2 9	Filter bed, E. Holden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson Firearm, revolving, D. B. & J. H. Wesson	323,680 323,501 323,873
2 9 5	Filter bed, E. Folden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson	323,680 323,501 323,873 323,837
2 9 5 7	Filter bed, E. Holden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson Firearm, revolving, D. B. & J. H. Wesson Firearm safety lock mechanism, D. B. Wesson, 323,838, Fire extinguisher, automatic, W. Harkness	323,680 323,501 323,873 323,837 323,839 323,575
2 9 5	Filter bed, E. Holden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson Firearm safety lock mechanism, D. B. Wesson. <sup>323,838</sup> , Fire extinguisher, automatic, W. Harkness Fire extinguisher, chemical, Dowson & Taylor	323,690 323,501 323,873 323,837 323,837 323,839 323,575 323,859
12 9 5 7 13	Filter bed, E. Holden	323,680 323,501 323,873 323,837 323,839 323,575 323,559 323,528 323,518
2 9 5 7 3	Filter bed, E. Holden. Firearm, breech-loading, A. Dickerman. Firearm lock, Landers & Wesson. Firearm safety lock mechanism, D. B. Wesson. 232,838, Fire extinguisher, automatic, W. Harkness Fire extinguisher, chemical, Dowson & Taylor Fire extinguisher, hand, A. W. Porter. Fire, protecting buildings from, J. G. Merrill Flooring, S. C. Little.	323,680 322,501 323,873 323,837 323,839 323,575 323,559 323,559 323,558 323,518 323,518 323,697
29 57 76 13 99	Filter bed, E. Holden	323,680 323,901 323,873 323,837 323,839 323,575 323,528 323,528 323,528 323,518 323,518 323,697 323,525
29 57 70 13 10 90 12	Filter bed, E. Holden	322,680 323,601 323,873 323,837 323,839 323,575 323,559 323,559 323,559 323,528 323,518 323,697 323,525 323,690
29 57 76 13 99	Filter bed, E. Holden	322,680 323,601 323,873 323,837 323,839 323,575 323,559 323,559 323,559 323,528 323,518 323,697 323,525 323,690
2957 1361 9224	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>323,838,</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frund trier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> </ul>	322,680 323,601 323,873 323,837 323,839 323,575 323,559 323,559 323,559 323,528 323,518 323,697 323,525 323,690
2 9 5 7 8 1 9 2 2 4 9	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flooring, S. C. Little.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Fruit drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> </ul>	322,680 323,601 323,873 323,837 323,839 323,575 323,559 323,559 323,559 323,528 323,518 323,697 323,525 323,690
2957 861 922 4963	Filter bed, E. Holden Firearm, breech-loading, A. Dickerman Firearm lock, Landers & Wesson Firearm safety lock mechanism, D. B. Wesson. 323,838, Fire extinguisher, automatic, W. Harkness Fire extinguisher, chemical, Dowson & Taylor Fire, protecting buildings from, J. G. Merrill Flower pot shelf, R. W. Perry Flower pot shelf, R. W. Perry Frame. See Roving frame. Frame. See Roving frame. Frund ther, steam, M. M. Burchfield Furnace. See Blast furnace. Boiler furnace. Crucible furnace. Ore roasting furnace. Steam generator furnace. Furnaces and forges, air injector for, Davis & Walker.	323,660 323,673 323,873 323,837 323,839 323,575 323,556 323,556 323,558 323,518 323,659 323,525 323,525 323,690 323,781
29 57 61 922 4 96 37	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, endication of the second straight of the se</li></ul>	323,660 323,673 323,873 323,837 323,839 323,575 323,556 323,556 323,558 323,518 323,659 323,525 323,525 323,690 323,781
2957 361 9224 9637 96	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Strearm safety lock mechanism, D. B. Wesson.</li> <li>Strearm safety lock mechanism, D. B. Wesson.</li> <li>Stree extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Floover pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Elast furnace. Boiler furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Garter, A. E. Fuechsel.</li> </ul>	322,660 323,673 323,837 323,837 323,837 323,839 323,675 323,656 323,656 323,667 323,781 323,644 323,644 323,644 323,646
2957 361 9224 9637 964	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flooring, S. C. Little.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li></ul>	323,6500 323,501 323,873 323,839 323,575 323,559 323,528 323,528 323,528 323,528 323,528 323,528 323,528 323,659 323,528 323,650 323,650 323,650 323,656 323,566 323,566
2957 361 9224 9637964 2	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Strearm safety lock mechanism, D. B. Wesson.</li> <li>Strearm safety lock mechanism, D. B. Wesson.</li> <li>Stree extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Floover pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Elast furnace. Boiler furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Garter, A. E. Fuechsel.</li> </ul>	322,660 323,671 323,839 323,837 323,837 323,575 323,556 323,556 323,575 323,587 323,697 323,697 323,697 323,690 323,781 323,644 323,566 323,566 323,567 323,513
2957 361 9224 9637964 202	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>323,838,</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frame. See Roving frame.</li> <li>Frund trier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Gurater, A. E. Fuechsel.</li> <li>Garter, A. E. Fuechsel.</li> <li>Gas burner, F. Siemens.</li> <li>Gas compressor, J. B. Stobaeus.</li> <li>Gaw Sunderstand and supplying, G. Westinghouse.</li> </ul>	323,6800 323,301 323,833 323,833 323,837 323,839 323,575 323,528
2957 361 9224 9637 96420 1026	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson,</li> <li>323,838</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Burchfield.</li> <li>Frane. See Roving frame.</li> <li>Frund. See Blast furnace. Boiler furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. DelmontGas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas compressor, J. B. Stobaeus.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> </ul>	322,660 323,673 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,559 323,659 323,781 323,644 323,666 323,866 323,866 323,877 323,813 323,751 323,840
2957 13 61 9224 96379642 02627	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>323,838,</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas listribution, W. A. Hoeveler.</li> <li>Gas listribution, W. A. Hoeveler.</li> <li>Gas listribution, W. A. Hoeveler.</li> </ul>	322,660 323,671 323,837 323,837 323,837 323,837 323,859 323,575 323,559 323,558 323,659 323,650 323,650 323,650 323,644 323,644 323,666 323,566 323,840 323,840 323,840 323,840
	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, enemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flooring, S. C. Little.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frame. See Blast furnace. Boiler furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas fighter, percussion, J. H. Wesson.</li> </ul>	323,660 323,501 323,873 323,837 323,837 323,839 323,575 323,559 323,528 323,52
	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Elast furnace. Boiler furnace.</li> <li>Gruniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas jipes, expansion joint for, W. S. Turner.</li> <li>Gate. See Automatic maintering.</li> <li>Gas pipes, expansion joint for, W. S. Turner.</li> </ul>	323,660 323,501 323,873 323,837 323,837 323,839 323,575 323,559 323,528 323,52
	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, automatic, W. Markness.</li> <li>Fire extinguisher, and, A. W. Porter.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Frurnace. See Elast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. DelmontGauge. See Water gauge.</li> <li>Garter, A. E. Fuechsel.</li> <li>Gas burner, F. Siemens</li></ul>	322,660 323,673 323,837 323,837 323,837 323,837 323,575 323,556 323,558 323,528 324
299557 $36611$ $92224$ $9663379664420$ $226227447$ $339113$	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Gruncibe furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li></ul>	322,660 323,673 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,559 323,654 323,644 323,666 323,866 323,866 323,8751 :23,840 323,685 :23,893 323,600 323,685 :23,893 323,684 323,885 :23,893 323,684 323,893 323,685 :23,893 :23,680 :23,893 :23,680 :23,893 :23,680 :23,893 :23,680 :23,884 :23,893 :23,680 :23,884 :23,884 :23,893 :23,680 :23,884 :24,884 :24,884 :24,884 :24,884 :24,884 :24,884 :24,884 :24,884 :24,884 :24,884 :2
299557 $361$ $92224$ $96637796420$ $26627747$ $391133$	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frund drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas pipes, expansion joint for, W. S. Turner</li></ul>	323,6800 323,6901 323,833 323,833 323,837 323,839 323,575 323,559 323,558 323,558 323,558 323,558 323,559 323,559 323,580 323,684 323,684 323,684 323,840 323,840 323,840 323,840 323,840 323,840 323,840 323,840 323,855 323,660 323,834
299557 $36611$ $92224$ $9663379664420$ $226227447$ $339113$	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Weeson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Gruncibe furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li></ul>	323,6800 323,6901 323,833 323,833 323,837 323,839 323,575 323,559 323,558 323,558 323,558 323,558 323,559 323,559 323,580 323,684 323,684 323,684 323,840 323,840 323,840 323,840 323,840 323,840 323,840 323,840 323,855 323,660 323,834
29       57       13       66       1       92       2       4       96       63       17       96       64       2       0       2       66       1       13       38       8       5       0       1       13       38       8       5       0       1       13       38       8       5       0       1       13       38       8       5       0       1       13       14       14       14       14       14       14       13       13       13       13       13       13       15 </td <td><ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>323,838,</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Maylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnatces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gaster, A. E. Fuechsel.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas ighter, percussion, J. H. Wesson</li> <li>Gas, manufacturing illuminating, C. M. Gearing</li> <li>Gas pipes, expansion joint for, W. S. Turner</li></ul></td> <td>322,6600 323,673 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,569 323,569 323,781 323,644 323,566 323,566 323,566 323,866 323,866 323,866 323,644 323,566 323,866 323,660 323,834 323,660 323,834 323,660 323,834</td>	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>323,838,</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Maylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnatces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gaster, A. E. Fuechsel.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas ighter, percussion, J. H. Wesson</li> <li>Gas, manufacturing illuminating, C. M. Gearing</li> <li>Gas pipes, expansion joint for, W. S. Turner</li></ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,569 323,569 323,781 323,644 323,566 323,566 323,566 323,866 323,866 323,866 323,644 323,566 323,866 323,660 323,834 323,660 323,834 323,660 323,834
29       55       7       13       66       1       9       22       2       4       9       66       3       7       9       64       2       2       6       2       7       4       7       3       9       1       3       3       8       5       0       1       1       3       3       8       5       0       1       1       1       3       3       8       5       0       1       1       1       3       3       8       5       0       1       1       1       3       3       8       5       0       1       1       1       3       3       8       5       0       1       1       1       3       3       3       3       5       0       1       1       1       3<	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson,</li> <li>323,835</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire optimiguisher, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frume. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas lighter, percussion, J. H. Wesson</li></ul>	322,660 323,673 323,839 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,659 323,650 323,751 323,664 323,666 323,566 323,666 323,560 323,837 323,751 323,840 323,684 323,693 323,684 323,693 323,684 323,395 323,684 323,544 323,544 323,544
29       57       13       66       1       92       2       4       96       63       17       96       64       2       0       2       66       1       13       38       8       5       0       1       13       38       8       5       0       1       13       38       8       5       0       1       13       38       8       5       0       1       13       14       14       14       14       14       14       13       13       13       13       13       13       15 </td <td><ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, and, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Floower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gast burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr</li></ul></td> <td>322,6600 323,673 323,837 323,837 323,837 323,837 323,575 323,575 323,559 323,559 323,660 323,834 323,660 323,834 323,684 323,684 323,690 323,834 323,684 323,684 323,684 323,684 323,595 323,684 323,755 323,755 323,411</td>	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, and, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Floower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gast burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr</li></ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,575 323,575 323,559 323,559 323,660 323,834 323,660 323,834 323,684 323,684 323,690 323,834 323,684 323,684 323,684 323,684 323,595 323,684 323,755 323,755 323,411
29557 $3361$ $92224$ $9663779642$ $2026274473911338550115$	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson,</li> <li>323,835</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frut drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnatces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, Bet generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas lighter, percussion, J. H. Wesson</li></ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,575 323,575 323,559 323,559 323,660 323,834 323,660 323,834 323,684 323,684 323,690 323,834 323,684 323,684 323,684 323,684 323,595 323,684 323,755 323,755 323,411
29557 $3361$ $92224$ $9663779642$ $2026274473911338550115$	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, and, A. W. Porter.</li> <li>Fire, protecting buildings from, J. G. Merrill.</li> <li>Floower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frame. See Roving frame.</li> <li>Frame. See Roving frame.</li> <li>Frunace. See Blast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gast burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr</li></ul>	322,660 323,673 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,550 323,560 323,866 323,866 323,866 323,866 323,866 323,866 323,866 323,866 323,860 323,840 323
29         55         7         13         66         1         92         24         96         33         79         66         4         2         2         74         73         91         13         38         85         50         1         55         5	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson,</li> <li>323,835</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frumter, steam, M. M. Burchfield.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Grunaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, Bat generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas lighter, percussion, J. H. Wesson</li></ul>	322,660 323,673 323,837 323,837 323,837 323,837 323,755 323,556 323,556 323,557 323,566 323,566 323,566 323,566 323,566 323,566 323,566 323,560 323,575 323,684 323,684 323,685 323,693 323,684 323,593 323,684 323,593 323,684 323,595 323,684 323,544 323,544 323,544 323,545 323,546 323,586 323
29         57         3         61         92         24         96         379         96         442         20         26         27         44         33         85         50         1         55         7         7	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Steam generator furnace.</li> <li>Garter, A. E. Fuechsel.</li> <li>Gas burner, heat generating, H. A. Kimball.</li> <li>Gas compressor, J. B. Stobaeus.</li> <li>Gas burner, heat generating, H. A. Kimball.</li> <li>Gas compressor, J. B. Stobaeus.</li> <li>Gas ighter, percussion, J. H. Wesson.</li> <li>Gas, manufacturing illuminating, C. M. Gearing.</li> <li>Gas, manufacturing illuminating, C. M. Gearing.</li> <li>Gate, See Automatic gate. Farm gate. Water gate.</li> <li>Gate, C. P. Howe.</li> <li>Gathering and ruffling fabrics, machine for, J. H. Trowbridge.</li> <li>Generator. See Steam generator.</li> <li>Gas, e., furnace for melting, J. Pedder.</li> <li>Gold from its ores by chlorination, apparatus for the separation of, E. P. Thompson.</li> <li>Grading machine, P. B. Sheldon.</li> <li>Grain micter, oscillating, G. B. Mowland.</li> <li>Grease trap for sinks, J. Reid.</li> </ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,650 323,781 323,644 323,644 323,666 323,866 323,866 323,860 323,860 323,854 323,654 323,650 323,853 323,650 323,854 323,536 323,537 323,536 323,536 323,537 323,537 323,536 323,537 323,537 323,537 323,537 323,537 32
29         557         361         92224         96337966420         2026274473391333855001         555         722	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm, revolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson,</li> <li>323,835</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Folower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Frunt drier, steam, M. M. Burchfield</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Furnace. See Blast furnace.</li> <li>Furnace. See Blast furnace.</li> <li>Furnace. See Mater gauge.</li> <li>Garter, A. E. Fuechsel.</li> <li>Gas burner, heat generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas bipter, percussion, J. H. Wesson.</li> <li>Gas pipes, expansion joint for, W. S. Turner.</li> <li>Gate, See Automatic gate. Farm gate. Water gate.</li> <li>Gate, J. B. Campbell.</li> <li>Gathering and ruffing fabrics, machine for, J. H. Trowbridge.</li> <li>Generator. See Steam generator.</li> <li>Glater, Guid from its ores by chlorination, apparatus for the separation of, E. P. Thompson.</li> <li>Governor, steam engine, F. Fosdick.</li> <li>Grading machine, P. B. Sheldon.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain meter, oscillating, G. B. Howland.</li> <li>Grase trap for sinks, J. Reid.</li> <li>Hamel. See Saw handle.</li> </ul>	322,660 323,671 323,837 323,837 323,837 323,837 323,575 323,556 323,575 323,569 323,575 323,687 323,687 323,680 323,781 323,686 323,566 323,566 323,860 323,860 323,860 323,860 323,834 323,680 323,684 323,593 323,684 323,545 323,546 323
2957       361       9224       9637964       9622       9637964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       96377964       973774       973773991       33385500       1555       7227         7 20       7 20       7 20         7 20       7 20	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Elast furnace. Boiler furnace.</li> <li>Guraces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Garter, A. E. Fuechsel.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, Bat generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas, anaufacturing illuminating, C. M. Gearing.</li> <li>Gate, J. B. Campbell.</li> <li>Gate, C. P. Howe.</li> <li>Gathering and ruffling fabrics, machine for, J. H. Trowbridge.</li> <li>Generator. See Steam generator.</li> <li>Gold from its ores by chlorination, apparatus for the separation of, E. P. Thompson.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain binders, grain carrier</li></ul>	322,660 323,601 323,601 323,673 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,644 323,644 323,666 323,866 323,866 323,866 323,866 323,860 323,840 323,644 323,575 323,644 323,586 323,684 323,684 323,684 323,584 323,584 323,584 323,586 323,596 323,586 323
2957       361       92224       9637964420       26274739913385001555       72272       70	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, and M. Burchfield.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower of shelf, R. W. Perry.</li> <li>Flower of shelf, R. W. Perry.</li> <li>Furd rier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, P. Bat generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas pipes, expansion joint for, W. S. Turner</li> <li>Gate. See Automatic gate. Farm gate. Water gate.</li> <li>Gate, J. B. Campbell.</li> <li>Gate, C. P. Howe.</li> <li>Gathering and ruffing fabrics, machine for, J. H. Trowbridge.</li> <li>Granding machine, P. B. Sheldon.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain meter, oscillating, G. B. Howland.</li> <li>Graese trap for sinks, J. Reid.</li> <li>Harrow, M. H. Cogswell.</li> <li>Harrow, J. Maunder.</li> </ul>	322,660 323,671 323,837 323,837 323,837 323,837 323,575 323,575 323,575 323,575 323,569 323,781 323,687 323,680 323,781 323,686 323,566 323,866 323,566 323,866 323,866 323,893 323,684 323,593 323,684 323,593 323,684 323,593 323,684 323,595 323,684 323,595 323,485 323,595 323,684 323,595 323,485 323,595 323
2957       361       9224       9637964       20262       7473991         33850       1555       722       7	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, nand, A. W. Porter.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf and the second state second s</li></ul>	322,660 323,601 323,613 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,559 323,644 323,644 323,644 323,644 323,666 323,866 323,866 323,866 323,860 323,838 323,751 323,400 323,684 323,584 323,584 323,584 323,584 323,585 323,684 323,585 323,684 323,586 323,684 323,586 323,596 323,597 323,596 323,596 323,596 323,596 323,596 323,596 323,596 323
2957       361       92224       9637964420       26274739913385001555       72272       70	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, and M. Burchfield.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower of shelf, R. W. Perry.</li> <li>Flower of shelf, R. W. Perry.</li> <li>Furd rier, steam, M. M. Burchfield.</li> <li>Furnace. See Blast furnace. Boiler furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, P. Bat generating, H. A. Kimball.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas distribution, W. A. Hoeveler.</li> <li>Gas lighter, percussion, J. H. Wesson.</li> <li>Gas pipes, expansion joint for, W. S. Turner</li> <li>Gate. See Automatic gate. Farm gate. Water gate.</li> <li>Gate, J. B. Campbell.</li> <li>Gate, C. P. Howe.</li> <li>Gathering and ruffing fabrics, machine for, J. H. Trowbridge.</li> <li>Granding machine, P. B. Sheldon.</li> <li>Grain binders, grain carrier for low-down, J. F. Appleby.</li> <li>Grain meter, oscillating, G. B. Howland.</li> <li>Graese trap for sinks, J. Reid.</li> <li>Harrow, M. H. Cogswell.</li> <li>Harrow, J. Maunder.</li> </ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,559 323,578 323,559 323,559 323,559 323,569 323,644 323,644 323,644 323,644 323,644 323,646 323,866 323,866 323,866 323,866 323,866 323,660 323,840 323,684 323,544 32
2957         38         61         92224         963796420         260274739133850         727         700         45	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm lock, Landers &amp; Wesson.</li> <li>Firearm nevolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sirearm safety lock mechanism, D. B. Wesson.</li> <li>Fire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, and provide the second state of the second</li></ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,837 323,559 323,559 323,559 323,559 323,559 323,659 323,644 323,644 323,666 323,866 323,866 323,866 323,866 323,866 323,860 323,837 323,138 323,751 323,840 323,684 323,893 323,684 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,545 323,684 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,545 323,684 323,546 32
2957       361       92224       963796420       262747391         3850       1555       722       700       4522	<ul> <li>Filter bed, E. Holden.</li> <li>Firearm, breech-loading, A. Dickerman.</li> <li>Firearm, revolving, D. B. &amp; J. H. Wesson.</li> <li>Firearm safety lock mechanism, D. B. Wesson.</li> <li>Sire extinguisher, automatic, W. Harkness.</li> <li>Fire extinguisher, chemical, Dowson &amp; Taylor</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire extinguisher, hand, A. W. Porter.</li> <li>Fire protecting buildings from, J. G. Merrill.</li> <li>Flower pot shelf, R. W. Perry.</li> <li>Flower stand, A. Iske.</li> <li>Frame. See Roving frame.</li> <li>Frunt drier, steam, M. M. Burchfield.</li> <li>Furnace. See Elast furnace. Boiler furnace.</li> <li>Crucible furnace. Ore roasting furnace.</li> <li>Steam generator furnace.</li> <li>Furnaces and forges, air injector for, Davis &amp; Walker.</li> <li>Furniture, guide track for heavy, F. Delmont</li> <li>Gauge. See Water gauge.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas burner, F. Siemens.</li> <li>Gas conveying and supplying, G. Westinghouse, Jr.</li> <li>Gas ighter, percussion, J. H. Wesson.</li> <li>Gas, manufacturing illuminating, C. M. Gearing</li> <li>Gas, manufacturing illuminating, C. M. Gearing</li> <li>Gaster, J. B. Campbell.</li> <li>Gate, C. P. Howe.</li> <li>Gathering and ruffling fabrics, machine for, J. H.</li> <li>Trow bridge.</li> <li>Governor, steam engine, F. Fosdick</li> <li>Grading machine, P. B. Sheldon.</li> <li>Grain meter, oscillating, G. B. Howland.</li> <li>Graes trap for sinks, J. Reid.</li> <li>Harrow and cultivator, riding, J. R. Whittemore.</li> <li>Harrow and cultivator, riding, J. R. Whittemore.</li> <li>Harrow and cultivator, riding, J. R. Whittemore.</li> </ul>	322,6600 323,673 323,837 323,837 323,837 323,837 323,559 323,578 323,578 323,559 323,559 323,569 323,560 323,781 323,644 323,566 323,866 323,866 323,866 323,866 323,866 323,866 323,866 323,866 323,860 323,834 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,544 323,536 323,858 323,509 323,836 323,536 323,544 323,545 323,546 323,544 323,544 323,546 323,546 323,544 323,546 323,544 323,546 32

...... 323,548

		second se	Change box signaling attachment, w. J. Aber-	Harvester adjusting mechanism, N. W. Miner 040,000
	rules or formulas for the relation of coil to size of wire	strikes the earth.	nethy	Rarvester and binder, W. N. Whiteley 323,613
	in spiral springs. Their use, strength, elasticity, and			Harvester, corn, S. H. Young 323,618
	amount of extension required are the special considera-		Chicken house, J. Burgert 323,782	Harvester cutter, G. R. & W. G. Sigler
	tions in their proportions. Could not give you the re-		Chopper. See Cotton chopper.	Rarvester reel, Noyes & Perry 323,592
	coiling force of a spiral spring. The only way is to	INDEX OF INVENTIONS	Chuck, work holding, J. A. Giles 323,414	Harvester tongue support, Wallace & Darcus 323,471
	make a trial.	INDEX OF INVENTIONS	Churn, J. W. Cady	
			Churn, J. Durkoop	
	(8) J. S. M. asks: 1. What are the con-	For which Letters Patent of the	Churn, rotary, L. W. Murch	
	ditions on which so many patents are issued on tele-			Ray rack. B. Tanner
	phone transmitters, wherein the variation of the resist-	United States were Granted,	Cleaner. See Boiler cleaner.	Hay rake, hand, C. C. Carter
	ance of carbon by pressure is the principal feature? In			Reat transmitter, J. R. L. Tuck
			Cloth rack, W. W. Palmer	
	other words, why are patents issued to Draughbaugh	August 4, 1885,	Clothes pins, machine for making, J. D. Senate 323,453	heater. Tire heater.
	and others for carbon transmitters when Edison is	,,,	Clothes washer. T. F. Wood	
	the first inventor and patentee? A. If you will ex-		Clover huller, E. L. Williams	Farmer
	amine the patent, critically, you will find that they are	AND EACH BEARING THAT DATE.		
	not issued for the same thing, although they may con-		Coal and other materials, machine for agglomerat-	<b>H</b> inge, gate, P. C. Goshorn
	<b>a</b> () <b>i i</b>			Roisting machine or dredge, coal, B. M. Munn 323,589
	tain some of the same elements. They are generally	[See note at end of list about copies of these patents.]	Coal screen, W. P. C. Allen 323,772	
	for different combinations of the elements required to		Coffins, lowering, C. E. & H. C. Reiche 323,531	holder. Cuffholder. Dental lip holder. Plane
	produce a telephone. 2. What are the conditions on		Collar pad, horse, Rice & Rossman 323,735	holder. Programme and hat holder. Sash
	which patents on magnetic telephone receivers are	Alarm. See Burglar alarm. Low water alarm.	Comb. See Barber's comb. Ornamental comb.	holder. Stereotype plate holder. Tool
	issued to other parties since the invention of Graham	Anchors, fitting for and method of seating ships',	Cooking utensil, <b>H</b> . J. Rutter	holder.
		S. Baxter	Cooler. See Beer cooler.	Horse block or step, M. B. Duncan
	Bell? A. The same may be said with regard to tele-		Cooling board, O. P. Boyer 323,391	Forses, device for stopping runaway, P. Gumbin-
	phone receivers. 3. Is there any practical form of	Auger Dit. F. Bhanel 040,404	Corset, M. P. Bray 323,630	ner
1	telephone relay in use giving good results? A. We	Automatic gate, O. J. Scott		
1	believe not. 4. Is there any practical form of loud-			
	51			

С

C