

(39) A. F. C. asks (1) for a preparation to clean silver—liquid or paste. A. Mix 8 ounces prepared chalk, 2 ounces turpentine, 1 ounce alcohol, 4 drachms spirits of camphor, and 2 drachms liquor of ammonia. Apply this mixture to the article with a sponge, and allow to dry before polishing. 2. How to make a dressing for ladies' boots? A. See answer to query 27, SCIENTIFIC AMERICAN, vol. li., No. 17.

(40) M. S. P. writes: 1. I have two fingers dislocated in the knuckle joints. The joints are considerably enlarged, and somewhat stiff and tender to pressure. What shall I use on them to reduce them to their natural size and usefulness? A. Consult a physician is the best thing to do. Tincture of iodine or solution of arnica, or indeed both, may be applied with advantage. 2. How shall I make a cheap and serviceable paint for tar paper roof? A. See "Receipt for Roofing Paint," in SCIENTIFIC AMERICAN SUPPLEMENT, No. 113.

(41) J. T. L. asks how to obtain a cement which can be used on crockery, etc., and not be affected by hot water. A. Calcine oyster shells, pound and sift them through a sieve, and grind them on a flat smooth stone with a muller till reduced to the finest powder, then take white of egg, and form the whole into a paste, join the pieces of glass or china, and press together 6 or 7 minutes. This cement will never yield if properly applied. Glue with which a little potassium bichromate is mixed becomes insoluble when exposed to the light.

(42) J. G. asks: 1. What is acid phosphate of lime? A. The calcium phosphate which contains hydrogen. 2. Which is the best kind of molasses to use in the manufacture of shoe blacking? A. Ordinary common molasses. 3. A receipt for a first class blacking would be very acceptable. A. See four formulas in SCIENTIFIC AMERICAN, vol. li., No. 5, in answer to query 71, and numerous subsequent answers.

(43) L. W. asks the meaning of the photographic terms f 8, f 11, 3, etc. A. The term f represents the equivalent focus of a lens, which we will say is seven inches. This is multiplied by 16 or 64, which transforms the seven inches into so many sixteenths or sixty-fourths inches, say 1/4". The diameter of the largest diaphragm measures perhaps 1/4" of an inch; the question then arises, What part of the total equivalent focus does that represent? We find it by dividing the 1/4" by 54, the diameter of the diaphragm:

54)448(8:3
432
160
162

Therefore the largest stop is equal to one eighth and three-tenths of the equivalent focus, and we express it in terms f 83. These terms are uniform for any lens, hence it is much more intelligent to mark the stops in such terms than to call them 1, 2, 3, 4, 5, etc., as is common. f 83 in any lens means relatively the same sized stop; we thereby can understand readily whether it is a large sized or small stop, and what sort of an illumination we should have on the ground glass.

(44) J. H. W. asks what process of finishing Turkey red cloths undergo after leaving the dye vats, that is, from the time the cloth leaves the vats to the time when it is placed in the market for sale. A. The material is first singed over a flame or heated surface, then boiled in a soap solution, and this washed away with cold water. Next it is hot pressed under a hydraulic press at a high pressure with hot steam. In some cases it is stretched in a stretching machine. Details of the process may be found in either Professor Crookes' Practical Hand-Book of Dyeing and Calico Printing or Calvert's book on the same subject.

(45) R. W. writes: A drum or pipe is filled with water, and the cap screwed on tight. This is put inside another and larger drum, which is also fastened steam tight. Steam is then admitted to the larger drum. Now, what will be the effect on the smaller drum? Will it burst or will it collapse? A. The effect will be to generate pressure in the inner drum, equal to the pressure of the steam admitted around it. There can be no collapsing of the interior drum, and the pressure within it and outside of it being equal, the water within the inner cylinder will be in much the same condition as that in an ordinary boiler generating steam, but without ebullition or foaming.

(46) W. C. F. asks: 1. What sized cell of the battery illustrated on first page of SUPPLEMENT, No. 149, would be most economical for use in ringing electric bells? A. One quart cells will answer the purpose. 2. How many cells at each end would be required to ring an ordinary bell a distance of 600 feet over a No. 16 galvanized wire with good ground connection? A. Two at each end of the line will be required for so small a line wire; better use No. 12 for your line, when one cell will probably answer. 3. In giving surface required for plate for ground connection of lines, do you compute surface on both sides of the plate, or only one? A. Both sides of the plate are available.

(47) B. & D. write: Please inform us through the columns of your paper what the difference is between (if any) one square yard and one yard square, considering it as applied to flat or surface measure. A. The term square yard signifies a surface equal to a rectangular surface measuring one yard along each of its sides. A square yard of surface may be of any shape. The term yard square applies to anything of rectangular form that measures one yard upon each of its sides.

(48) W. B. P. asks: 1. Can a good working photographic camera be made from a lens taken from a Marcy sliopticon? It has no place for diaphragms. Are they necessary? If so, can they be added? Where can I get specific directions? A. If your sliopticon has a first class objective, it may be used in photography. You can apply diaphragms by securing a flat ring in the middle of the tube, and sawing into the side of the tube at the edge of the ring, so that you may insert diaphragms by the side of the ring. Diaphragms are often necessary to good definition and depth of field. 2. Can glue or gelatine to which bichromate of potash

has been added be kept in a common glass bottle for use, or must it be kept in the dark, or be prepared fresh each time? A. Glue to which bichromate of potash has been added must be kept in the dark or be freshly prepared. 3. After it has dried and become insoluble in water, does it become hard and brittle? A. Yes. 4. Is frequent oiling good for a new harness? A. Yes, if oiled with neatsfoot oil. 5. Ought it to be oiled each time it is cleaned? A. Yes. 6. Can you recommend a preservative dressing that will leave the leather bright and smooth, so that dust will not adhere and water will not penetrate? A. Consult SUPPLEMENT, No. 363.

(49) B. A. L. asks: 1. A practical receipt for a lacquer for varnishing an old theodolite? A. Good lacquer can be made by dissolving seed lac in 95 per cent alcohol, afterward filtering the varnish thus produced, and coloring it with turmeric or dragon's blood. If you are unable to procure seed lac, use the best quality of white shellac instead. The article to be lacquered should be slightly warmed before applying the lacquer, to prevent it from becoming chilled. The lacquering should be done in a very warm room, and as soon as possible after the application of the lacquer the article lacquered should be warmed, either by placing it in an oven or by applying to it the heat of a Bunsen gas burner or alcohol lamp. 2. Which is the working side of the inclosed piece of drawing paper? A. The rough side. 3. Is the concave side of rolled paper always the working side? In some papers there are no water letters. A. It should be, because the working side is in that way kept clean.

(50) Querist asks: I have seen several articles published in regard to oil on the troubled waters, but no satisfactory solution of the phenomenon. The idea has occurred to my mind that electricity may have something to do with it. It is a well known fact that oil is almost a non-conductor of electricity; that being the case, are there different kinds or qualities of electricity in combination with the atmosphere and the water? If so, have they any attraction for each other, and would an insulator destroy the attraction? Does the wind passing over the water create friction enough to excite or produce electricity similar to friction of metals? Or would the wind passing over oil (that being a non-conductor) confine the different kinds of electricity to their own elements, or the air kind to the air, and the water kind to the water? A. We think the electricity generated by the passage of the wind over the surface of the water is immediately conducted away by the water. It is probable that electricity has nothing whatever to do with the quieting effect of the oil upon the water.

(51) C. W. T. asks: 1. Are steel screws stronger than brass? A. Yes. 2. Is there any way simpler than plating them, to prevent rust? A. Bluing them will prevent rusting to a great extent; nickel or brass plating is probably better. 3. Would not bricks set in Portland cement make good ballast for flat bottomed sailboat? A. They would answer very well, although heavier material would be better. 4. Would not screws serve as well as nails in putting a flat bottomed boat together? A. Yes.

(52) E. W. R. asks (1) how celluloid stereotypes are made. A. Celluloid stereotypes are made by placing the dried mould and the celluloid of which the stereotype is to be made in a frame provided with a spring, which will keep the celluloid under constant pressure. The whole is then immersed in hot oil, until the celluloid is sufficiently softened to be forced into the mould by the spring. 2. What to put on, to prepare plaster of Paris moulds for casting? I have no trouble to make the moulds, but cannot fill them with metal so as to make a perfect cast. A. Plaster of Paris moulds for metal stereotypes must be very thoroughly dried before any attempt is made to use them. The common method of drying them is to bake them in an oven until no further moisture can be removed in that way. They are then immersed in the melted metal, face upward, and allowed to remain until bubbles cease to rise from the mould. It is then lifted from the melted metal, bringing with it a portion of the metal, and supported in a horizontal position until the metal is cooled.

(53) F. W. T. asks: 1. Would Swedish iron do as well as soft cast iron for armature? A. It would answer very well, but would be no better. 2. How can I stop the articles turning black when plating nickel? Consult SUPPLEMENT, No. 310. 3. Would I have a right to sell the machine I am making? A. We cannot reply to this query without knowing what kind of machine you are making. 4. What kind of a gas is made by putting zinc in nitric acid? A. Hydrogen gas.

(54) O. A. writes: I possess a camera front Dallmeyer lens, 10x12, rapid rectilinear, lenses 2 inches diameter. Could I use it in a camera 5x8 for dry plates by substituting the same for the original, and what would the result be? A. If you use a 10x12 rapid rectilinear Dallmeyer lens on a 5x8 camera, the picture will be too large in proportion to the plate. This may be remedied by placing the camera at a much further distance from the object to be photographed than would be necessary ordinarily, and thereby have the picture of a proportionate size.

(55) C. J. F. writes: I have bent seven pieces of tire steel 1 inch by 1/4 inch into a uniform horseshoe shape, and bound them together. They weigh about 20 pounds. What quantity of wire and what gauge will I require to work it as an electromagnet. Also, how many Bunsen cells will it require, and the probable strength of attraction? A. Steel is not suitable for the cores of electro-magnets. You should use the softest iron, with a winding of No. 16 wire, and with iron cores of the size given you would require about four Bunsen cells. Such a magnet ought to sustain from 200 to 300 pounds.

(56) J. M. A. writes: I would like to know if it is absolutely necessary in using Mangin's optical telegraph (SUPPLEMENT, No. 284, page 452) that nothing should intervene between the observers. Can the instrument be made to reflect a beam of light upward so as to be visible 25 miles, the country level but heavily timbered? How can I obtain data for formulating the

lenses? A. Telegraph signals have been produced by illuminating clouds with light flashes, but this plan is impracticable. The only practicable way of telegraphing by light flashes is to throw the light directly from one station to the other. There can be no intervening object. Consult SUPPLEMENT, Nos. 253, 258, 287.

(57) T. McN. asks: Will you please tell why rotary engines have never come into practical use? What the objections to them, etc.? Can you furnish me any work treating of them? A. Because they are practically far inferior to the reciprocating engine, and because they are theoretically no better; also because of the difficulty of constructing a rotary engine with suitably packed contact surfaces. Rotary engines, so far as we know, have proved to be very uneconomical. You will find most of the types of rotary engines described in Reuleaux, Kinematics of Machinery.

(58) J. D. writes: 1. I should like to know how large can a dynamo machine be made like the one described in SUPPLEMENT, No. 161? Is there any danger of the wire on the armature swinging out and touching the electro-magnet? If made on a much larger scale, does the thickness of wire want to be increased accordingly? A. A few years ago these machines were made of quite large sizes, and many of them are now in use for the electric deposition of metals, but they have been superseded by more efficient and economical machines. In large machines the armature is grooved circumferentially at different points along its length, to receive a binding wire which is wound around the iron and the wire forming the conductor of the armature to restrain it, and prevent it from being thrown out by centrifugal action. 2. What is a good thing to mix with rouge to keep in a paste, such as is sold in the stores in tin boxes for polishing purposes? A. A mixture of bees-wax and olive oil. 3. What is oxide of tin soluble in? A. Protoxide of tin is soluble in acids. Binonide of tin when fused with alkalis or their carbonates forms compounds which are soluble in water. 4. Is there any rule laid down in which the different numbers of wire can be known in parts of an inch? A. Nearly all electrical works contain tables in which the various sizes of wire are given in fractions of an inch. 5. What is a good hard paste for a razor strap? A. See answer to No. 2. 6. What is the wire made of that is used in the Edison electric lamp? A. The wire conductors which extend through the glass are platinum. The loop which gives the light is a filament of carbon.

(59) F. E. P. asks: 1. How many times will the hammer of a common clock strike from noon till 6 o'clock in the evening? A. Twenty-seven times. The striking mechanism of a clock is released exactly at the close of the hour, so that the striking for any hour of the day really transpires after that hour has passed. For this reason all of the hours which would be struck between noon and six o'clock would be 12, 1, 2, 3, 4, 5, the sum of which is 27.

(60) T. P. E. asks the origin of the length of the yard measure. Also why St. Rupert's drop was so called? A. The yard appears to have had its origin in England in the reign of Henry the First, "who ordered that the ancient ell should be made of the exact length of his own arm, and that the other measures of length should be based upon it." In 1824 it was enacted by the English Parliament that if the standard yard should be lost or defaced, it should be restored by making a new standard yard bearing the same proportion to a pendulum vibrating seconds in London as 36 inches bears to 39.1393 inches, the latter being the length of a pendulum vibrating seconds in London. This measurement, however, was found incorrect when the attempt was made to reproduce the standard yard, after the destruction of the Parliament House by fire in 1834. The standard was restored by making four standard yards from the best authenticated copies of the old standard. These duplicates are the bases of the present United States and English standards of length.—Prince Rupert's drops were so called from Prince Rupert, who carried them to England and showed them to Charles II, in 1661.

(61) M. A. W. sends a plant for identification. A. It is the Monotropa uniflora, known by the common names of Indian pipe, corpse plant, ice plant, fit plant, etc.

(62) J. W. M. writes: 1. When grinding with an emery wheel, is it the iron or the emery that gets in the eyes and is so hurtful? A. Both emery and iron are thrown off in the operation of grinding with emery wheels. If the particles become embedded in the eye, so that they cannot be removed with a pointed stick, the end of which has been slightly bruised and wet between the teeth, you should apply to a competent surgeon. It is always best while using an emery wheel to employ some protection for the eyes. 2. What is the best way to get it out? Also give me a receipt for making a good soap to take off grease from the hands, such as oil, from a dirty machine shop. A. Try alcohol and aqua ammonia equal parts.

(63) J. F. W. writes: I am about to commence the study of insectology, and have been told to get a microscope; what powers will be required? A. You will require a microscope of medium quality, with about three objectives and two eyepieces. The entire insect should be examined first with a low power, say a two inch; then the general structure may be examined by a higher power, say a 3-4; finally, the details will require a 1-4 or 1-5. 2. Which is the more interesting study—insects or botany? A. It depends entirely upon the taste of the student; both subjects are deeply interesting, and might be conveniently carried on together. 3. I had a collection of moths, butterflies, and insects; some kind of an insect got into my boxes and destroyed them. Is it not the cabinet beetle? A. Probably. The buffalo moth is also destructive of specimens of this kind. 4. Is there any preparation with which I can capture nocturnal insects? A. By employing a light and a net you will be able to secure the insects. Ordinary sticky flypaper might be of some service in this connection. 5. In capturing insects last summer, I killed them by dropping them in a bottle in which I had previously burnt a piece of sulphur. Is there any better way? Prussic acid, I have been told. A. Place your insects in a long necked bottle, and a short distance

down the neck insert a pledget of cotton. Place a few drops of ether or chloroform on the cotton, and close the mouth of the bottle with a cork.

(64) L. M. F.—The lower layer of bricks undoubtedly supports the entire building.

(65) M. R., Jr., writes: What is the latest discovery in metallizing a non-metallic substance, like wood or plaster of Paris, for instance? I wish to electroplate wood and plaster of Paris figures, and do not want to take moulds of them in wax. I know that by first coating the substance with wax or paraffine plumbago will adhere to it, but I wish to learn of a speedier way of preparing them for the bath. A. We know of no speedier way of preparing articles for the electro deposit of copper than the one you describe. There are different ways, however, among which are the deposition of a film of silver, also the covering of the objects with the bronze powder.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted, November 24, 1885, AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing various inventions and their patent numbers, including Acid, manufacture of beta-naphthol sulphonic, Alarm, Annunciator and alarm, combined, Ant trap, Auger blade, earth, Axle lubricator, Back band hook, Baling press, Bedstead, Beer, apparatus for filling kegs with, Belt equalizer and tightener, combined, Bicycle, Bicycle treadle, Billiard table leveler, Binder, temporary, Blind, window, Board, Boiler furnace, Boiler tube scraper, Bolt, See Reel bolt. Square headed bolt. Book holder, Book rest and holder, Book, scrap, Boot, G. Valiant, Boot and shoe lasts, measurement indicator of, J. Kimball, Boot or shoe, R. R. Mathews, Boot or shoe, G. Valiant, Boot or shoe soles, machine for channeling, J. G. Ross, Boot or shoe soles, tool for channeling, J. S. Leavitt, Boots or shoes, device for holding, J. P. Kelly, Bottle stopper, H. Barrett, Box, See Letter box. Box, G. W. Miller, Box fastener, E. W. Kuehn, Bracelet, H. E. Chadwick, Bracket, See Shingle or roof bracket. Bracket, G. B. N. Dow, Brick fronts, glass or vitreous facing for, W. Butler, Brick machine, A. E. Woodward, Bride, A. F. Bowen, Buckle, M. E. Zeller, Burglar alarm, B. T. Trimmer, Burner, See Gas burner. Bushings, machine for threading tapering, H. H. Taylor, Button, E. Flagg, Button feeder, Wilkins & Bartlett, Button setting machine, F. H. Richards, Calculating device, A. W. Tucker, Can testing machine, J. E. & W. S. Reynolds, Canning apparatus, J. Kinney, Canes or umbrellas, box handle for, L. Steinberger, Car coupling, H. A. Giles, Car coupling, W. H. Knight, Car coupling, G. C. Thompson, Car coupling, P. L. Wetmore, Car door change gate, J. Stephenson, Car, poultry, Jenkins & Streeter, Car, sleeping, H. Guillaume, Car starter, W. P. Vickery, Car starter, H. H. Watson, Cars, movable dressing closet for sleeping, A. J. Chandler, Carpet covering, stair, T. J. Dennis, Carrier, See Cash carrier. Cash and package carrier. Hay carrier. Cartridge loading and reloading machine, M. F. B. Rice, Case, See Show case. Cash and package carrier, W. P. Bigelow, Cash carrier, Kenney & Mason, Caster, Osborn & Estey, Casting moulds, machine for making, M. R. Moore, Ceiling, metallic, A. Northrop, Cement, manufacture of, W. Joy, Chair, See Convertible chair. Chairs, book rest for, J. D. McClure, Chalk holder, D. Jennings, Chart for teaching and producing facial expressions, F. E. Woodin, Check hook, harness, F. T. Davis, Chicken brooder, M. H. Strong, Chimney cowl and ventilator, G. Fischer, Chuck, lathe, J. C. Bauer, Clamp, See Gripping clamp. Cloak, circular, T. D. Barter

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Feed hopper and water trough, combined, A. Handley.....	331,132	Necktie fastener, O. J. Terault.....	331,098	Syringe, fountain, F. M. Davis.....	331,039		
Fence machine, J. P. Fulgham.....	330,887	Needle bars, mechanism for actuating, M. Marcil.....	331,204	Table, J. Pleukharp.....	331,212		
Fence wire, barbed, C. C. Hill.....	330,938	Nut locking washer, G. C. Thomas.....	331,169	Table fork, E. E. Albin.....	331,177		
Fence wire, barbed, E. R. Matteson.....	330,933	Oil press mat and compressor, W. F. Shafer.....	331,162	Table leaf support, Pohl & Claes.....	331,084		
Fertilizer drill, A. W. Kappenberg.....	331,201	Oiler, crank pin, F. W. Krantz.....	330,904	Telegraph instruments, automatic circuit closer for, J. W. McArthur.....	331,148		
Fibrous plants, roller crusher for, F. Luft.....	330,989	Ore concentrating jigger, J. S. Loder.....	331,071	Telegraphic repeater, W. M. Miner.....	331,250		
File, bill, G. H. Dunn.....	331,043	Ore crushing machine, W. E. Wild.....	331,017	Telephone, W. Gillett.....	331,052		
File, bill, D. W. Garrigues.....	331,125	Overflow for bathtubs, sinks, etc., T. Kennedy.....	331,064	Telephone and telegraph protector, C. C. Drake (r).....	10,663		
File, letter, A. L. Colton.....	331,185	Overshoe, H. I. Crampton.....	331,086	Telephone exchange system, J. P. Davis.....	331,186		
File, paper, E. E. Webster.....	331,172	Packing, metal, N. Hemenway.....	331,056	Telephone transmitter, J. Emmner, Jr.....	330,879		
Filter, J. F. Le Beau.....	330,907	Packing, piston, B. C. Waite.....	331,219	Thill support, C. E. Galbreath.....	330,888		
Finger ring, W. H. Richmond.....	331,086	Packing, vulcanized rubber, F. C. Jones.....	331,140	Ticket-cutter, register, and alarm, Poland & Crawford.....	331,213		
Fire escape, Fisher & Coquillard.....	331,123	Paper for checks, draughts, etc., safety, F. M. Hill.....	330,894	Tire shrinker, W. Lehmer.....	331,070		
Fire escape, J. Fleming.....	331,191	Papermakers' use, obtaining hydrate of alumina from bauxite, etc., for, G. F. Bihn.....	331,182	Tire welding machine, C. M. Collins.....	330,875		
Fire escape, H. F. Neumeyer.....	331,051	Pastry board, W. T. Black.....	331,029	Tongue support, wagon, C. Hein.....	331,235		
Fires in grain or malt mills, mechanism for extinguishing, C. J. Hexamer.....	331,058	Pawl and ratchet mechanism, W. Scott.....	330,931	Toy, H. & M. J. Reilly.....	331,004		
Fish packing apparatus, G. P. Rust.....	330,929	Pen, L. Loeser.....	331,203	Toy game, O. E. Lundstedt.....	330,990		
Fishing reel, J. Kopf.....	330,985	Pen holder, J. Felbel.....	330,881	Traction wheel, H. B. Larzelere.....	330,068		
Flour bolt, B. W. Tuttle.....	331,265	Petroleum heating apparatus, R. Schulz.....	331,161	Tramway for curves and cable grips, A. S. Halldie.....	330,976		
Folding gate and window guard, C. M. Dissoyway.....	330,986	Pigment, making zinc sulphide, T. Macfarlane.....	331,249	Trap. See Ant trap. Steam trap.			
Folding guide, A. P. Barber, Jr.....	331,022	Pipes, hose, etc., union or coupling for, N. Thompson.....	331,170	Trap lock, S. Ayres.....	331,223		
Forging bolt/blanks, machine for, H. J. Johnson.....	330,901	Piston meter, differential, L. W. Lombard.....	331,247	Trunk, A. C. Frankel.....	330,966		
Fork. See Table fork.		Planter, T. C. Garlington.....	331,247	Tube. See Metal tube.			
Freezing liquids, apparatus for, E. Fixary.....	330,884	Planter, S. L. Houston.....	331,198	Turbine wheel gate, E. C. Geyelin.....	331,051		
Fur blowing machines, bearing for, R. A. Belden.....	331,181	Plow, F. B. Hunt.....	331,063	Umbrella, R. Folger.....	331,231		
Furnace. See Hot air furnace.		Plow colter and jointer attachment, W. A. Whitney.....	331,175	Unwinder, thread, W. Grover.....	331,194		
Furnace, P. V. Dwyer.....	330,969	Plow, sulky, R. R. Gaskill.....	330,889	Vaginal irrigator, Gordon & Blanchard.....	331,128		
Furnace, J. A. Topfiff et al.....	330,940	Pole cap, wagon, R. Sergeant.....	331,007	Valve, balanced slide, D. A. Woodbury.....	331,018		
Furnaces, apparatus for firing, C. Holland, Jr.....	331,197	Potato digger, L. G. Jackson.....	330,898	Valve gear, G. T. Phillips.....	331,003		
Furniture, household, F. Shannon.....	331,163	Potato digger, J. Pentreath.....	331,082	Valve motion for locomotives, hydraulic, F. F. Rose.....	330,927		
Gage. See Micrometer gage.		Press. See Balling press. Hay press.		Valves of fluid meters, apparatus for actuating the, Hood & Lombard.....	331,136		
Game apparatus, H. N. Ewing.....	330,972	Pressure regulator, fluid, R. Spear.....	331,008	Vapor engine, explosive, L. H. Nash.....	331,075, 331,079, 331,210		
Garment, convertible, E. M. Paice.....	330,920	Protector. See Telephone and telegraph protector.		Vehicle body, McQueen & Carmont.....	330,996		
Gas and cold air, device for mixing natural, J. H. Sheffer.....	330,932	Puller. See Stump puller.		Vehicle seat fastener, E. S. Davis.....	330,876		
Gas, apparatus for detecting the presence of, G. H. Eaton.....	331,119	Pump bucket, lift, F. H. Smith.....	330,933	Vehicle spring, J. G. Roth.....	331,215		
Gas burner, J. Stuert.....	331,261	Pumping oil wells, H. Forbes.....	330,973	Vehicle spring seat, C. Van Horn.....	331,100		
Gas by electricity, turning on and shutting off, L. S. White.....	331,221	Pupillometer, L. Burt.....	331,226	Velocipede, A. H. Beck.....	331,113		
Gas engines, operating, L. H. Nash.....	331,060	Pyroxyline and its solvents in the manufacture of solid compounds, combining, J. W. Hyatt.....	331,241, 331,242	Velocipedesaddle, A. H. Overm.....	331,001		
Gas fittings, plumb bob for, J. J. Lawler.....	331,144	Rack. See Hoe rack. Music rack.		Veneer, applying wood, A. & C. De Bourbon d'Este Paleologus Gonzaga.....	331,282		
Gas generators, relief valve for, W. T. Bate.....	331,024	Railway cars, electric signal for, J. R. De Mier.....	331,042	Ventilating apparatus, atomizer for, F. Oehlmann.....	330,919		
Gas regulator, A. F. Olds.....	331,000	Railway frog, J. Townsend.....	331,013	Ventilator. See Window ventilator.			
Gas retort lid, W. T. Walker.....	331,102	Railway grip, cable, J. Hellings.....	331,055	Wagon, S. E. Oviatt.....	331,254		
Gases, treating heating and illuminating, W. F. Browne.....	331,225	Railway grip, cable, J. Hellings.....	331,055	Wagon jack, D. S. Wanamaker.....	331,108		
Gate. See Car door change gate. Folding gate. Swinging gate. Turbine wheel gate.		Railway, hand mechanism for operating grippers for cable, W. H. Paine.....	331,238	Wagon running gear, H. M. Horne.....	331,187		
Gate, G. M. Bates.....	331,110	Railway rail chair, J. Townsend.....	331,012	Wagon spring seat, C. Van Horn.....	331,101		
Gate, A. Siegert.....	331,166	Railway switch, J. A. Dugan.....	330,878	Walls, mould for building concrete, T. W. Carrioco.....	331,114		
Gate, H. Terry.....	331,168	Railways, cable supporting sheave for cable, W. H. Paine.....	331,237	Wash pave, J. G. Bryan.....	331,092		
Glove fastener, E. M. Chapman.....	330,871	Rapid transit wrench, J. Du Shane.....	331,189	Washer. See Clothes washer. Nut locking washer.			
Glove fastener, W. M. Williams.....	331,266	Reel. See Fishing reel.		Washers, making tapering, W. V. B. Ethridge.....	331,045		
Grain binder, Kemp & Ross.....	331,142	Reel bolt, O. P. Hurdford.....	331,240	Watch, E. Kuhn.....	330,905		
Grain drier, G. H. Immendorf.....	331,138	Regulator. See Gas regulator. Pressure regulator.		Water can, poultry, M. H. Strong.....	331,097		
Grain drill, W. H. Dysinger.....	331,229	Ring. See Finger ring.		Water purifying apparatus, J. H. Miller.....	331,151		
Grain scourer, M. McMahon.....	331,074	Rock drill, S. Hussey.....	330,981	Water wheel, J. P. Collins.....	331,184		
Grate, W. H. Browne.....	331,031	Roller. See Shade roller.		Weather strip, J. Y. Bassell.....	330,876		
Grate, W. E. Kelly.....	331,141	Rolling car rails, roll for, A. J. Moxham.....	330,998	Weir and sluice, M. D. Czvetkovics.....	331,038		
Grate, J. L. L. Knox.....	331,067	Rolling flat and nut bars, machine for, W. D. Eynon.....	331,230	Wheel. See Traction wheel.	331,165		
Grinding mill, J. J. & E. T. Faulkner.....	330,880	Rolling girder rails, roll for, A. J. Moxham.....	330,997	Wheel for agricultural implements, Long & Babcock.....	331,248		
Grinding mill, G. W. Rundlett.....	331,087	Rope driving machinery, W. H. Paine.....	331,239	Windmill gearing, G. H. Pattison.....	330,921		
Grinding mill, G. K. Smith.....	330,984	Rotary engine, C. S. Bird.....	331,224	Window fastener, F. Sahr.....	331,005		
Gripping clamp for lines or reins, G. H. Sackett.....	331,088	Rubber cover-end bit, H. S. Squier.....	331,099	Window protecting apparatus, E. Diez.....	330,965		
Guard. See Loom shuttle guard.		Salt, preparing celery, E. C. Hazard.....	331,134	Window shade attachment, E. Metcalf.....	331,150		
Guns, feed case for magazine, J. C. Kelton.....	331,244	Sash fastener, S. T. Davis.....	331,041	Window ventilator, show, Mock & Maywood.....	331,077		
Hair crimper, D. Snyder.....	331,216	Saw, splitting, W. G. Hawley.....	331,195	Wool washing machine, F. G. & A. C. Sargent.....	330,930		
Hammock, V. P. Travers.....	330,941	Saw tooth swaging machine, J. E. Traverse.....	331,262	Wrench. See Rapid transit wrench.			
Hammer and nail feeding device, combined, E. Horton.....	331,060	Sawing machine lift, O. S. Holt.....	331,175	Wrench, J. Du Shane.....	331,188		