

(6) T. H. P. asks: 1. At what elevation must a tank of water be placed to give a pressure of 100 pounds on 1 inch pipe? A. 224 feet. 2. Does pressure vary with size of pipe? A. Pressure per square inch is the same without reference to size of pipe. 3. Is pressure greater if the pipe is more nearly perpendicular? A. Pressure is derived from the vertical height. Length of pipe may vary without affecting pressure. 4. Does size of tank make any difference? A. No. 5. Can you give rule for obtaining pressure given from different heights and sizes of pipe? A. Divide the height in feet by 2.239 for pressure in pounds per square inch.

(7) J. H. W.—Tarred paper for lining house walls has an objectionable odor, which we think would make it a nuisance. Asbestos building felt is not objectionable, but rather expensive. The heavy paper called building boards is much used for ceilings.

(8) E. G.—Leather is the best material to pack hydraulic pistons. Make the leather cupped if possible. The press plunger being 2 inches diameter would have an area of 3.14 inches, and 30 pounds pressure would make its lift equal to 93 pounds.

(9) R. L. G.—For motors, consult articles mentioned in catalogue of SCIENTIFIC AMERICAN SUPPLEMENTS, given in our issue of December 6, 1884. Artificial meerschaum may be made by immersing carbonate of magnesia in a warm solution of silicate of soda or potash for some time, or by precipitating from a solution of Epsom salts by means of the silicates.

(10) L. W. W.—Coal tar is a residue obtained from gas works, and used principally for the manufacture of its distillation products, which in their turn form the basis of the great color industries.

(11) S. W.—An inferior variety of bird lime can be made by boiling linseed oil for some hours until it becomes a viscid mass. The fly paper mixture is prepared as follows: In a tin vessel melt together one pound of resin and add two fluid drachms of linseed oil. While the mixture is warm dip a spatula into it, and spread what adheres to the blade on paper. Different samples of resin require varying proportions of oil to make it spread properly.

(12) J. C.—Strips of sheet steel and sheet brass will make a thermostatic bar. You will have to make an experiment as to the strength, it depending entirely upon the length, thickness, and breadth of the strips.—In desiccating eggs, the eggs are broken and the contents beaten together and slowly dried by suitable machinery, the construction of which is protected by patents.

(13) F. A. W. asks: 1. Will a mixture of hypophosphite of soda and gum arabic macilage keep? (Say 1 ounce hypophosphite, 2 ounces gum, and 16 ounces water.) If not, what can I add to make it keep from spoiling, moulding, decomposing? A. We would recommend the addition of some antiseptic, such as salicylic acid, oil of cloves, or carbolic acid. 2. Will crystal bicarbonate of soda dissolve more freely in water than the ordinary commercial soda, that is, will more of the soda crystals remain in solution, my object being to make as strong a solution as possible? A. 16.69 parts of the crystallized salt are soluble in 100 parts of water at 70° C.

(14) R. S. writes: Can you give me a cure for baldness, and to make the hair grow? A. The "Treatment of Baldness" is described by Dr. G. H. Rohe in SCIENTIFIC AMERICAN SUPPLEMENT, No. 161. In SCIENTIFIC AMERICAN SUPPLEMENT, No. 173, Dr. Shoemaker writes concerning the "Remedies for Baldness and Proper Treatment of the Hair." Pilocarpine for Baldness" is suggested in SCIENTIFIC AMERICAN SUPPLEMENT, No. 231. O. Lassar describes the "Cause of and Treatment for Premature Baldness" in SCIENTIFIC AMERICAN SUPPLEMENT, No. 416.

(15) D. C. writes: 1. Is there anything that will cover the cracks of patent leather? A. Use the following: Take ½ pound molasses or sugar, 1 ounce gum arabic, and 2 pounds ivory black; boil them well together, then let the vessel stand until quite cooled; after which bottle off. This is an excellent reviver, and may be used as a blacking in the ordinary way, no brushes for polishing being required. 2. Of what does French enamel leather consist? A. The term "enamel" is applied when the leathers are finished with a roughened or grained surface, while "patent" is used to designate the smooth finish. The process in each instance is similar. The greatest perfection in this branch of the leather industry has been achieved in France. 3. What is put on cuffs and collars to make them so smooth and shine so when first bought, and how made? A. See answer to query 77, in SCIENTIFIC AMERICAN for February 7, 1885.

(16) D. C. asks: 1. What is the explosive compound used in railroad torpedoes? The main constituent seems to be sulphur, with broken glass to make it explode, for without the glass no concussion will make it explode. A. The composition of the explosive mixture varies according to different makers. Gunpowder is used in some instances, while fulminating powder is employed in others. Sometimes percussion caps are used in connection with the foregoing. Other mixtures probably consist of phosphorus, sulphur, niter, and potassium chlorate in varying proportions. 2. What will I add to any of the ordinary inks to make them glossy? A. See answer to query 30, in SCIENTIFIC AMERICAN for December 20, 1884.

(17) C. E. F. writes: I make soap by the cold process, but cannot get it hard enough. Is there no way of using something to harden it? What do they use the soapstone for? A. Try the following: A mixture of either 60 pounds tallow, or 30 pounds each of tallow and palm oil, with 40 pounds of coconut oil, treated by the cold process with 12½ pounds caustic soda lye of 27° Baume and 2½ pounds salt water of 12° Baume, will turn out 244 pounds washing soap. A little powdered resin will assist the soap to harden. Soapstone or steatite is a mineral which when finely powdered is added as a "filling." By its use the quantity of water contained in the soap may be increased, but in most instances it is added simply as an adulterant or make-weight.

(18) C. R. P. asks how to make gold writing ink. A. Gold 24 leaves, bronze gold ¼ ounce, spirits of wine 34 drops, best honey 30 grains, gum arabic 4 drachms, rain water 4 ounces. Rub the gold with the honey and gum, and having mixed it with the water, add the spirit.

(19) C. W. W.—The method of robbing steam of its oxygen by passing it over red hot iron filings or turnings is old. It is true that the oxygen will unite with the iron, but the great obstacle which has so far stood in the way of the practical application of this idea, has arisen from the impossibility of building a strong and durable retort of a material that would remain unaffected by the passage, when red hot, of steam through it. Generally the retort is destroyed about as rapidly as the filings.

(20) J. R. B. desires information on bronzing for picture frame work; and the burnish bronzing. A. The bronzing of wood, which is what we presume you refer to, consists in first covering it with a uniform coating of glue or of drying oil, and when nearly dry the bronze powder, contained in a small bag, is dusted over it. The surface of the objects is afterward rubbed with a piece of moist rag. Or the bronze powder may be previously mixed with the drying oil, and applied with a brush. The bronzing of plaster is slightly different.

(21) E. C. A. asks how to obtain from wheat bran the gluten which is so highly recommended for dyspepsia. A. It can be obtained by kneading wheat flour or wheat bran in a sieve with water. The starch is washed through, leaving the gluten behind. It consists of various substances known as gluten fibrin, gluten casein, mucedin, and gliadin.

(22) E. B. D. asks how pickles made of cucumbers are put up for the market. A. Small cucumbers, but not too young, are put into a jar, and boiling vinegar with a handful of salt poured on them. Boil up the vinegar every three days, and pour on them until they become green; then add ginger and pepper, and tie them up close for use, or cover them with salt and water (¼ pound salt to 1 quart water) in a stone jar; cover this and set them on the hearth before the fire for two or three days, till they turn yellow; then put away the water, and cover them with hot vinegar, set them near the fire, and keep them hot for eight or ten days, till they become green; then pour off the vinegar, cover them with hot spiced vinegar, and keep them close. Half a dozen peppers improve a jar of cucumbers, as the heat of the former is absorbed by the latter.

(23) W. P. B. writes: I have a customer who uses large numbers of books; they have to be frequently referred to year after year. Lately rats and mice have invaded his premises, and nothing seems to suit their tastes as his books, and consequently he is put to much annoyance and considerable loss. In the same room that the books are kept in are large numbers of paper boxes covered with green glazed paper, that the rats avoid, on account, I suppose, of the arsenic. Can you suggest any plan by which the books can be bound so as to protect them from rats and mice? Would arsenic mixed in the glue and paste, and having the waste leaves made of green glazed paper, protect the books from being cut to pieces? A. It is perfectly feasible to add arsenic to the paste or glue used in preparing the books, but the use of the adhesive under such circumstances might lead to the poisoning of those using it. The oil of rhodium is said to be very attractive to rats, and by baiting traps sprinkled with a few drops of this substance you would probably be successful in catching a large number of these obnoxious vermin.

(24) W. P. D.—The general process for making zinc plates consists in coating the plate with some substance, such as wax or bitumen, which is not attacked by acids, cutting out the design with a knife or etching instrument, and then treating with acids which eat into the zinc, leaving the part protected untouched. The wax is then removed and the plate electrotyped, and the electro type to print from. The process you will find quite satisfactorily explained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 344.

(25) J. T. writes: I have been troubled these last two years with fatty secretions in the skin of my face, which bear resemblance to white worms. I extract them every day by pressing with my fingers, but they come as fast as I take them out. If you will be kind enough to give me a receipt, I will be very thankful. A. The white bodies to which you refer are simply accumulations of sebaceous matter in the hair follicles of the skin. They are often spoken of as "worms," but not correctly, for they have no organic constitution whatever, and they are of no importance except as they cause pain and annoyance. They are exceedingly common between the ages of 14 and 20 to 22, generally disappearing after that limit. No medicines or appliances are known which really produce any decided effect upon them, except that if the digestion is imperfect, remedies which will improve it will be of service. It is a curious fact that in the sebaceous glands which lie by the side of the hair follicles and open into them a very remarkable entozoon, which might be called in common language a worm, has actually its home, but it has nothing to do with the masses to which you refer, for it is microscopic in size, being only one one-hundredth and twentieth to one sixtieth of an inch long, and about one-sixth part as thick. It apparently causes no trouble. It was first described by Dr. Simon, of Berlin, in Muller's Archiv in June, 1842, and in 1844 was described at large with many figures by Erasmus Wilson, in the Philosophical Transactions of the Royal Society of London.

(26) A. E. C. asks: 1. What is the composition of Fehling's solution, mentioned in a recent number of your paper as a test for glucose in cane sugar? A. Dissolve in water sufficient to make a liter 34.64 grammes well formed crystals of cupric sulphate, 173 grammes crystallized Rochelle salts, and lastly 55 grammes of sodium hydroxide. 2. How many volumes of gas can be obtained by electrolysis from one volume of water? A. The electrolysis of water yields two volumes of hydrogen and one of oxygen. Steam is said to be the condensation of these three volumes into two.

(27) C. F. B. asks: 1. Is there any method of using old rubber boots and shoes so as to make rubber cement from them? A. Rubber cements are made as described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 249, using old rubbers chopped fine instead of pure rubber. 2. What is the formula for the making of the celebrated washing compound that is being sold over the country? A. It may be the following: Pour two pails of boiling water on one pound of unslaked lime and three pounds of sal soda; bottle when clear. 3. Formula for making this great grease and stain extractor? A. The following is frequently used: soft soap and fuller's earth, of each half pound; beat well together in a mortar, and form into cakes. The spot first moistened with water is rubbed with a cake, and allowed to dry, when it is well rubbed with a little warm water, and rinsed or rubbed off clean. See also page 261 of SCIENTIFIC AMERICAN SUPPLEMENT, No. 158.

(28) J. C. P. asks: 1. For a receipt for waxing fish bait flies, gang hooks, splices, etc.? A. Use a mixture of beeswax and shoemaker's wax. In winter the quantity of the latter is in excess, while in summer more of the beeswax is used. These two ingredients are mixed together in a suitable vessel over a water bath. 2. Also one for transferring on glass to keep transfer from blistering? A. Triturate 1 drachm powdered gum tragacanth with 6 drachms glycerine; add by degrees, with constant trituration, 10 fluid ounces water. This will produce a mucilage without the objectionable air bubbles incidental to agitation. Add a little antiseptic (oil of cloves or creosote) to prevent decomposition.

(29) J. B. asks for a plan for calcining cork by the quantity? A. The process would be similar to that used in the preparation of charcoal for gun powder. This you will find described in various technical cyclopedias.

(30) J. W. C. writes: I want a very strong mucilage for binding books and papers. Is there anything I can put into gum arabic to make it stick better? A. Four parts by weight of glue are allowed to soften in fifteen parts cold water for some hours, and then moderately heated until the solution becomes quite clear; sixty-five parts boiling water are now added with stirring. In another vessel thirty parts starch paste are stirred up with twenty of cold water, so that a thin milky fluid is obtained without lumps. Into this the boiling glue solution is poured, with constant stirring, and the whole is kept at the boiling temperature. After cooling, ten drops carbolic acid are added to the paste to prevent souring.

(31) A. G. R.—The forward part of an engine is toward the crank. All stationary engines of the horizontal type (unless made for some special purpose) are made to move forward with a rising crank; by this motion the crosshead always bears down on the slides.

(32) P. W. A. asks: What is the microscopic test for bogus butter; also the test by qualitative analysis? A. When pure butter is examined under the microscope, the whole field is filled with extremely fine globules, which are entirely destitute of any approach to crystalline form. If the butter is artificial, or a mixture of both, the field presents numerous angular or acicular particles between the globules. For the chemical examination try the following: The butter to be examined (if in the form of butter) must be first melted and rendered pretty free from water and salt, by filtration if necessary; ten grammes are then to be put into a test tube, and liquefied by placing the tube in hot water at about 150 degrees Fahrenheit; remove the tube when ready, and add 30 minims of carbolic acid (Calvert's No. 2 acid, in crystals, one pound; distilled water, two fluid ounces). Shake the mixture, and again place it in the water bath until it is transparent. Set the tube aside for a time. If the sample thus treated be pure butter, a perfect solution will be the result; if beef, mutton, or pork fat, the mixture will resolve itself into two solutions of different densities, with a clear line of demarcation; the denser of the two solutions, if beef fat, will occupy about 497, lard 496, mutton 44 per cent of the entire volume; when sufficiently cooled, more or less deposit will be observed in the uppermost solution. If olive oil be thus tested, the substratum will occupy about 50 per cent; with castor oil there is no separation. With some solid fats (not likely to be used fraudulently) no separation whatever takes place; the addition of a minute portion of alkanet root will render the reading of the scale extremely distinct by artificial light. The author states that the above method (although not intended to surpass other processes) is capable of wide application; the saving of a large amount of time and the reliability of its results will at once recommend it as a "first step" in butter analysis.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

March 10, 1885,

AND EACH BEARING THAT DATE.

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

Auger handle, W. A. Ives..... 313,739
Awning, W. A. Nelson..... 313,757
Axle, tubular, E. Peckham..... 313,517
Bag, See Mail bag.
Bag holder, J. E. Parker..... 313,515
Bagasse to pulp to extract the saccharine matter therefrom, machine for reducing, S. C. Meyer..... 313,510
Balcony and fire escape combined, C. Monjeau..... 313,511
Baling press, C. M. Stone..... 313,551
Ball trap, J. E. Bloom..... 313,804
Beardings or mouldings, tool for making, Poole & Williams..... 313,617
Bell, call, E. S. Bloomfield, Jr..... 313,573
Bells, apparatus for operating electric, Waite & Bartlett..... 313,789
Belt shifter, automatic, H. W. Leonard..... 313,505
Belt slat fastener, S. J. Sells..... 313,777
Bicycle, J. Gibbons..... 313,490
Binder, temporary, F. Bowman..... 313,574
Bit, See Expansive bit.

Blast furnace, Sandstrom & Anderson..... 313,537
Block, See Carriage top prop block. Pulley block. Sawmill head block.
Board, See Center board. Wash board.
Boat, See Sail boat.
Boiler and steamer for domestic purposes, E. Richmond..... 313,686
Boiler furnace, H. C. Williamson..... 313,567
Bones, machine for cleaning and washing, C. Meyer, Jr..... 313,751
Boot or shoe cork sole, R. E. Foster..... 313,817
Boor or shoe uppers, pattern for, Walp & Leavitt..... 313,635
Boots or shoes, manufacture of, A. Hannibal..... 313,727
Bottle and jar stopper and fastener, E. Haas..... 313,588
Box, See Lunch box. Sprinkling box. Stuffing box. Valve box.
Box, E. J. Davis..... 313,814
Bracket, See Lamp bracket.
Brake, See Car brake.
Brick, tile, drain pipe, etc., H. Dickson..... 313,480
Bridle blinder, D. Kaltenbacher (r.)..... 30,569
Brush, T. V. Sebring..... 313,776
Buckle, suspender, C. C. Shelby..... 313,628
Burial casket drapery, A. Freschl..... 313,820
Burner, See Gas burner. Lamp burner.
Caddy, tea or sugar, G. H. Hazleton..... 313,666
Calculator, tabular, F. W. Child..... 313,658
Capsule cutter, J. Krebbel..... 313,601
Car brake, automatic, P. Hien..... 313,734
Car coupling, J. C. Averill..... 313,702
Car coupling, T. Nicholas..... 313,680
Car coupling, J. Raddin..... 313,527
Car coupling, J. M. Stanley..... 313,548
Car, sleeping, J. F. Colby..... 313,576
Car starter, C. A. Iversen..... 313,824
Car stock, R. G. Pace..... 313,759
Card bevelling machine, C. A. Wright..... 313,639
Carriage body, A. Healey..... 313,591
Carriage top prop block, G. L. Artz..... 313,570
Carrier, See Trace carrier.
Cart, road, E. Emmert..... 313,485
Case, See Spectacle case.
Cattle fastener, Prescott & Mann..... 313,524
Center board, M. W. Atwood..... 313,796
Chair, See Surgical chair.
Chair head rest, Starr & Teal..... 323,781
Check cutter, adjustable, F. E. Smith..... 313,544
Check machine, automatic, Weiss & Kruse..... 313,699
Chuck, B. F. Chappell..... 313,472
Chuck, centering, J. M. Watson..... 313,562
Chute, reversible coal, A. Chadwick..... 313,471
Cigar cutter and match box, combined, H. B. Eggert..... 313,660
Circuit changer and alarm, automatic, Vansize & Lockwood..... 313,841
Clamp, See Handle clamp.
Cleaner, See Flue cleaner.
Clock, alarm, S. S. Colt..... 313,656
Clothes drier, J. H. Press..... 313,766
Clutch, friction, S. Bartron..... 313,644
Coffee pot, T. A. Byler..... 313,469
Coffin handle, G. C. Frazier..... 313,819
Coin cabinet, C. E. Howe..... 313,592
Collar, J. Squires..... 313,547
Collar, horse, J. Evans..... 313,715
Collar, horse, W. F. Scantlebury..... 313,775
Collar pad, horse, J. Evans..... 313,714
Collar pad, horse, E. L. McClain..... 313,606
Colter, plow, G. S. Briggs..... 313,651
Commode, W. H. Jolliffe..... 313,667
Corn sheller, N. Potter..... 313,619
Cotton gins, knife carrying crank leg for, M. Polilzer..... 313,685
Cotton press feeder, H. Selz..... 313,627
Coupling, See Car coupling. Thill coupling.
Crank pin, W. G. Dodd..... 313,481
Cream of tartar, manufacture of, R. Silberberg..... 313,629
Crusher, See Ore crusher.
Crutch, F. A. Peebles..... 313,518
Cultivator, A. J. Craig..... 313,811
Cultivator, J. A. Hahn..... 313,589
Cultivator, W. H. Newton..... 313,758
Cutter, See Capsule cutter. Check cutter. Cigar cutter. Feed cutter.
Cylinder engine, multiple, D. D. Hardy..... 313,730
Dam, floating wing, Marvin & Arnold..... 313,747
Digger, See Post hole digger. Potato digger.
Dish washer and drier, J. J. W. Place..... 313,764
Door key, T. Taylor..... 313,692
Drawing frames, etc., clearer holder for, J. Walker..... 313,790
Drier, See Clothes drier. Fruit drier. Seed drier.
Drill, See Grain drill.
Drilling machine, coal, A. J. Cooper..... 313,577
Easel, hand, H. A. Sawyer..... 313,626
Eaves trough hanger, G. Reznor..... 313,769
Electric contact breaker, G. S. Maxwell..... 313,606
Electric currents, apparatus for utilizing the current force of flowing water in producing, A. Man..... 313,746
Electric machine, dynamo, W. P. Freeman..... 313,488
Electric machine regulator, dynamo, F. G. Waterhouse..... 313,561
Electric machines, commutator for dynamo, W. P. Freeman..... 313,489
Electric signal controlling apparatus, automatic, E. R. Gill, Jr..... 313,720
Electric signaling apparatus, J. P. Tirrell..... 313,784
Electrical purposes, clamp for, W. S. Platt..... 313,616
Electro dynamic motor, F. J. Sprague..... 313,546
Electroplating apparatus, D. Appleton..... 313,569
Electrotype shell and base, G. W. & J. R. Cummings..... 313,812
Elevator, See Thrashing machine elevator.
Elevators, device for preventing accidents in, M. L. Wright..... 313,842
Embroidering implement, J. C. Rorick..... 313,770
Engine, See Cylinder engine. Fire engine.
Pumping engine. Rotary engine. Steam engine. Wind engine.
Engine reversing gear, J. C. Debes..... 313,579
Eraser, ink, W. L. Finley..... 313,717
Excavator, R. R. Osgood..... 313,613
Expansive bit, G. H. Hill..... 313,735
Extractor, See Nail extractor.
Fabric for window shades, book covers, etc., S. Bancroft, Jr..... 313,790
Fabrics, machine for turning, M. F. Connell, Jr..... 313,710
Fare register, C. A. Neuert..... 313,513
Feed cutter, A. M. Forrester..... 313,662
Feed, water in steam boilers, purifying, H. Stollwerck..... 313,838
Fence, iron, H. L. Jones..... 313,825
Fence lock, worm, J. J. Iglehart..... 313,672
Fences, device to be used in constructing, J. Ulrich..... 313,634
Fire engine, chemical, W. Morrison..... 313,755
Fire escape, H. Chamberlain..... 313,709
Fire extinguisher, automatic, A. M. Granger..... 313,794
Fireplace, R. E. Jones..... 313,675
Fireproof building material, J. C. Kerner..... 313,601

Fishing reel, E. F. Trent.....	313,695
Flour bolt, centrifugal, C. E. Moyer.....	313,756
Flower pot holder, wire, W. J. Hesser.....	313,667
Fine cleaner, F. L. McGahan.....	313,509
Folding table, J. W. Stowell.....	313,632
Fruit drier, P. D. & J. H. Corryell.....	313,810
Furnace. See Blast furnace. Boiler furnace.	
Regenerative furnace. Smoke consuming	
furnace. Steel ladle drying furnace.	
Furniture, combined article of, Pringle & Hold-	
worth.....	313,768
Furrower, marker, and fertilizer distributor com-	
bined, W. A. Lawrence.....	313,504
Gang plank for ferryboats, L. F. Frazee.....	313,663
Gas burner, O. D. McClellan.....	313,508
Gas burner, W. M. Noel.....	313,834
Gas cut-off, E. C. Merrill.....	313,750
Gas fluid, A. F. Zimmerling.....	313,795
Gas generating and burning device, Bury & Bidel-	
man.....	313,575
Gate opening and closing apparatus, W.	
Schultz.....	313,688
Glass, decorating, W. Hyland.....	313,671
Globe, F. P. Montgomery.....	313,752
Governor, B. Jackson.....	313,595
Grain cutting machine, W. Eberhard.....	313,435
Grain drill, A. D. Clark.....	313,508
Grain scourer, G. A. Dawson.....	313,712
Grinding mill, roller, F. Wegmann (r).....	10,571
Hame strap loop connection, Fontaine & Kos-	
ters.....	313,582
Handle. See Auger handle. Coffin handle.	
Knife handle.....	313,558
Handle clamp, C. G. Udell.....	313,558
Hanger. See Eaves trough hanger. Stove door	
hanger.....	313,529
Harness, J. W. Regan.....	313,673
Harness, biting and driving, R. C. Irvine.....	313,673
Harrow, B. F. Crow.....	313,474
Harrow, T. Rogers.....	313,534
Harrow, wheel, M. Chandler.....	313,654
Hasp lock, E. Hamblin.....	313,590
Hay tedder, J. D. Tracy.....	313,555
Head section, J. R. Lariew.....	313,743
Heel stiffener, H. Pelant.....	313,682
Holder. See Bag holder. Necktie holder. Sten-	
oil holder. Trace holder.....	313,803
Hoisting apparatus, wagon, J. E. Bird.....	313,803
Hook. See Whiffletree hook.....	313,645
Hoop nailing machine, A. C. Batcheller.....	313,709
Ice cream freezer, C. W. Packer.....	313,745
Inhaler, A. M. Long.....	313,745
Jack. See Lifting jack.....	313,650
Jeweler's press, L. P. Bosworth.....	313,726
Jewelry, electric, A. Haid.....	313,726
Joint. See Railway rail joint.....	313,545
Journal bearing, G. T. Smith.....	313,499
Key. See Door key.....	313,593
Knife handle, C. Ibbotson.....	313,722
Knitting machine, W. D. Huse.....	313,690
Knob attachment, J. J. Gordon.....	313,835
Ladder, step, H. P. Spencer.....	313,713
Lamp bracket, C. L. Pierpont.....	313,487
Lamp burner, D. L. Durand.....	313,779
Lamp, electric arc, W. P. Freeman.....	313,813
Lamp, gas, F. Siemens.....	313,563
Land roller, H. A. Currier.....	313,594
Land roller and plow, combined, H. Weddle.....	313,839
Lath, S. Ide.....	313,612
Lathe, wood turning, M. E. Tucker.....	313,723
Lathes, indicator for feed screws of engine, J. C.	
Osborne.....	313,550
Leveling instrument, C. C. Gotze.....	313,723
Lift, hydraulic, J. S. Stevens et al.....	313,723
Lifter. See Stone lifter.....	313,794
Lifting jack, G. C. Wimpee.....	313,794
Lock. See Fence lock. Hasp lock. Umbrella	
lock.....	313,536
Log loader, D. J. Saltsman.....	313,633
Loom cloth guide, C. J. Sullivan.....	313,578
Loom shuttle box operating mechanism, J. H.	
Crowley.....	313,608
Lumber boom, U. R. Nichols.....	313,538
Lunch box, folding, G. F. Schneider.....	313,630
Mail bag, Stellwagen & Lytle.....	313,598
Mechanical motor, F. D. Jones.....	313,610
Messenger signal and fire alarm apparatus, J. J.	
O'Neill.....	313,700
Metal, coating, W. J. Wilder.....	313,805
Metallic goods, manufacturing perforated, J. J.	
Callow.....	313,552
Micrometer gauge, J. E. Sweet.....	313,725
Mill. See Grinding mill. Roller mill. Stamp mill.	
Millstone pick, J. Granger.....	313,641
Motor. See Mechanical motor. Weight motor.	
Motor, W. J. Allen.....	313,681
Nail, J. M. Overell.....	313,599
Nail extractor, P. F. King.....	313,721
Nail packer, C. D. Godcharles.....	313,807
Necktie fastener, A. Cifre.....	313,530
Necktie holder, Riley & Walsh.....	313,537
Needle cases, manufacture of metallic, W.	
Avery.....	313,623
Nut lock, S. H. Raymond.....	313,771
Nut, top prop, K. Rothlisberger.....	313,772
Oil and albuminoid matter from corn, extracting	
the, F. V. Greene.....	313,685
Oil cleaning apparatus, J. C. Thornton.....	313,693
Oil tanks, apparatus for removing paraffine from,	
Norton & Rouse.....	313,514
Ore crusher and pulverizer, H. R. Taylor.....	313,554
Ores with superheated steam; apparatus for treat-	
ing, J. H. Mathews.....	313,748
Packing, piston, T. Barber.....	313,704
Pad. See Collar pad.....	313,652
Paddlewheel, feathering, W. C. Burne.....	313,482
Paper cutting machines, clutch for, E. P. Don-	
nell.....	313,532
Paring machine, fruit, W. & C. S. Robb.....	313,823
Paving blocks or bricks, composition for curing,	
T. A. Huguenin.....	313,761
Photographic emulsion to photographic plates,	
machine for applying, E. J. Palmer.....	313,677
Photographic lenses, instantaneous shutter for,	
A. Loeffler.....	313,647
Piano music rack, C. Baumeister.....	313,502
Piano pupils' monitor, J. A. Kieselhorst.....	313,637
Pile driving machine, T. Whitaker.....	313,637
Pin. See Crank pin. Safety pin.....	313,749
Pipe. See Tobacco pipe.....	313,476
Pipe welding machines, forming tube for, G. Rus-	
sell.....	313,837
Plane, bench, R. S. Sheldon.....	313,540
Plane, joiner's, W. Tidgewell.....	313,694
Planter, check row, J. Carden, Jr.....	313,806
Planter, check row corn, A. Anderson.....	313,466
Planter, corn, W. F. Johnson.....	313,596
Plow, combination, J. L. Clower.....	313,473
Plow point, G. W. Mullin.....	313,832
Plow, sulky, Meagher & Tower.....	313,749
Post hole digger, R. Cummings.....	313,476
Pot. See Coffee pot.....	313,787

Potato digger, S. Huber.....	313,640
Power transmitter, variable frictional, Metzger &	
Cooper.....	313,831
Preserving by gases, apparatus for, G. Hol-	
gate.....	313,736
Press. See Baling press. Jeweler's press.	
Printing machine sheet delivery apparatus, L. C.	
Crowell.....	313,475
Propelling vessels, S. & J. A. Secor.....	313,689
Pulley, E. L. Babcock.....	313,467
Pulley block, F. S. Taggart.....	313,553
Pulley, loose, J. A. Horton.....	313,497
Pulverizing machine, clay, T. Birch et al.....	313,572
Pump, air, F. D. Maltby.....	313,603
Pump, anti-friction dredging, C. H. Booth.....	313,649
Pump, force, G. L. Holmberg.....	313,619
Pump, well, W. P. Powers.....	313,521
Pumping engine, compound steam, C. A.	
Wilson.....	313,793
Pumping engines, construction of coverings or	
housings for the steam cylinders of, C. P.	
Deane.....	313,479
Rack. See Wagon rack.....	313,512
Rails in track, securing girder, A. J. Moxham.....	313,570
Railway, J. V. Meigs.....	313,614
Railway alarm mechanism, W. M. Pease.....	313,602
Railway, cable, Low & Grim.....	313,614
Railway chair, Seltzer & Mook.....	313,778
Railway rail joint, J. A. Foley.....	313,661
Railway switch, A. E. Bach.....	313,798
Reel. See Fishing reel.....	313,754
Regenerative furnace, T. T. Morrell.....	313,818
Register. See Fare register.....	313,522
Rock and ore crushing machine, D. R. Fraser.....	313,707
Rock, hardening and coloring serpentine, J. J.	
Pratt.....	313,522
Rocking chair attachment, W. I. Bunker.....	313,616
Roller. See Land roller.....	313,559
Roller mill, J. M. Finch.....	313,506
Roof, adjustable, L. D. Vogel.....	313,506
Roofs, attaching slates to, G. Martin.....	313,506
Rotary engine, C. F. Jansson.....	313,648
Ruling and engraving machine, R. W. Bentley.....	313,691
Safety pin, H. St. John.....	313,664
Sail boat, I. Garrard.....	313,732
Sand drier, A. V. Hartwell.....	313,638
Sash fastener, N. Wilson.....	313,589
Sash fastener and sash-lift, combined, G. L.	
Elliot.....	313,503
Sash fastener, E. O. Ladd.....	313,687
Sash pull, window, H. B. Sargent.....	313,556
Sausage stuffing machine, hydraulic, F. W.	
Turk, Jr.....	313,531
Sawmill head block, H. C. Robb.....	313,557
Saw set, J. B. Tupper.....	313,581
Saw teeth, machine for dressing, H. Fairbrother.....	313,477
Scale, bent lever, H. S. Davids.....	313,468
Scale, weighing, C. Becker.....	313,679
Scourer. See Grain scourer.....	313,719
Scow, dumping, J. Murphy.....	313,620
Seat. See Window cleaning seat.....	313,705
Seeding machine spring hoe attachment, T. D.	
Galloway.....	313,802
Sewer gutter, G. W. Rader.....	313,600
Sewing machine, lock stitch, W. Barsby.....	313,683
Sewing machine trimming attachment, J. Bige-	
low.....	313,822
Shaft support, J. H. Kleppinger.....	313,520
Shell, J. S. Pengesser.....	313,533
Sheller. See Corn sheller.....	313,624
Ship bottoms, device for cleaning, N. A. Gustaf-	
son.....	313,625
Shirt, bosom, G. W. Pine.....	313,815
Shoe fastening, H. H. Rodman.....	313,744
Skate foot plate, J. V. Rowlett.....	313,622
Skate foot plate, roller, J. V. Rowlett.....	10,570
Skate, roller, P. J. Doherty.....	313,516
Skate, roller, L. M. Lawless.....	313,584
Skate, roller, C. W. Raymond.....	313,611
Skate, roller, J. V. Rowlett (r).....	313,564
Sleep, device for inducing, F. W. Paul.....	313,565
Sleeve supporter, G. Frost.....	313,571
Smoke consuming furnace, O. D. Orvis.....	313,712
Soap moulding machine, C. E. Whitaker.....	313,711
Sower, wheelbarrow grass seed, G. V. H. Whit-	
beck.....	313,495
Spanner, J. C. Bauer.....	313,706
Spectacle case, J. A. Pattee.....	313,718
Speed, gearing for changing, E. J. Corser.....	313,587
Spiral springs, machine for securing the ends of,	
H. S. Hall.....	313,735
Spiral springs, machine for setting, H. Borch-	
ardt.....	313,566
Spring. See Vehicle spring.....	313,728
Sprinkling box, C. A. Fonderden.....	313,701
Stamp mill, W. Grosch.....	313,733
Stand for type writers, etc., W. H. Trueman.....	313,470
Steam boiler, C. Williams.....	313,484
Steam engine, D. D. Hardy.....	313,609
Steel ladle drying furnace, D. H. Williams.....	313,801
Steering apparatus, L. Heydt.....	313,491
Stencil holder, J. J. Callow.....	313,643
Stirrup, J. P. Ellacott.....	313,642
Stirrup, saddle, S. A. Nolen.....	313,560
Stitches, mechanism for making zigzag or irregu-	
lar, J. Bigelow.....	313,785
Stone lifter, R. N. Gowell.....	313,586
Stone sawing machine, R. L. Barney.....	313,740
Stopper. See Bottle and jar stopper.....	313,697
Stool back, piano, J. D. Baldwin.....	313,525
Stove, W. E. Walker.....	313,686
Stove, G. G. Wolfe.....	313,809
Stove door hanger, W. Jaques.....	313,826
Stove grate, R. Walker.....	313,676
Stove, oil, J. F. Quimby.....	313,703
Stove, oil, E. R. Walker.....	313,636
Stovepipe ventilator, J. Combs.....	313,782
Stovepipe ventilator, J. P. Krabill.....	313,783
Strainer, culinary, L. Kohn.....	313,657
Stuffing box, T. Barber.....	313,494
Supporter. See Sleeve supporter.....	313,659
Surgical chair, G. Weber.....	313,585
Surgical illuminator, electric mouth and throat,	
E. T. Starr.....	313,604
Surgical illuminator for the mouth and similar	
purposes, electric, E. T. Starr.....	313,698
Surveying instrument, W. L. Curtis.....	313,539
Surveying instrument, J. Hale.....	313,542
Surveyor's instrument, J. H. Dolman.....	313,543
Switches and signals, apparatus for interlocking,	
G. Fullman.....	313,478
Table. See Folding table.....	313,791
Table, A. M. Maxwell.....	313,786
Tacks, furnace for bluing, C. P. Weaver.....	313,604
Tag fastener, S. S. Sencenbaugh.....	313,698
Tanning apparatus, L. Simpson.....	313,539
Tanning apparatus, Simpson & Davis.....	313,542
Tanning hides, apparatus for, J. Davis.....	313,478
Telegraph, automatic chemical, C. Westbrook.....	313,791
Telegraph, printing, H. Van Hoevenbergh.....	313,786
Telegraphs, preventing false signals upon rever-	
sals in quadruplex, H. Van Hoevenbergh.....	313,787

Telegraphy, automatic, C. Westbrook.....	313,792
Telephone and telegraph central offices, office	
connection for, Lytle & McCoy.....	313,829
Telephone lines, automatic shunt, Wright &	
Fisher.....	313,640
Telephonic connection, J. A. Harlan.....	313,731
Telephonic transmitter support, Lytle & McCoy.....	313,828
Testing machine, C. C. Miller.....	313,607
Thermostat, electric, Prentiss & Tilden.....	313,523
Thill coupling, T. P. Randall.....	313,528
Thrashing machine elevator, A. E. Preston.....	313,767
Threshold, S. A. Kintner.....	313,742
Tobacco pipe, T. Murphy.....	313,833
Tooth crown, artificial, W. S. How.....	313,737
Top prop washer, E. Rothlisberger.....	313,773
Trace carrier, J. H. Philpott.....	313,519
Trace holder, H. A. Pott.....	313,765
Trap. See Ball trap.....	313,827
Type writing machine, G. Lucas.....	313,863
Umbrella, C. Hicks.....	313,493
Umbrella lock, E. H. Griffin.....	313,836
Umbrella sticks, machine for forming ferrule	
seats on, H. Plumb.....	313,549
Valve, N. M. Stebbins.....	313,541
Valve box for water or other main and service	
pipes, stop, D. H. Sherman.....	313,684
Valve, steam-actuated, W. S. Phelps.....	313,729
Valve, steam engine, D. D. Hardy.....	313,496
Valve, steam engine, D. C. Harlow.....	313,507
Vehicle, J. L. Mather.....	313,763
Vehicle, Patterson & Jones.....	313,486
Vehicle running gear, M. Frear.....	313,800
Vehicle spring, W. L. Bay.....	313,526
Vehicle spring, P. Quinn.....	313,492
Ventilator. See Stovepipe ventilator.....	313,615
Ventilator, C. E. Granniss.....	313,583
Voltaic batteries, amalgamating zinc plates or	
bars for, W. S. Platt.....	313,753
Wall coping, manufacture of, J. Francy.....	313,653
Wagon rack, W. A. Moore.....	313,498
Wash board, H. C. Carter.....	313,658
Washer. See Dish washer. Top prop washer.....	313,621
Washing machine, J. K. Hunt.....	313,631
Water tanks, overflow alarm for, F. A. Cushing.....	313,708
Water wheel, double-acting, C. W. Rau.....	313,716
Weeding and thinning device for growing plants,	
J. N. Stevenson.....	313,821
Weight motor, E. S. Cain.....	313,780
Welding compound, C. C. Fields.....	313,78
Well drilling apparatus, J. Gardner.....	313,646
Wheel. See Paddle wheel. Water wheel.....	313,674
Whiffletree hook, M. H. Simmons.....	313,618
Wick adjuster, M. A. Morris.....	313,741
Wind engine, D. H. Bausman.....	313,535
Window bead fastener, E. A. Johnson.....	313,586
Window cleaning seat, C. B. Porter.....	313,840
Wire machine, barb, W. H. King.....	10,568
Wood ornamentation, W. L. Roystone.....	
Wood splitting machine, D. A. Greene.....	
Wood turning machine, M. E. Tucker.....	
Wood working machinery, device for conveying	
and precipitating dust arising from, D. D.	
Drummond (r).....	

DESIGNS.

Bag, pocketbook, etc., frame, L. B. Prabar.....	15,957
Carpet, J. L. Folsom.....	15,927
Carpet, J. Pegel.....	15,958
Carpet, O. Righter.....	15,958
Coffin handle, W. R. McComas.....	15,945
Curry comb, W. P. Kellogg.....	15,954
Curtain fabric, J. Ferguson.....	15,926
Medal, Chaffee & Colladay.....	15,925
Plush, mohair, G. Botticher.....	15,924
Rug, W. Gilmour.....	15,953
Type, font of printing, J. M. Conner.....	15,966
Type, font of printing, J. West.....	15,965

TRADE MARKS.

Astringent extracts, L. Brown.....	11,992
Beer, bottled, J. Wassmer.....	12,012
Beer, white beer and condensed white, Reichen- kron & Mielke.....	12,006
Brandy, Cook & Bernheimer.....	11,996
Carpets, rugs, mats, and curtain fabrics, W. T. Smith.....	12,009
Cement, F. G. Williams.....	12,013
Cigars, Kuttner & Co.....	12,002
Disinfectant and moth destroyer in cake, powder, and liquid form, W. H. H. Childs.....	11,994
Gloves, kid and lambskin, Stern Brothers.....	12,010
Hairpins, spiral, H. G. Thompson & Sons.....	12,011
Liniment, A. C. Meyer.....	12,004
Lozenges or other medicinal preparations in solid form, Burroughs, Wellcome & Co.....	11,998
Oil, cotton seed, Seitz & Gould.....	12,008
Organ or organette and music therefor, small me- chanical, M. Gally.....	12,000
Perfume, Bean & Hurlbut.....	11,991
Plows and plow castings, Wren, Whitehurst & Co.	12,014
Satinets or woolen cloths or clothing made there- from, A. G. Dewey & Co.....	11,997
Skins of a peculiar finish and boots and shoes made therefrom, kid, W. T. Ash.....	11,990
Soap, toilet, Colgate & Co.....	11,995
Tinsel on small spoons, frosted, Klein, Baer & Co.	12,001
Tobacco, cigars, and cigarettes, all kinds of fine- cut chewing, granulated, and other kinds of smoking, J. Schriber & Co.....	12,007
Tobacco, cigars, and cigarettes, chewing and smoking, Pace & Sizer.....	12,005
Tobacco, plug, P. McNamara & Co.....	12,003
Velvets, velveteens, corduroys, moleskins, silsesias, and linings, J. & R. Edmondson.....	11,999
Whisky, malt, Duffy Malt Whisky Company.....	11,998