ENGINEERING INVENTIONS.

A car coupling has been patented by Mr. Edward A. Olmstead, of Buffalo, N. Y. The main objects of this invention are to relieve the car body timbers of buffing or pulling strain, and to so mount the drawbar that no actual strain will fall upon the king pin or bolt, the invention covering various novel details of construction and combinations of parts.

A frogless switch has been patented by Mr. Frank Nemacheck, of Appleton, Wis. Combined with the main line rails, an intermediate rail section and siding rail section, is an auxiliary rail connecting with either of the intermediate rail sections, an operating lever connected to a rod, and S-shaped crank connections, to dispense with the use of the ordinary form of frog.

A car coupling has been patented by Mr. Carlos J. Warren, of Jamestown, Dakota Ter. A spring-actuated bumper bar is held to slide at one side of the drawhead, a dog being pivoted upon the bar and a lift bar pivoted below the bar, with a crank arm adapted to engage the dog, with other novel features, making a coupling which can be operated without passing or standing between the cars.

MISCELLANEOUS INVENTIONS.

A combination tool has been patented by Mr. Joseph Brouse, of New Berlin, Pa. It consists of a hammer, saw, square, nail puller, and plane, all mounted on a single handle, in a novel way.

A saw file adjusting weight has been patented by Mr. William Moore, of Mooney, Ind. The invention consists in combining with a file handle a pendent weight by which the file may always be held at the same angle, thus insuring uniformity in the angles of the teeth.

A machine for winding bobbins for sewing machines has been patented by Mr. George H. Willey, of Abington, Mass. This invention covers a novel construction and combination of parts, making a machine which is simple, and easily and quickly operated for winding one bobbin at a time.

A snapper attachment for whips has been patented by Mr. William Becker, of Brooklyn, N. Y. It is designed to form a rigid and durable connection with the whip tip, and consists of a stiffening piece of tubular section of a quill, embracing the tip, a plaited covering extending over the whip tip and strengthening piece, and forming a loop.

A mechanical movement has been patented by Mr. Abraham L. Akins, of Larimer's Station, Pa. The invention covers a novel construction and combination of parts, so arranged as to be operable by hand or foot, and applicable for use in the transmission of power to almost any form of light machinery.

A measuring faucet has been patented by Mr. Ole Martinson, of Meridian, Wis. The invention covers novel combinations and constructions of parts for use in relation to a suitable supply, whereby accurate measuring is accomplished without waste, or the entrance of dirt or insects to the liquid or commodity being measured.

A coffee pot has been patented by Mr. Harry B. Cornish, of Blue Earth City, Minn. It is of that class having an inner vessel to hold the ground coffee, into which boiling water is poured and allowed to percolate through the coffee and a strainer into the main outer vessel, the invention covering novel details of construction and combinations of parts.

A rounding jack for hat brims has been patented by Mr. Michael Hild, of Philadelphia, Pa. This invention relates to a former patented invention of the same inventor, and covers a sectional rod for operating the knife stock, whereby, when the stock is drawn back nearly to the end of the jack, the rod may be contracted so as not to be in the way when using the jack.

A surgical splint has been patented by Miss Annie Caller, of Albany, N. Y. It has extensible side rails, a plate connected thereto forming rests for both legs of the patient, straps for securing the patient, and other novel features, making a simple and inexpensive apparatus, which may be quickly and easily applied.

A ticket holder has been patented by Mr. Moses H. Straus, of Columbus, Ohio. It consists preferably of a single piece of wire bent upon itself in novel form, making a device capable of ready and easy attachment to a bolt or piece of goods to retain a label, and also for attaching a ticket to articles of apparel or goods.

A wagon seat has been patented by Mr. Charles Van Horn, of Bethlehem, Pa. Springs are secured to the longitudinal center of the seat, in combination with pivoted boards provided at the center with arms linked together and to the springs, in combination with supporting irons, so that the seat will have only a level up and down motion.

A lock for firearms has been patented by Mr. Jacob Nicely, of Enon Valley, Pa. It is a combination of two locks, the sears of which have lugs projecting inwardly and arranged in different planes, a trigger being centrally located in the stock between the locks, whereby provision is made for releasing either of the hammers or both in rapid succession.

A device for weighing and sacking grain has been patented by Mr. Charles E. Cole, of Somerville, N. J. The invention covers a novel construction and combination of parts, affording means whereby the grain is automatically weighed and sacked on passing from the thrashing machine, the grain being delivered continuously without interfering with the weighing.

An indicator for non-transparent receptacles containing liquids has been patented by Mr. Frank H. Palmer, of Long Island City, N. Y. Combined with a reservoir is a tube secured to the top and extending inwardly, a transparent cover being secured to the top of the tube, and a float adapted to slide freely in the tube, the float being seen only when the receptacle is nearly full.

A washing machine has been patented by Mr. Marvin Newton, of Girard, Pa. A rocking rack or open bottom is journaled in a tub, a rocking presser being journaled above the rocking bottom and made hollow at the under side, and having air holes and valves closing them, to induce suction, whereby the washing of clothes may be accomplished thoroughly and quickly.

A washing machine has been patented by Mr. Jeremiah Biddison, of Moscow, Idaho Ter. Combined with a tub having a reciprocable pounder is a frame with a mortise in one of its cross bars centrally mounted upon the heads of the pounder and adapted to be reciprocated between the sides and over the ends of the tub, with over novel features, making a machine of simple construction and very efficient in operation.

A brick kiln has been patented by Mr. Jacob Buhrer, of Constance, Baden, Germany. It is provided with a series of chambers, gas generators and gasometers, and with air and gas conduits, arranged in a novel way, whereby one portion of the kiln may be isolated from other parts, and two chambers may be fired at once, securing a larger production of brick, tile, terra cotta, etc.

Special.

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.

NEW BOOKS AND PUBLICATIONS.

THE ENGINEER'S CATECHISM, A PRACTICAL TREATISE FOR THE USE OF THOSE IN CHARGE OF STEAM PLANTS. By George L. Fowler. New York: American Railway Publishing Company. 1888. Pp. 183. Price 50 cents.

This work is intended as a book of instruction for engineers in charge of steam plants, as to the most approved methods to be employed in the prosecution of their duties. It is in the form of question and answer, and will prove a useful little work for regular engineers as well as for those preparing for examination. Its low price should assure it a large sale.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information, and not for publication.
References to former articles or answers should give date of paper and page or number of question.
Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all, either by letter or in this department, each must take his turn.
Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.
Scientific American Supplements referred to may be had at the office. Price 10 cents each.
Books referred to promptly supplied on receipt of price.
Minerals sent for examination should be distinctly marked or labeled.

(1) G. W. S. asks: 1. What material can I use to make a small model engine, that is easier cast than cast iron, and will work equally as well in the lathe and in the engine? Of what material, and in what way, can I make a small air tight valve, that will hold without leaking a cold air pressure of 10 to 15 pounds? A. For model engine and air tight valve use brass or type metal. The valve may be given a metal seat perforated with a number of small holes and closed by an India rubber flap. 2. What is the simplest chemical I can use that will be affected by light passing through a negative placed over it? Don't want a perfect image, or any shading or half tints. A. For chemical affected by light, you may use chloride or bromide of silver, or a solution of gelatine containing 10 per cent of bichromate of potash dissolved in it. 3. What is the best form of condenser now in use in connection with the steam engine for producing a vacuum in the cylinder? A. The surface condenser is the general type of condenser now adopted. 4. Was the device for cooking with the heat of an ordinary oil lamp, where the food was placed in an air tight vessel surrounded by water kept hot by the lamp, a practical arrangement, or mere supposition? An account of it was published some time since by Mr. Atkinson, I believe. A. The device for cooking was considered practical by its originator. 5. What material can I use to cast small articles, that is somewhat stronger than Babbitt and will bear being drilled and tapped? A. For small castings use brass or bronze for good work, and type metal where easy fusibility is an object.

(2) R. C. asks: 1. How to make say a half gallon of the solution for nickel plating as described on page 10 of the present volume of the SCIENTIFIC AMERICAN? A. For slightly over a half gallon solution, use nickel sulphate one-fifth pound, ammonium tartrate one-seventh pound, taunic acid one one-thousandth pound, water one-half gallon. 2. Would four cells of Grenet battery with zincs 2 inches by 2 inches and six electric light carbons each be large enough for plating small articles? A. Yes; connect in series, zinc to carbon. 3. What solution would I need for dipping the articles to be plated in, to make the plating adhere? A. The articles must be scoured with ground pumice, whiting, or similar material and water, then dipped in warm potash solution, again scoured, and immediately before insertion in the bath dip into an acid solution or cyanide of potash solution. For

potash solution use a half pound to a gallon; for acid solution use sulphuric acid 4 pounds, nitric acid 2 pounds, water 4 pints: for cyanide of potash solution use ½ pound cyanide of potassium to 1 gallon of water. You should not attempt to work at it without having a good manual on the subject, such as Watt's "Electro-Deposition of Metals," which we can send you by mail for $3.50.

(3) G. J. P. asks: 1. What acids and in what proportion will etch type metal? A. Take nitric acid 1 part, water 5 parts. Mix. 2. How is the colored lacquering done, such as used on the inside of small glass balls and toys, for Christmas tree decoration, etc.? It is of all colors and remarkably brilliant. A. The cheaper colored balls contain a quickly drying colored varnish or paint put into the ball and distributed by turning the globe about. 3. Where to get fatty ink spoken of in your paper, and used for drawings in etching zinc plates? A. The manufacturers of fine printing inks will furnish such an ink.

(4) A. P. S. writes: I read that if steel is immersed in carbonate of potash for a few minutes it will not rust for years, even if exposed to a damp atmosphere. Could it be applied to gun barrels or locks, without injury to the same, and would subsequent oiling affect the result? A. The carbonate of potash only neutralizes any acid that may be upon the surface of steel or iron, and while it remains as a film, neutralizes the oxidizing properties of moist air in contact. Oiling with neutral oil (free from acid, preferably linseed) will further protect the surface. Any wiping of the articles or handling the surfaces covered by the carbonate destroys its protecting properties. It will serve but little good on a gun barrel that is handled. Frequent oiling and wiping is recommended.

(5) A. C. R. writes: I have some rattan baby carriages that have become soiled. I wish to stain them cherry color. How can I do it? A. For cherry stain, take of rain water 3 quarts, annatto 4 ounces; boil in a copper kettle until the annatto is dissolved, then put in a piece of potash the size of a walnut, keep it on the fire about half an hour longer, and it is ready to bottle for use. 2. I have a lot of kerosene lamp burners that have become black and soiled. What is the cheapest way to make them look bright? A. Use oxalic acid and whiting mixed and applied wet, with brush, and brushed again when dry with soft plate brush to polish.

(6) H. & W. ask: We have connected with our planing mills a dry kiln for lumber, which we dry with hot air. After this hot air has passed through the lumber, we convey it into the shop for heating purposes. Do you consider this manner of heating shops healthy, especially after the hot air has passed through a kiln of green pine? A. We should think it was healthy.

(7) R. W. asks: Granted a vessel weighs 10 tons, *i.e.*, displaces 10 tons of water, is it not possible to float that vessel in much less than 10 tons of water in a lock or shell? Will her water line not remain the same? Is it not theoretically correct that the Great Eastern may be floated in a pail of water? A. Yes, to all the queries.

(8) G. J. H. asks: A good receipt for blacking the inside of a photograph camera and bellows. A. The proper black for inside optical work is made with shellac varnish. Mix lamp black with pure alcohol to the required thinness, and add a few drops only of shellac varnish, just enough to make the lamp-black stick without being shiny. Make a little trial on paper, as you are adding the shellac, to get the exact proportion. 2. My camera is made of Spanish cedar. Please give me a receipt for polishing same. A. Oil the box with boiled linseed oil and dry, and finish with French polish. We can send for 25 cents French Polisher's Manual on staining and polishing of wood.

(9) R. writes: A bets B that four 1 inch pipes will radiate more heat than one 4 inch pipe. Who wins? A. A wins, according to arrangement of pipes.

(10) T. H. asks: How is emery made to adhere to leather? Is common glue used, or is there a waterproof cement used? A. Use the strongest glue, rather thick; brush on the leather even, and sprinkle the emery over; press it down with a block or mallet. When finished and dry, the surplus will fall off.

(11) J. F. N. asks how to coat small iron articles with black enamel or varnish such as is used on small buckles, etc. A. String the articles on fine wire, and dip in thin japan varnish. Bake in an oven or box heated to 260°, steam heat is safest. Care should be had that the vapor from the varnish does not come in contact with fire.

(12) A. B. asks: Is there any way of treating soft rubber so that grease will not affect it? A. There is not.

(13) E. H. desires the process of preserving natural flowers by the wax solution process. A Dip the flowers in melted paraffine, withdrawing them quickly. The liquid should only be just hot enough to maintain its fluidity, and the flowers should be dipped one at a time, held by the stalks, and moved about for an instant to get rid of air bubbles. Fresh cut flowers, free from moisture, make excellent specimens in this way.

(14) S. R. B. asks how to tan a swan's skin without injuring the down. A. Thoroughly impregnate the fibrous part with a mixture composed of 4 parts alum and 1 part pepper and saltpeter. See "The Taxidermist's Manual," which we can send you, post paid, for $1.25.

(15) E. H. asks a good receipt for making ink for use on stamp pads. A. Use an ink consisting of aniline violet ¼ ounce dissolved in 15 ounces alcohol and 15 ounces glycerine added. If you prefer other aniline colors, they can be used instead.

(16) J. J. C. asks how to silver-plate a door plate and bell, by using a powder or liquid. A. Mix 1 part chloride of silver with 3 parts pearl ash, 1½ parts common salt, and 1 part whiting, and rub the mixture on the surface of brass or copper, previously well cleaned, by means of soft leather or a cork moistened with water and dipped into the powder. When properly silvered, the metal should be well washed in hot water, slightly alkalized, and then wiped dry.

(17) J. E. P. asks: How are lead bullets polished? A. By being revolved in a cask containing black lead or plumbago.

(18) C. M. R. asks: What will restore the appearance of red brick walls, and make them look fresh and new? A. Use a red wash made by melting 1 ounce glue in a gallon of water; while hot, put in a piece of alum the size of an egg, ½ pound Venetian red, and 1 pound Spanish brown. Try a little on the bricks, let it dry, and if too dark, put in more water; if too light, add more red and brown. 2. Can diamond dyes be dissolved in anything so as to be used to paint lantern slides? A. Dissolve in alcohol. Lantern slides are painted with very thin colors, and generally not with aniline paints.

(19) J. A. V. desires (1) a good receipt to prevent water from having a disagreeable taste. A. Mix it with charcoal and filter; this will render it both colorless and odorless. 2. How to make collars stiff and glossy. A. Pour a pint of boiling water upon two ounces of gum arabic, cover it, and let it stand all night. Use a tablespoonful of this to a pint of starch.

(20) D. R. writes: We have plenty of theories as regards the sources of heat, but no one tells us satisfactorily whence the cold comes from, or accounts for the intensity of cold. A. Cold is the absence of heat, or the elimination of the vibrations that cause heat. Heat vibrations are supposed to have their limit at 459° below zero.

(21) H. H. S. asks: How can I give a high glaze to an oil painting? A. Use the following varnish: Take of mastic 6 ounces, pnre turpentine ½ ounce, camphor 2 drachms, spirits of turpentine 19 ounces. Add first the camphor to the turpentine; the mixture is made in a water bath. When the solution is effected, add the mastic and the spirits of turpentine near the end of the operation; filter through a cotton cloth.

(22) A. K. asks what washing compounds (powders), such as "pearline," "soapine," etc., are composed of, and how compounded. A. The exact composition can only be ascertained by analysis, but their detergent qualities are due to pearl ash, soda ash, and similar alkaline compounds.

(23) C. asks (1) the best and quickest way of making vinegar in quantity. A. See process described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 313. 2. The best way to make acetic acid without distillation. A. The simple oxidation of alcohol produces acetic acid. Treat alcohol in the same way as you would cider, to produce vinegar. In fact, vinegar is only an impure acetic acid.

(24) F. J. S. asks: What will keep tents from mildewing in warm weather? A. Use a mixture of solutions of alum and sugar of lead.

(25) J. N. G. desires a cure for bunions. A. An inflamed bunion should be poulticed, and larger shoes worn. Iodine 12 grains, lard or spermaceti ointment ½ ounce, make a capital ointment for bunions. It should be rubbed on gently two or three times a day.

(26) F. T. asks: What will take oil stains and rust stains out of marble? A. Apply common clay saturated with benzine. If the grease has remained long enough, it will have become acidulated, and may injure the polish, but the stain will be removed.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

February 7, 1888,

AND EACH BEARING THAT DATE.

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

Advertising cabinet, I. B. Stone 377,414
Air compressor regulator, G. R. Cullingworth. ... 377,481
Alarm. See Elevator alarm. Fire alarm. Flouring mill alarm.
Amalgamator, J. Weirich 377,590
Anchor, E. T. Starr 377,691, 377,692
Animal trap, C. Warner 377,589
Animals, device for grooming, S. E. Bauder 377,420
Anti-rattler and shaft support, combined, A. Delamater 377,605
Atomizer, H. Campbell 377,371
Axle box, car, F. D. Adams 377,418
Ball bat, base, J. W. Moose 377,686
Bar. See Window bar.
Bathing purposes, apparatus for, F. C. F. Knaak .. 377,394
Battery. See Secondary battery.
Bed bottom, C. Bigeon 377,368
Bed bottom, spring, F. O. Badger 377,419
Bed, spring, C. C. Ferry 377,377
Bell, electric, W. F. Stocker 377,539
Belting for driving machinery, chain or rope, M. Gandy 377,484
Blowpipe apparatus, J. B. Root 377,467
Bobbin winder, automatic, C. Bell 377,421
Boiler. See Steam boiler.
Boilers, tanks, etc., coupling for, J. J. Whiter 377,506
Boot or shoe, B. F. Whitney 377,416
Boot or shoe upper and preparing it for lasting, C. A. Keith 377,391
Box. See Axle box. Journal box. Paper box.
Box for furs, W. Flynn 377,482
Brake. See Car brake.
Branding corks, etc., machine for, F. W. A. Boldt 377,665
Branding implement, continuous heating, M. Potter 377,575
Brick kiln, J. Buhrer 377,511
Bridle winker attachment, E. B. Knapp 377,563
Brush, dusting, J. Stewart 377,582
Buckle, A. P. Waddell 377,656
Buckle, suspender, Loeb & Haak 377,627
Buggy top, W. Davis 377,604
Buildings, system of warming and ventilating, G. B. Morrison 377,496
Burner. See Gas burner. Gas lighting burner. Vapor burner.
Burnishing machine, B. F. Patch 377,574
Bustle, A. Taylor 377,724
Bustle, A. W. Thomas 377,652
Button, Blum, Jr., & Phillips 377,446
Button, W. J. Leckie, Jr 377,625
Button, H. T. Sperry 377,581
Cable grip, J. F. West 377,702
Can. See Gasoline can. Oil can. Sheet metal can.
Can capping machine, C. A. Burt 377,449
Carburetor, M. A. Foster 377,607
Car coupling, C. S. Edwards 377,670
Car coupling, J. McMullen 377,631
Car coupling, E. A. Olmstead 377,532
Car coupling, F. M. Rariden 377,689
Car coupling, C. J. Warren 377,541
Car brake, A. Reese 377,437, 377,438
Car doors, grain, J. Jensen 377,385
Car, dumping, F. Cote 377,424
Car, electric motor, W. H. Knight 377,622
Car, passenger, W. D. Mann 377,628
Carriage wheel, Treat & Parmelee 377,587
Carriages, canopy holder for children's, P. Gendron 377,608
Cart, road, P. Fiege 377,673
Cash register and indicator, T. Carney 377,728
Caster, J. P. Reed 377,721
Chain, drive, W. D. Ewart 377,552
Chain, drive, F. H. C. Mey 377,572
Chain links, machine for coupling, N. B. Fassett.. 377,376
Chair. See Tray chair.
Chair, A. Bunn 377,512
Chimney top, W. W. Wright 377,508
Chopper. See Cotton chopper.
Chuck, lathe, E. P. Baville 377,596
Churn cover, A. B. Cosby 377,710
Chute, stock loading, J. C. Ferguson 377,519
Cigar tip cutter and match box, combined, O. P. Elterich 377,550
Cigarette machines, printing attachment for, J. A. Bonsack 377,447
Clamp, W. C. Stickler 377,693
Clasp, J. Jenkinson 377,429
Clasps, machine for making metallic, Girard & Rigault 377,379
Clock striking mechanism, L. Halvorsen 377,558
Clothes wringer, W. M. Brinkerhoff 377,545
Coal hods, manufacturing, E. Barrath 377,705
Coffee pot, H. B. Cornish 377,514
Coffeeroaster, O. Walden 377,443
Coffin fastener, E. Sinning 377,648
Coin holder, C. J. Luce 377,568
Compensator, Beard & Aukamp, Jr 377,476
Condensing and cooling purposes, apparatus for, E. Theisen 377,504
Cooler. See Milk cooler.
Cooking utensil, G. H. Eymer 377,712
Coop, folding, W. E. Tate 377,650
Copper, electrolyzing, E. S. Hayden 377,487
Copying letters and documents, N. C. Stiles 377,583
Cornet tremolo, C. Meister 377,493
Cotton chopper, L. R. Corder 377,450
Cotton chopper, J. B. King 377,392
Counter stiffener machine, L. B. Russell 377,468
Coupling. See Car coupling. Thill coupling.
Cranberry cleaning and separating machine, H. Chadwick 377,667
Crusher. See Ore crusher.
Cup. See Medicine cup. Oil cup.
Cutter. See Cigar tip cutter. Pipe cutter.
Damper regulator, G. A. Goodenough 377,557
Damper regulator, J. H. Weitmyer 377,657
Derrick, W. Bentley 377,544
Derrick, portable, P. Rabbitt 377,576
Die. See Screw cutting die.
Drills, fertilizer feed for, T. R. Crane 377,546
Dust collector, O. M. Morse 377,719
Dyeing or scouring machine, C. L. Klander 377,393
Eaves trough hanger, J. P. Abbott 377,366
Eaves trough hanger, H. Russell 377,405
Egg preserver, A. F. Temple 377,585
Elevator. See Hay or grain elevator.
Elevator, C. G. Otis 377,635
Elevator alarm, A. Oakley 377,403
Elevator safety appliance, A. Stigler 377,537
Electric circuit closer, W. F. Stocker 377,538
Electric machines, armature for dynamo, R. H. Mather 377,688
Electrical distribution system of, J. W. Howell ... 377,488
Embroidering machine, R. T. Smith, 377,408, 377,409, 377,411, 377,412
Embroidering machines, automatic stitch adjusting mechanism for, R. T. Smith 377,410
End gate, J. M. King 377,680
Engine. See Gas engine. Steam engine.
Extractor. See Nail extractor.
Fan, rotary, P. Murray, Jr 377,573
Farm gate, I. Burkholder 377,479
Feed water purifier, O. H. Jewell 377,386, 377,390
Fence, R. B. Eubank, Jr 377,672
Fence, A. Lott 377,682
Fence, wire, J. King 377,524
Filter and purifier, water, O. H. Jewell 377,387, 377,388
Fire alarm, J. W. See 377,501
Firearm lock, J. Nicely 377,531
Firearm, magazine, W. H. Elliot 377,549
Fire work, J. J. Detwiller 377,730
Floor, inlaid, C. Momberg 377,685
Flouring mill alarm, A. J. Buie 377,370
Fluid motor, W. J. & E. Thomas 377,586
Frame. See Picture frame.
Frogless switch, F. Nemacheck 377,529
Furnace. See Hot air furnace.
Gas, apparatus for the manufacture of, T. B. Stillman 377,694
Gas burner, P. Menges 377,494
Gas burner, incandescent, J. S. Sellon 377,502
Gas burner, regenerative, W. S. Mead (r) 10,399
Gas engine, E. Korting 377,623
Gas lighter, electric, J. Finck 377,553
Gas lighting burner, electric, L. S. White 377,505
Gas, manufacturing water, F. C. Kniese 377,564
Gas, manufacturing water, T. B. Stillman 377,695
Gasoline can, W. W. Hutchins 377,520
Gate. See, End gate. Farm gate. Molasses gate.
Glass shingle, E. Walsh, Jr 377,588
Grain binder, W. M. Piatt 377,731
Hame fastener, J. H. D. Everett 377,671
Hammers or other tools, device for carrying chipping, J. T. Billson 377,664
Handle. See Tool handle.
Hanger. See Eaves trough hanger.
Harness, trotting, J. H. Whitaker 377,727
Harvester, G. W. Shuman 377,647
Harvester and husker, corn, C. F. Smith 377,649
Harvester reel, M. A. Clapp 377,372
Hay or grain elevator, E. D. Mead 377,492
Hay press, D. J. & I. W. Hyneman 377,458
Heel nailing and trimming machine, F. F. Raymond, 2d 377,577
Hoisting apparatus, M. S. Ragsdale 377,465
Holder. See Coin holder. Line holder. Spool holder. Stocking and skirt holder. Yardstick holder.
Hook. See Snap hook.
Horse cover, automatic, G. C. Hale 377,381
Hot air furnace, E. Kanaley 377,561
Hydraulic motor, C. G. Otis 377,636
Ice creeper, W. Sage 377,440
Incandescent devices, compound for making, C. A. Von Welsbach ..... 377,698 to 377,700
Indicator. See Station indicator. Steam engine indicator.
Inhaler. J. McGeary 377,571
Iron, pile for the manufacture of sheets of, R. A. Carter 377,729
Jar fastener, W. Heston 377,676
Jar fastening, preserve, T. G. Otterson 377,687
Journal box, anti-friction, T. Tripp 377,697
Ladder, step, J. Hill 377,616
Lamp, electric arc, Higgins & James 377,615
Lamps, apparatus for extinguishing the lights of car, H. M. Young 377,445
Last block fastener, H. S. Reynolds 377,499
Latch, gate, C. E. Angell 377,543
Lathe head stock lock, C. H. Weston (r) 10,900
Lathe, wood turning, L. L. Hill 377,617
Leaf turner, L. Maas 377,569
Leather dressing machine, G. V. Anderson 377,473
Level, plumb, Looker & Newlove 377,396
Level, plumb, C. Marshall 377,484
Level, plumb, Wentworth & Traver 377,658
Line holder, J. V. Beavers 377,367
Liquids, indicator for non-transparent receptacles containing, F. H. Palmer 377,533
Lock. See Firearm lock. Lathe head stock lock. Nut lock.
Locomotive ash pan, P. J. Brown 377,600
Log rolling device, L. T. Kline 377,717
Loom, H. Eastwood 377,425
Loom, let-off mechanism, S. Watson 377,654
Loom, needle, J. N. Stearns 377,535, 377,536
Lubricator, G. W. Amos 377,598
Magnetic separator, T. A. Edison 377,518
Mashing machine, M. Gottfried 377,451
Mast, hollow, J. W. Mansfield 377,490
Mat. See Metal bar mat. Metallic mat.
Measuring vessel, J. O. Boggs 377,369
Meat, preserving, J. D. Reed 377,405
Mechanical movement, A. L. Akins 377,509
Mechanical movement, electro, R. H. Mather 377,684
Mechanical movements, electrical apparatus for effecting, R. T. Smith 377,413
Medicine cup and stopper, J. B. v. Furstenwarther 377,483
Metal bar mat, W. C. Spelman 377,580
Metallic mat or floor covering, W. O. Bement 377,478
Metallic wheel, J. W. Savene 377,579
Meter. See Water meter.
Milk cooler, J. T. & T. C. Hays 377,675
Mill. See Saw mill.
Mining cages, landing catch for, J. L. Mitchell 377,402
Molasses gate, Gerard & Webb 377,555
Motor. See Fluid motor. Hydraulic motor.
Mower, lawn, E. Kelly 377,562
Mowers and reapers, cutter and cutter bar for, Morton & Brown 377,464
Music stand, folding, J. H. Macke, Jr 377,629
Nail. See Screw nail. Shoe nail.
Nail extractor, G. W. Lane 377,565
Nails, die for cutting and pointing wire, H. A. Stone 377,722
Nut lock, W. H. Haws 377,714
Nut lock, G. Heffner 377,613
Oil can, E. W. Rider 377,639
Oil cup, McNaughton & Bardsley 377,435
Oils, refining vegetable, G. W. Scollay 377,406
Ore crusher, C. Kaestner 377,459
Package comprising fragile articles, Shaw & McCulloch 377,644
Packet folding machine, De Freest & Wynkoop ... 377,669
Packing case fastening, N. Beckwith, Jr 377,477
Packing, piston, H. L. St. James 377,442
Pan. See Locomotive ash pan.
Pans, body wire and handle for dish, J. B. Melloy 377,632
Paper box, T. F. W. Schmidt 377,640
Paper tubes, machine for making, R. A. Sentman 377,643
Paper weight and pen, pencil, or cigar holder, combined, G. L. Tuller 377,726
Photographic accessory, J. C. Gomber 377,556
Photographic cameras, shutter mechanism for, M. Flammang 377,554
Photographic printing in fatty inks, C. Raymond. 377,498
Picture frame, F. W. Lowe 377,567
Pipe cutter, G. G. Thompson 377,725
Pipe expander, H. Wojan 377,507
Pipe wrench, J. Clark 377,668
Pipes and similar materials, apparatus for treating, H. G. Beatley 377,597
Pitman connection, M. N. & E. P. Lynn 377,461
Plane, bench, J. H. Shaw 377,645
Plow, Shelbourne & Sublett 377,646
Plow, C. M. Thompson 377,653
Plow beam, E. A. Wilcox 377,472
Pocketbooks, etc., elastic band for, J. S. Ebert 377,373
Pole socket and neck yoke, J. M. Kettlewood 377,679
Pot. See Coffee pot.
Press. See Hay press.
Printing machine, cylinder, J. T. King 377,432
Protector. See Tree protector.
Pulleys to shafts, means for securing, L. M. Batty 377,661
Pump and aerating device, beer, D. Dunn 377,711
Quoin, G. E. Jones ..... 377,618 to 377,620
Rail, detector, C. R. & H. Johnson 377,430
Railway, electric, W. I. Ludlow 377,397
Railway grip, cable, D. S. Mackey 377,527
Railway grip, cable, J. H. Robertson 377,499
Railway signal, T. S. Nicholson 377,634
Railway switch, E. Gordon 377,713
Railway time signal, J. F. K. O'Connor 377,497
Reel. See Harvester reel.