Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from $1 to $5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

(1) J. writes: I have a boiler that is good with the exception of about 4 inches at bottom of leg that is eaten badly by salt deposit. I have an idea of raising grate bars and filling with a cement of some kind. Can you inform me how to make it? A. Hydraulic cement, properly mixed, may answer your purpose.

(2) C. F. L. asks how tracing or vellum cloth is made. A. Wagner's tracing cloth is said to be prepared as follows: Boiled bleached linseed oil, 20 lb.; lead shavings, 1 lb.; zinc oxide, 5 lb.; Venetian turpentine, ½ lb.; boil for several hours, then strain, and dissolve in the strained composition 5 lb. white gum copal. Remove from the fire, and when partly cooled add purified oil of turpine sufficient to bring to the proper consistence. Moisten the cloth thoroughly in benzole, and then give it a flowing coat of the varnish.

(3) G. writes: If a 10 lb. weight is dropped from the center masthead of a steamer running 16 knots per hour, what position would the steamer bear to the weight on its reaching the water? A claims that the time occupied by the falling of the weight will cause the steamer to be in advance of the weight's original position at the mast head in the steamer's center, said advance to be computed by the length of steamer and rate of her progress, due allowance being made for force of wind. B claims the weight will fall directly perpendicular, and when touching the water will be in its original position, due allowance being made for the force of wind. A. Neither is exactly right; the weight will strike the deck a very little aft of the perpendicular, as the vessel maintains a constant speed, whereas the weight has the speed of the vessel before dropping, but loses a very small fraction of that speed during the time of falling.

(4) C. M. K. asks: What will destroy or drive away fleas? A. Try pennyroyal or essence of pennyroyal.

(5) D. S. K. asks for directions for silver plating iron and steel. A. Dissolve 12 ounces cyanide of potassium and 1 ounce (troy) of chloride of silver in 1 gallon soft water; filter, and suspend in this bath the chemically clean work and a plate of pure silver, exposing a surface somewhat larger than that of the work. Connect the work with the negative or zinc pole of a small Daniell or Smee battery of two or three cells by means of a stout copper wire, and join the silver plate in a similar manner with the positive pole of the battery. The work may be prepared for the bath by boiling it in a strong aqueous solution of caustic potassa or soda to remove traces of oil, rinsing in running water and scouring with a brush and pumice powder moistened with strong cyanide of potassium solution; then quickly rinsing again, and, without fingering, placing in the bath, and in circuit. A somewhat weaker (in silver) bath, called the "whitening" bath, and a stronger battery, is generally used to whiten or throw on the first film of silver. The proportions for this are: cyanide of potassium, 1 lb.; chloride of silver, ¼ ounce (troy). If the silver runs on dark, use a weaker battery, or break the current so as to give alternate intervals of rest. 30 minutes ordinarily suffices when a battery of 3 or 4 Smee cells, plates 10x4 inches, are used. In the whitening process an additional cell or more is employed. Iron takes silver better after having received a light deposit of copper. The metal must be freed from oxide by pickling in dilute acid and scouring with sand. For coppering a slightly acid bath of the sulphate and a strong battery may be used.

(6) "Reader" asks: Has chromic acid much application in the arts, where manufactured, and what its probable price? A. Yes, several of our large Philadelphia houses now produce the acid. It is quoted at 20 cents per ounce. 2. Can muriatic acid gas be made to combine with turpentine by the aid of heat, or at ordinary temperature without aid of a freezing mixture? A. Turpentine oil forms several compounds with hydrochloric acid. The gaseous acid converts it into the monohydrochloride, $C_{10}H_{16}.HCl$; when the oil is subjected for several weeks to the action of the strong aqueous acid, crystals of the dihydrochloride $C_{10}H_{16}$ 2HCl are obtained. The latter compound is also formed by the action of hydrochloric acid on lemon oil; hence it is called citrene dihydrochloride.

(7) H. H. K. asks how to clean and crystallize the blue vitriol which is found in the bottom of dip jars. A. Dissolve in small quantity of hot water, cool slowly, and evaporate by exposure to the air.

(8) F. W. D. writes: 1. Will you please inform an amateur photographer of the easiest way to recover the silver from waste solutions. 2. If it harms or benefits the silver bath to leave it in the sunlight? A. 1. Precipitate the warm solution by addition to it of common salt; allow it to settle, decant the clear liquid, and throw the precipitate, together with several scraps of zinc, into warm dilute sulphuric acid. When the chloride is all reduced, pick out the remainder of the zinc, decant and press out the liquid from the precipitate, dry, mix it with a little borax, glass, and powdered resin in a small clay crucible, and heat to complete fusion. Cool and break the crucible; the silver will be found as a button in the bottom. With a small crucible, a good fire in an ordinary cooking stove will answer for the fusion. 2. If covered, it is beneficial.

(9) A. R. F. asks: Can I get any more power from an undershot water wheel fitted with appliances to keep the paddles vertical than I can with a common stayed undershot of the same dimensions? If so, how much? A. You can, if the arrangements are suitable to the course of the current. The amount of gain will depend very much upon such arrangements.

(10) C. R. B. asks how to tin iron castings. A. Small articles of cast iron may be tinned by wrapping them loosely with zinc wire and immersing in a solution of perchloride of tin in 10 parts of soft water for 15 minutes. The castings must of course be well cleansed, by pickling them in dilute sulphuric acid and scouring with sand and water or scratch brushing. Use the bath at ordinary temperatures and polish the tinned goods with whiting and the brush. 2. Can you give me any information on soluble glass? A. Consult Feuchtwanger's treatise on Water Glass and its uses.

(11) W. A. C. asks if there is a cheap process by which pine poles can be prepared for service as telegraph poles, something that would preserve them in the ground a reasonable length of time? A. Char the ends slightly and coat them thickly with wood tar.

(12) W. J. R. asks: Please answer the following in your paper. Can I build a cemented wall in water; if so, how? Machinery to pump the water out would be too costly. A. Yes, by using a diving bell.

(13) F. X. M. asks: 1. How can I preserve cider? A. See p. 81, Vol. 41, SCIENTIFIC AMERICAN, "How to Preserve Cider." 2. A stick of wood weighing 100 lb., when converted into charcoal will be very much lighter, say 60 lb. less, and yet will give a much greater amount of heat. What is the chemical process and what change has taken place? What was the 60 lb. (missing from the original) composed of which would seem lost? A. Your assumption that the combustion of 40 lb. charcoal develop more heat than 100 lb. dry wood is erroneous. In comparing equal weights of the combustibles, the available thermal value of charcoal is greater, as wood contains more or less water, incombustible nitrogenous compounds, and volatile combustible matters which escape complete combustion in ordinary furnaces. Consult some elementary work on chemistry and heat.

(14) F. G. asks for a receipt for making black marking ink for boxes, bales, etc. I am familiar with the japan and turpentine preparation, but desire, if possible, an ink that will flow free from the brush and not become gummy. A. Try nigrosine dissolved in boiling water.

(15) P. E. writes: I wish to protect young pear and apple trees against gnawing by rabbits, by the use of lime whitewash; but it washes off the smooth bark so rapidly by rain that it becomes impracticable. Can you tell me any addition to make to the wash that will make it adhere in wet weather? A. Try mixing a small quantity of water glass solution (20 per cent) with your lime. Wash and moisten the wood with alum water before coating.

(16) W. T. S. asks: 1. Is there as much or any more pressure at the top of a steam boiler than at the bottom? I would suppose that the most would be at the bottom on account of the weight of water and steam pressure also. Am I right? A. You are right. 2. Can you explain why an injector throws water into a boiler against the pressure? Because the momentum of the water driven by the steam at a high velocity is superior to the pressure on the valve. 3. Is an inch and one fourth steam pipe large enough to supply a seven and a half by ten engine, running from four to five hundred revolutions per minute? A. No; it should be 2 inches diameter, if the engine runs at usual speed.

(17) M. J. asks: What will remove fruit and wine stains (especially peach and claret) from table linen? A. If uncolored, moisten with dilute sulphuric acid and then rub with a strong aqueous solution of sulphite or hyposulphite of soda; or soak for a short time in a strong aqueous solution of bleaching powder (calcium hypochlorite), press out excess of the liquid, and immerse in dilute sulphuric acid (1 to 10 of water); rinse in cold water, dip in hyposulphite of soda solution, and afterwards wash out thoroughly in hot water. If colored, use plenty of soapsuds and ammonia water. See p. 2511 SCIENTIFIC AMERICAN SUPPLEMENT, No. 158.

(18) J. E. E. writes: 1. I am intending to build a steam saw mill, 45 horse power. I wish to set the engine 60 feet from the river and 10 feet above the water line. Will I be likely to have any trouble in supplying the engine with water through the pump at that distance? A. Not if your pipes are carefully laid and tight. 2. There is an idea prevalent among engineers here that an engine whose cylinder diameter is 2-3 the stroke is better for saw mills than one whose diameter is ½ the stroke, or that a 12x16 is a better proportion than 9x18. Are they correct? A. Ordinarily cylinder ½ the stroke is best. The losses from waste spaces and clearances is less.

(19) J. A. W. asks which is properly the front end of an ordinary stationary engine, the crank end or the cylinder end. A. The cylinder end is usually considered the front, whether it be a beam or horizontal engine.

(20) J. H. D. writes: I am building a light draught side wheel boat, 65 feet long, 15 feet beam, making over all 22 feet, to be propelled by 10 foot paddle wheels making 50 revolutions per minute, paddles to be 26 inches long and 10 inches dip. How many paddles would it be advisable to put on each wheel? A. Not less than 10 nor more than 12. The latter will work the smoothest.

(21) E. B. D. asks: What is the cheapest and strongest battery or electric pile you know of? A. The Grenet is cheap and strong, but not constant. You do not state how you intend to use it.

(22) C. B. C. asks whether an induction coil could be made without commutator or condenser, that would give perceptible shocks, using three or four of the large sized cells of battery described in SUPPLEMENT 149. A. A condenser is not required for a coil used for giving shocks, but some kind of an interrupter must be used in the primary circuit.

(23) S. S. D. writes: I am going to try to make an emery wheel for grinding skates, etc. What grade of emery should I get, and what should I mix with it, and how mix? A. You will hardly succeed in making a regular solid emery wheel without expensive moulds and many trials and failures. You may, however, make a serviceable emery wheel in the following way: Turn a wheel of the desired shape from a well seasoned piece of pine board. Heat some emery on an iron plate to 200° Fah., and coat your wheel with good glue of about the consistency used for wood work; roll it in the emery and allow it to dry, then give it another coating of glue and emery. When it becomes thoroughly dry it is ready for use. You should make several wheels of different grades.

(24) C. S. asks (1) how the article in No. 161 of the SCIENTIFIC AMERICAN SUPPLEMENT, about a dynamo-electric machine, is to be understood. I mean that portion describing the electro-magnet. It says there: It is not necessary to use permanent magnets. Electro-magnets may be employed, the slight residual magnetism of the soft iron cores serving to excite the armature. Now how can I make this soft iron core to be magnetic, or must the armature be a magnet? A. Temporarily connect the wires that surround it with a battery; or place it in the magnetic meridian, that is, with one pole toward the north and the other toward the south. It is hardly necessary to resort to either of these expedients, as it is almost impossible to find a piece of cast iron that is not in some degree magnetic. 2. Also please give me the title of some book on such machines; one giving experiments that may be tried with it. A. An elementary work on physics would meet your wants. Ganot's Physics is a good work for you.

(25) S. M. E. asks: 1. What effect will ozonized air have on gelatinous animal substances in course of their manufacture? Will it bleach, purify, and deodorize them? A. It would probably bleach and deodorize them to some extent. 2. Is process practicable? A. We have no record of any experiments in this line. Without a better generator of ozones (ozonifier) than any at present used, probably not. 3. Are fish scales utilized in the preparation of isinglass; if not, by what process can they be practically converted into gelatine in quantities? A. No; it remains to be devised. 4. What books give reliable information as to the various manufactures of gelatin, glue, isinglass, and preparation of hair (from cattle) for mattresses, etc.? A. Consult Dawidowsty's Leim und Gelatin Fabrication.

(26) S. L. H. writes: I was in an assayer's office this morning and saw brought in by a miner something that he thought was very valuable, but it proved to be a mass of iron. Its greatest dimensions over all were: length 13 inches, width 10 inches, thickness 8 inches, weight 130 lb. It seems to be about the quality of best Norway iron, shows regular lamination across the mass, and has the appearance of having been thrown while at a welding heat into a bed of coarse gravel, and is not magnetic. I inclose a fragment chipped from it. It is very tough and would make good horse nails. Is this meteoric iron, or what is it, and are such things common? It was picked up about 8 miles from the Ivanpole gold and silver mines in the northern part of this county. [Judging from the small fragment sent us it is undoubtedly of meteoric

origin. Meteoric iron is perfectly malleable and may be readily worked in a forge and put to the same use as manufactured iron.]

(27) G. G. G. writes: 1. I am making an induction coil according to directions given in SUPPLEMENT, No. 160, page 2548. How can I tip the screw, which presses against the vibrating spring, with platinum? A. By drilling the end of the screw and driving in a short piece of platinum wire. 2. What is vulcanite? A. Hard rubber. 3. Could not the cylinder of the commutator be made of hard wood? A. Yes. 4. How many sheets of tin foil should be used for the condenser? What size should they be? A. About 50; make them a third larger than the dimensions given. 5. Will common lead foil do, or should they be pure tin? A. Tin foil is best; ordinary tin foil will answer. It need not be made of absolutely pure tin.

(28) W. M. G. writes: 1. In your SUPPLEMENTS the figures of magneto-electric machines, induction coils, etc., are marked "half size.' Do you mean exactly half size, or that the dimensions each way are one half as large as the original? A. The latter. 2. About what would be the weight of the Nos. 16 and 18 wire for the magneto-electric machine described in SUPPLEMENT, No. 161? A. About 2 lb. No. 16 and ½ lb. No. 18. 3. Should the cores for the large magnets be of wrought or cast iron? A. They would be better of wrought iron, but cast iron magnets are easier made and will answer very well.

(29) C. A. B. asks: Does the piston in a rapidly running reciprocating engine stop at the end of each stroke? A. The piston of all reciprocating engines stops at the end of each stroke, otherwise the movement could not be reversed.

(30) F. K. asks how to make a waterproof coating for cloth. A. Dissolve gum caoutchouc in excess of a bisulphide of carbon containing six per cent of absolute alcohol, concentrated by evaporation, away from the fire, as the mixture is quite inflammable.

(31) W. T. D. asks what will remove stains from kalsomined ceilings. In this country we put up a great many ceilings made out of brown muslin. The roof not being waterproof will leak on them and stain them, and rekalsomining them will not cover up the stain. A. Muslin may be bleached by soaking it in solution of bleaching powder, dipping afterward in sulphuric acid diluted with 10 parts of water, and then rinsing in plenty of cold water. 2. What will make muslin waterproof? A. See answer to F. K., above.

(32) G. P. P. asks: 1. How can carbon be soldered to brass or copper so as not to hinder the passage of electricity? A. By the process known as galvanic soldering, or you may copper your carbon by electro deposition and afterward solder the coppered surface to the brass. 2. How can a resonator be made by the use of which a Bell telephone can be heard in any part of a room 12 feet square? A. We know of nothing better than a plain funnel or trumpet similar to an ear trumpet.

(33) W. H. K. asks: Can you inform me what the preparation to polish ladies' leghorn hats consists of, as is used by straw hat manufacturers, and how to prepare and use it? A. An ammoniacal solution of bleached lac, is employed by some makers, we believe.

(34) E. H. N. writes: In a school room near by a new oak floor was laid last August. In the fall a few drops of ink were spilled on the floor, and to remove it oxalic acid in solution was applied, removing the stain where it was, but apparently leaving a kind of "halo" of darkness on the edges of the place where the acid was applied. More acid on this spread the inky matter, until, by successive applications, the color had spread all over the room. A peculiarity of the appearance is the bringing out of black color in places which seemed to have been cleared when water is spilled or sprinkled on the floor By what means can the black be removed? A Use a little strong hydrochloric (muriatic) acid then plenty of water; afterward dry and oil the floor.

(35) F. R. W. writes: An old photographer tells me that he at one time used bichromate of potash for a positive bath, exposing the paper through the negative for just a moment, and then using a developer which brought out the picture beautifully. He has since forgotten the name of his developer, and cannot do the same thing over. Can you tell me what would develop the picture in such a case? A. Expose the print to the vapor of aniline (oil). The bichromate should be mixed with a trace of phosphoric acid. 2 Also, if there is anything that will stick India rubber to leather, so that neither weather nor usage will separate them? A. Try a cement composed of equal parts of guttapercha and pitch.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

January 6, 1880,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, or any patent issued since 1867, will be furnished from this office for one dollar. In ordering please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

Agricultural forks, machine for manufacturing, J. C. Richardson 223,246
Alarm bolt, S. Poole 223,384
Animal trap, W. Driscoll 223,324
Axle lubricator, P. Habel 223,285
Barrel heading press, C. Tyrrell 223,302, 223,303
Bed bottom, J. W. Price 223,385
Bed bottom, spring, C. Merrick 223,428
Bed, folding, F. Raymond 223,386
Bed lounge, F. H. Lamb 223,234
Bee bucket, G. C. & S. E. Finley 223,330
Bird cage, M. Grebner 223,340
Blow pipe, E. W. Emerton 223,326
Blower, fan, J. F. Smethells 223,300
Boiler and other furnaces, steam, O. D. Orvis 223,238
Boiler furnace, straw burning, H. K. Day 223,279
Book case, revolving, J. Danner (r) 9,033
Books with staples, machinery for stitching, J. C. Smyth 223,252
Boot and shoe, J. M. Hunter (r) 9,034, 9,035
Boot and shoe counter support, W. H. Van Wormer (r) 9,030
Bottle stopper, Dudley & Sherwood 223,325
Bottle stopper, N. Fritzner 223,283
Braid, etc., device for holding coils of, S. B. Fleisher (r) 9,018, 9,019
Bridle, J. A. Beal 223,270
Bristle bunching apparatus, J. J C. Smith 223,399
Buckle, G. H Palmer 223,240
Buckle, suspender, F. Kelley 223,359
Building, fireproof, E. M. Butz 223,275
Cans, apparatus for sealing fruit, E. K. & J. M. Bruce (r) 9,025
Car brake, automatic, Card & Noble 223,317
Car coupling, J. E. Purdy 223,244
Car coupling, J. N. Winn 223,426
Car lighting apparatus, railway. I. F. Randolph (r) 9,037
Car, railway, Lissberger & Samuels 223,291
Car replacer, J. P. T. Lang 223,290
Car signal, revolving, E. H Brower 223,313
Car starter, J. Hill 223,347
Cars, ventilating, R. P. Morgan, Jr 223,375
Carriage bow, I. N. Topliff (r) 9,026
Carriage, spring-propelled, J. A. Moore 223,373
Catapult, E. C. Bruce 223,274
Chain links, die for welding, J. H. Helm 223,345
Chair seat, G. A. Watkins (r) 9,021
Chandelier, extension, L. Brauer (r) 9,024
Chronographs, minute counting attachment for, P. M. Doret 223,220
Churn, F R. Hawley 223,286
Churn dasher, H. Tilden 223,413
Churn operating machine, L. G. Sweet 223,258
Clockwork motors, case for, S. R Wilmot 223,425
Clutch, pneumatic safety, B E. Henriksen 222,287
Coal and ore breaker, P. H. Sharp 223,299
Coal hod, Holzner & Vohringer 223,349
Coke ovens, gauge for building, J. W. Miner 223,372
Combs from celluloid, etc., making, W. Booth 223,311
Cooking utensil, steam, J. Ashcroft 223,267
Corset, M. W. Henius 223,346
Corset spring, A. Benjamin 223,214
Crockery, device for exhibiting, E. J Ovington, Jr. 223,239
Cuff fastener, G. C. Bacon 223,268
Cut-off and valve, waste pipe, Millignton & Watson 223,371
Cut off for cistern leaders, automatic, H. L. Russell 223,391
Damper, J. T. Farrell 223,222
Door and shutter fastener, A. Sweetland 223,408
Drawer for safe keeping of drawings, G. B. Whiting 223,423
Dummy, R. H. Weir 223,419
Egg carrier, J. T. Fogg 223,331
Egg carrier, C. E Lozier 223,235
Electroplating with nickel, J. Wharton 223,265
Elevator, H. W. Sherrill 223,397
Engravers' tools, sharpening and preserving the bevels of, W. S. Brower 223,315
Extension table, J. D. Brassington 223,273
Eyelet, carriage curtain, C. W. Acker (r) 9,029
Faucet, A. Moore 223,374
Feather renovator, J. Shaw 223,298
Felting machine, W. Keenan 223,357, 223,358
Fence, J. F. Maris 223,368
Fence, iron, Smith & Mounsdon 223,400
Fence wire, barbed, J. Haish (r) 9,036
Fence wire stretcher, G. S. Manning 223,367
Filter press, C. Furbish 223,333
Fire alarm signal box, non-interfering, Crane & Rogers 223,218
Firearm, magazine, Sweeney & Wetmore 223,409
Firearm, magazine, W. Trabue 223,414
Firearm sight, C. R. Shelton 223,251
Fire extinguisher, S. M. Lillie (r) 9,023
Fire extinguisher, J. W. Stanton 223,402
Forge fan apparatus, J. C. Duebner 223,280
Furnace, H. M. Pierce 223,383
Fuse for explosive projectiles, J. A. Brand 223,312
Galvanic battery, R. C. Anderson 223,212
Gem coating, F. E. Meyer 224,237
Glassmaker's crane, W. Hirt 223,348
Glass, ornamenting, G. W. Martin 223,369
Grain binder, D. Strunk 223,407
Grain separator, J. A. Krake 223,233
Harrow, J. P. Gage 223,334
Harrow, S. D. Gibson 223,336
Harvester, corn, W. S. Barnard 223,213
Harvesting machine, Jones & Owens 223,356
Hatchway, E. E. Furney 223,284
Hatchway doors, operating, E. N. Dickerson 223,322
Hay fork and balance, combined, G. L. Richardson 223,296
Hay rake, horse, M. Butler 223,316
Hay rake, horse, S. Ritty 223,247
Head rest, T. J. Carrick 223,276
Hoist, lumber, J. J. Hennessy 223,227
Horse detacher, J. T. Willis 223,424
Houses, apparatus for moving, J. M. Apfeld 223,266
Hydrant, P. Connolly 223,278
Hydraulic elevator, S. H. Bevins *et al.* 223,272
Ink, manufacture of printing, J. Kircher 223,363
Insulating steam conducting pipes, J. Brosius 223,314
Ironing table. H. L. St. Clair 223,404
Knitting machine. A. March 223,292
Knob, door, H. Tucker 222,259
Lacing tips, stock for metallic, W. E. Joslin 223,289
Lamp, S. S. Newton 223,376
Lamp, C. F. Spencer 223,254
Lamp, carriage, J. A. Roberts 223,389
Lamp, student, S. C. Catlin 223,216
Last, G. M. Wells 223,263
Lawn sprinkler, C. Chamberlin 223,277
Lemon squeezer, J. Kessler 223,360
Level, plumb, M. Harrison 223,343
Lifting jack, combined screw and lever, F. B. Stevens 223,301
Liniment, J. C. Bailey 223,306
Mop wringer, C. B. Pettengill 223,242
Music chart for key board instruments, G. S. Rice 223,245
Musical attachment for chairs and sofas, M. Schrenkeisen 223,394
Musical instruments, stringed, T. Cobb 223,318
Musical instruments, key board attachment for, C. C. Reynolds 223,387
Nail picker, E. C. Taylor 223,410
Nut lock, F. B. Davis 223,219
Oil can, S. S. Newton 223,377
Oil, transportation can and box for, Everest & Ross (r) 9,017
Ore crusher, P. C. Du Bois 223,281
Pantaloons and other garments, E. Spies (r) 9,038
Paper box machine, F. H. Strieby 223,406
Paper machine, W. E. Phelps 223,381
Paper, manufacture of colored, H. Gmeiner 223,337
Pen, W. T. Rightmyer 223,388
Pigeon trap, W. H. Hawes 223,344
Planter and fertilizer distributer, seed, M. W. Whatley 223,421
Planter, corn, J. R. & J. H. Johnson 223,353
Planter, seed, J. Custer 223,320
Planters, check row attachment for corn, W. R. Iles 223,288
Plow, M. Johnson (r) 9,031, 9,032
Plow, P. Kessler 223,361
Plow point, shovel, H. C Beebe 223,309
Pot hole lids, receptacle for, N. D. White 223,422
Potato vines, etc., machine for sprinkling, S. H. Fox 223,332
Printers, bookbinders, etc., pressing machine for, J. W. Jones 223,355
Printing machine, lithographic, H. C. Pfeil 223,243
Printing presses, die clamp for plate, L. Dreka 223,323
Pulp, grinding cylinder for reducing wood to, S. M. Allen 223,304
Pump, E. S. Mack 223,366
Radiator, W. L Phillips 223,382
Rail sanding apparatus for locomotives, A. N. Keirkner 223,231
Railway and tramway track gauge, W. F. Goodhue 223,225
Railway, elevated, C D Tyler 223,415
Railway joint, C. R. Schellert 223,249
Railway rail fish joint, L B Tyng 223,260
Railway stations, stand pipe for, Van Vorst & Pratt 223,416
Reading rest, W H. Berry 223,271
Rice hulling mill, T. M. Green 223,339
Rivet and screw blanks, machine for heading, V. D. Upham (r) 9,027
Rotary engine, W E Sudlow 223,257
Sad iron, M. F Potts (r) 9,020
Saddle loop, G. Theobald 223,411
Sash fastener, Ingram & Clark 223,351
Sash holder, N. P. Selden 223,250
Sash, window, G. Hartig 223,342
Scale beam, J. Conway 223,217
Scraper and fork, combined, G P. Ruhle 223,390
Screw cutting machine, C. M Spencer 223,255
Self-waiting table, W E. Owens 223,295
Sewing machine, G. W. Hunter 223,229
Sewing machine brake, E L. Howard 223,228
Sewing machine cording attachment, A. Lobdell. 223,364
Sewing machine piping attachment, A. B. Felt 223,329
Shaft coupling, J Geisinger 223,335
Shoe, bathing, W J Ryckman 223,392
Shoemaker's jack, G M. Wells 223,264
Shutter, fireproof, W D Smith 223,401
Shutter worker, A. M. & W. H. Johnson 223,354
Sign hanger and support, combined, E. A. Goodes 223,224
Silk beating and washing machine, A. Urbahn 223,261
Soda water apparatus, J. Matthews (r) 9,028
Spark arrester, J. Kirkland 223,362
Spark arrester, G. Stewart 223,403
Spark arrester, M. Zeck 223,427
Stakes, apparatus for setting out slope, W. E. Soare 223,253
Stamping machine, cloth, E G. Gibson 223,223
Steam boiler surface feeder, C. N. Petesch 223,380
Steam engine lubricator, J. W. Thompson 223,412
Steering apparatus, P. P. Seoane 223,395
Stone dressing and paneling machine, N. Jenkins 223,230
Stool, camp, A. S. Drisko 223,221
Stove, cooking, G. Wellhouse 223,420
Stove fount, gasoline, G. W. Billings 223,310
Stove, oil, D. Shields 223,398
Street sweeper, E. G Rock 223,297
Sulky, trotting, T. H Brown 223,215
Tap or nipple for water and gas mains, T. B. Farrington 223,327
Telegraph repeater, fire alarm, Rogers & Crane 223,248
Telephone transmitter, J H. Irwin 223,352
Tobacco drying machine, G B. F. Cooper 223,319
Toy savings bank, E. L. Morris 223,293
Trace supporter, A Fellows *et al.* 223,328
Track clearer, J. Lyker 223,365
Traction engine, J. A. Stout 223,405
Transom lifter, J. M. Axtmann 223,305
Tubing, armor for flexible, H. Wakeman 223,262
Tug, hame, G. Hazlewood *et al.* 223,226
Tugs, spring link for draught, J. F. Miller 223,370
Vehicle baggage attachment, E. J. Osborne 223,378
Vehicle wheel, O. J. Baldwin 223,307
Velocipede, N. S. C Perkins 224,241
Vent valve for barrels. C Shabley 223,396
Vermin trap or insulator, E. P. Denton 223,321
Vessels, machine for unloading, F. Imhorst 223,350
Wagon brake, W. C. Kohler 223,362
Wagon seat corner iron, R. A. Morse 223,294
Wash board, Epeneter & Grahl (r) 9,022
Wash board, J. M. Gorham 223,338
Watch and clock movement, E Ware 223,417
Watchmaker's tool, J. D. Allen 223,211
Watches and clocks, spring power for, E. Ware 223,418
Waterwheel, turbine, W. Mercer 223,236
Windmill, J. F. Barker 223,308
Windmill, W. H. B. Page 223,379
Windmill, E. S. Stahley 223,256
Window screen, G Hartig 223,341
Wood bending machine, S. R. Bailey 223,269
Wool washing machine, F. G. Sargent 223,383

DESIGNS.

Card baskets or ornaments, L. O. Koones 11,568
Neck ruching, H. Schild 11,567

TRADE MARKS.

Beating and mixing machines, C. Lehmann 7,792
Corsets, Heilner & Strauss 7,791
Portable engines, Frick & Co 7,790

FOR THE WEEK ENDING DECEMBER 30, 1879.

DESIGNS.

Business cards, G. H. Kendall 11,553
Chairs, E F. Reed 11,557
Crocheted fabric, C. M. Graves 11,558
Gimp, J. Graham ..... 11,564 to 11,565
Gimp, J. H. Thorp 11,566
Knit fabrics. C. E. Bean 11,552
Oil cloth, C. T. & V. E. Meyer ..... 11,554 to 11,556
Woven fabric, E. Maertens ..... 11,559 to 11,563

TRADE MARKS

Cigars, F. Olsem 7,787
Illuminating oils, T. J Christy 7,784
Medicine for skin diseases, G. B. Browne 7,786
Medicinal compound for the cure of fever and ague, Dr. Val. Lechner 7,788
Non-alcoholic beverage, or a compound for use in preparing it, J. L. Worden 7,789
Smoking and chewing tobacco, cigarettes, and cigars, H. Wilkins & Co 7,785

English Patents Issued to Americans.

From December 19 to December 30, 1879, inclusive.

Alarm bells, H. Brown, Charleston, S. C.
Axles, G. W. Williams, New York city.
Belt fasteners, O. H. Jones, Hartford, Conn.
Bicycles, S. Sawyer, Gardner, Mass.
Electric light regulators, C. E. Scribner, Chicago, Ill.
Fabric splitter, M. H. Chapin *et al.*, New York city.
Firearms, H. A. Buck, West Stafford, Conn.
Firearms, O. Jones, Philadelphia, Pa.
Firearms, W. Trabue, Louisville, Ky.
Gas, O. Lugo *et al.*, Flushing, N. Y.
Grain weigher, W H. Allen, New York city.
Guns. E G. Parkhurst, Hartford. Conn.
Harvesting machine, S. Johnston, Brockport, N. Y.
Hay press, P. K. Dederick, Albany, N. Y.
Lubricators, P. Barclay, Boston, Mass.
Neckties, F. J. Flagg, New York city.
Pencil holder, J Reckendorfer, New York city.
Railway posts, J. S. Williams, Riverton, N. J.
Railroad rail machine, J S. Williams, Riverton, N. J.
Railroad switch operator, J. S. Williams, Riverton, N. J.
Retorts, A. G. Ross, Cincinnati, O.
Screw drivers, T. A. Weston, Stamford, Conn.
Ships, Z. Oram *et al.*, Philadelphia, Pa.
Signal buoys, E. E. Mann, Lawrence, Mass.
Spring mattresses, S. H. Reeves, Brooklyn, N. Y.
Telephones, J. F. Bailey, New York city.
Telephone, A. D. Connolly *et al.*, Philadelphia, Pa.
Thread waxing machine, S. B. Ellithorp, Rochester, N. Y.
Thread ticketing machine, W. R. Landfear *et al.*, New York city.
Toasting iron, C. G. Stafford, Eureka, Cal.
Tramway, A. S. Halladie, San Francisco, Cal.
Valves, F. Winters, New York city.