#### 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 The publishers of this paper guarantee to advertisers a circulation of not less than 50,000 copies every weekly issue.

Belting wanted, single or double, 80 ft, 28 in.: 65 ft. 24 in.; 52 ft. 16 in.; 42 ft. 20 in.; 37 ft. 8 in. State particulars, price, condition, etc. E. A. Galindo & Co., 40 Dey St., New York city

Hotchkiss Improved Mechanical Boiler Cleaner. Removes all sediment from steam boilers, thereby preventing incrustation. Send for circular. Jas. F. Hotchkiss, 84 John St., New Yerk.

Superintendent wanted, well skilled in use of woodworking machinery. Address Skill, Box 773, New York. Position wanted as Chemist or Assayer in a Chemical

or Manufacturing establishment or Smelting works, by a graduate of School of Mines, Columbia College. Best of New York city references. Address A. Meissner, 98 William St., New York.

Rubber Hose, Emery, Baxter Wrench, and Soapstone Packing. Greene, Tweed & Co., 118 Chambers St., N. Y. Rules for Engineers and Firemen, and the Removal

of Scale in Boilers. Send for circular. Rankin & Co., 50 Federal St., Boston The \$4 Drill Chuck sent free on receipt of price. A.F.

Cushman, Hartford, Conn. Wanted-Parties with Capital to Manufacture on Royalty, or other ways, a patented new Musical Instru-

ment. consisting of sixty-six bells piano key-board and pedals. Send stamp; full particulars will be given. Good references. Address patentee, C. G. Buttkereit,

Books relating to Architecture, Civil Engineering, Electricity. Electric Light, Drawing, Gas, Heat, Hydraulics, Mining, Sanitary Engineering, Steam Engine, Turning, Water Supply, etc. Catalogues free. E. & F. N. Spon, 446 Broome St., New York.

Alden Ore Crushers and Pulverizers, six sizes, \$45 to \$1,500. E. T. Copeland, 30 Cortlandt St., N. Y. city. Saw Mill Machinery. Stearns Mfg. Co. See p. 77,

See Stockwell Screw and Machine Co.'s adv., p. 76. For Best Quality Brass and Composition Castings,

address E Stebbins Mfg. Co., Brightwood, Mass. For Sale.-A N. Y. Steam Engine Co. 21 inch heavy Siotter, in good order. Address Southwark Fo. & M.

Telephones repaired, parts of same for sale. Send

stamp for circulars. P. O. Box 205, Jersey City, N. J. Aspestos Board, Packing, Gaskets, Fibers, Asbestos Materials for Steam & Building Purposes. Boiler & Pipe Covering, Asbestos Pat. Fiber Co., limited, 194 B'way, N.Y. Corrugated Wrought Iron for Tires on Traction En-

gines, etc. Sole m'f'rs., H. Lloyd, Son & Co., Pittsb'g, Pa. Malleable and Gray Iron Castings, all descriptions, by Erie Malleable Iron Company, limited, Erie, Pa.

Apply to J. H. Blaisdell for all kinds of Wood and Iron Working Machinery. 107 Liberty St., New York. Send for illustrated catalogue.

Our new Stylographic Pen (just patented), having the duplex interchangeable point section, is the very latest improvement. The Stylographic Pen Co., Room 13, 169 Broadway, N. Y.

Safety Linen Hose for Warehouses, Steamboats, and Hotels, at reduced rates. Greene, I'weed & Co., N. Y. Advertising of all kinds in all American Newspapers. Special lists free. Address E. N. Freshman & Bros., Cincinnati, O.

Skinner & Wood, Erie, Pa., Portable and Stationary Engines, are full of orders, and withdraw their illustrated advertisement. Send for their new circulars

Sweetland & Co., 126 Union St., New Haven, Conn., manufacture the Sweetland Combination Chuck

Power, Foot, and Hand Presses for Metal Workers.

Lowest prices. Peerless Punch & Shear Co. 52 Dey St., N.Y, The Brown Automatic Cut-off Engine; unexcelled for workmanship, economy, and durability. Write for in-

formation. C. H. Brown & Co., Fitchburg, Mass. For the best Stave, Barrel, Keg, and Hogshead Ma-

chinery, address H. A. Crossley, Cleveland, Ohio. Best Oak Tanned Leather Belting. Wm. F. Fore paugh, Jr., & Bros., 531 Jefferson St., Philadelphia, Pa.

National Steel Tube Cleaner for boiler tubes. Adjust able, durable. Chalmers-Spence Co., 40 John St., N. Y. Split Pulleys at low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

Stave, Barrel, Keg, and Hogshead Machinery a specialty, by E. & B. Holmes, Buffalo, N. Y.

Nicket Plating.-Sole manufacturers cast nickel anodes, pure nickel salts, importers Viennalime, crocus, Condit. Hanson & Van Winkle, Newark, N. J., and 92 and 94 Liberty St., New York.

Presses, Dies, and Tools for working Sheef Metal, etc. Fruit & other can tools. Bliss & Williams. B'klyn, N. Y.

Instruction in Steam and Mechanical Engineering. A paper. thorough practical education, and a desirable situation as soon as competent, can be obtained at the National Institute of Steam Engineering, Bridgeport, Conn. For particulars, send for pamphlet.

Hydraulic Jacks, Presses and Pumps. Polishing and Buffing Machinery. Patent Punches, Shears, etc. E. Lyon & Co., 470 Grand St., New York.

4 to 40 H. P. Steam Engines. See adv. p. 63.

Wright's Patent Steam Engine, with automatic cut. off. The best engine made. For prices, address William Wright, Manufacturer, Newburgh. N. Y.

Sheet Metal Presses. Ferracute Co., Bridgeton, N. J. Burgess' Non-conductor for Heated Surfaces: easily applied, efficient, and inexpensive. Applicable to plain Eclipse Portable Engine. See illustrated adv., p. 62.

For best low price Planer and Matcher, and latest improved Sash, Door, and Blin1 Machinery, Send for catalogue to Rowley & Hermance. Williamsport, Pa.

Peck's Patent Drop Press. See adv., page 76.

Special Wood-Working Machinery of every variety. Levi Houston, Montgomery, Pa. See ad. page 77. Blake "Lion and Eagle" Imp'd Crusher. See p. 77.

Improved Solid Emery Wheels and Machinery, Automatic Knife Grinders, Portable Chuck Jaws. Important, that users should have prices of these first as early as Thursday morning to appear in next issue, goods. American Twist Drill Co., Meredithville, N. H.

Wanted-First-class Iron Lathe, 20 to 24 in. swing, 17 to 20 ft. bed. Wm. Anderson, 23d and Wood St., Phila. For Standard Turbine, see last or next number.

Fire Brick, Tile, and ClayRetorts, all shapes. Borgner & O'Brien, M'f'rs, 23d St., above Race, Phila., Pa

Diamond Planers. J. Dickinson, 64 Nassau St., N. Y. Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

\$400 Vertical Engine, 30 H. P. See page 93. Wanted-The address of 40,000 Sawyers and Lumberen for a copy of Emerson's Hand Book of Saws. New

edition 1880. Over 100 illustrations and pages of valuable information. Emerson, Smith & Co., Beaver Falls, Pa. For Pat. Safety Elevators, Hoisting Engines, Friction Clutch Pulleys, Cut-off Coupling, see Frisbie's ad. p. 93.

For Wood-Working Machinery, see illus. adv. p. 93. For Separators, Farm & Vertical Engines, see adv.p.93. Elevators, Freight and Passenger, Shafting, Pulleys and Hangers. L. S. Graves & Son, Rochester, N. Y.

Tight and Slack Barrel machinery a specialty. John Greenwood & Co., Rochester, N. Y. See illus. adv. p. 92.

For Patent Shapers and Planers, see ills.adv. p. 93. Steam Engines; Eclipse Safety Sectional Boiler. Lam-For Mill Mach'y & Mill Furnishing, see illus. adv. p. 93.

Patent Steam Cranes. See illus. adv., page 92.

Hydraulic Cylinders, Wheels, and Pinions, Machinery Castings; all kinds; strong and durable; and easily worked. Tensile strength not less than 65,000 lbs. to quare in. Pittsburgh Steel Casting Co., Pittsburgh, Pa.

Mineral Lands Prospected, Artesian Wells Bored, by Pa. Diamond Drill Co. Box 423, Pottsville, Pa. See p. 93. Rollstone Mac. Co.'s Wood Working Mach'y ad. p. 93.

C. J. Pitt & Co., Show Case Manufacturers, 226 Canal St., New York. Orders promptly attended to. Send for illustrated catalogue with prices.

Catechism of the Locomotive, 625 pages, 250 engrav ings. The most accurate, complete, and easily understood book on the Locometive. Price \$2.50. Send for a catalogue of railroad books. The Railroad Gazette, 73 Broadway, New York.

Elevators.—Stokes & Parrish, Phila., Pa. See p. 94. Machine Knives for Wood-working Machinery, Book Binders, and Paper Mills. Large knife work a specialty. Also manufacturers of Soloman's Parallel Vise. Taylor. Stiles & Co., Riegelsville, N. J.

Penfield (Pulley) Blocks, Lockport, N.Y. Seead.p. 92.



HINTS TO CORRESPONDENTS

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

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

We renew our request that correspondents, in referring name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after 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 Supple-MENT referred to in these columns may be had at this office. Price 10 cents each.

- (1) G. H. M. writes: I have a photo-negative from which I wish to print pictures. I have done such work before, but have forgotten the strength of the solutions. Of what strength should the silver solution be? Of what strength the gold and hypo? How should the pictures be washed? and should the face of the negative be covered with tissue paper? Are the pictures soaked in any solution before putting them in the toning solution? A. Sensitizing bath, nitrate of silver, 5 drachms; water (distilled), 5 oz.; nitric acid, 2 drops; pure kaolin, 1 oz. Dissolve the silver nitrate, agitate with the kaolin, let settle, and use the clearliquid. Expose the dried sensitized albumen paper to the vapor of as long as volatile matters escape (impurities), then disammonia in a dark box for ten minutes. Wash the rilling the remainder with aquantity of water equal to prints well in clear running water, then tone in 10 oz. the spirit taken. Rectification of this dilute spirit over water (distilled) containing gold chloride, 4 grains; lime yields pure wood naphtha—methylic alcohol. acetate of soda, 1/4 oz., filtered. Fix in, water, 1 pint; hyposulphite of soda, 8 oz., fitered. Do not use tissue
- (2) W. H. S. asks: How can I make acetate of nickel? A. Precipitate an aqueous solution of acetate of nickel with excess of a solution of carbonate of soda, settle, decant the liquid, wash the precipitate. and dissolve it in warm acetic acid. Concentrate by evaporation, and crytallize the salt-acetate of nickel.
- air and water-tight process for making an umbrella air grounded. Do vouconsiderth's a safe rod? This spire and water proof, which will be as good as a rubber umbrella. A. See p. 368 etc., seq., Spon's Workshop receipts. 2. Can you tell me how to set dves by the inaqueous solution of glue, then in strong decoction of applies, emcient, and inexpensive. Applicable to plain or curved surfaces, pipes, elbows, and valves. See p. 234. sumac. 3. Can photographs be burned in on porcelain, there is liability to damage. The rod should be 34 of Echnica Portable Engine. See illustrated adv. p. 69 glass, or crockeryware? If so, how; or can you mention a an inch square, or four times the present size, and all (gold) toned print on a thin gelatin back, to the slightly a continuous rod as nearly as possible. If you put on gummed surface, by wetting the back. Then burnin in three more rods of the size you have, that would do. The

shellac, gum, camphor, alcohol, and asphaltum. Can surface that is in contact with the earth. you tell me how it is made? A. We do not know the composition of this particular varnish.

- (4) H. G. T. asks (1) for information as to They cover the tender buds of a honeysuckle. A. Use a dilute aqueous solution of sulpho-carbonate of potash. Apply with a finely perforated sprinkler. 2. Do you borax? 3. Do you know of any party that manufactures formation.
- (5) C. asks for a method of preserving photographs, and also a receipt for renewing photographs that have faded. A. Keep them behind glass and away from the light as much as possible. All ordinary photographs are apt to fade by long exposure to light, and cannot be easily re-developed by chemical
- (6) O. E. P. writes: In "Notes and Queries," July 24, 1880 (1), "F. J. B" wants to know how to keep pencil drawing, from rubbing out. Having been through the same experience fifteen years ago, I will venture to advise him to use varnish made of ched shellac and alcohol. Use 95 per cent alcohol bertville Iron Works, Lambertville, N. J. See ad. p. 413. and strain. Apply with a flat camel's hair brush. Pencil drawings made on manila paper will shrink badly after varnishing, but good drawing paper will come out all right, and if properly varnished may be washed with percent; chlorides, 022 per cent. soap and water when soiled without in jury to the lines. Some drawing paper, of an open texture, requires to be sized with a warm aqueous solution of isinglass before
  - (7) F. A. L. writes: In Scientific Ameri CAN, No. 4, for July 24, "F. J. B." asks for a solution will find a thin solution of white shellac sprayed on with method.
- (8) J. McM. writes: A distillery near this city, being short of water, desires to lay a five inch iron pipe to a large spring about 3,600 feet distant from the pool they now draw their water from. The standard height of the spring or fountain is 15 feet higher than the top of strainer on the present pipe in the pool. There is a rise from the fountain (about 850 feet from same) of 24 feet, and from there to the pool (about 2.750 feet) a descent of 39 feet from said highest point, making the out the amount used at present, and would, therefore, refall from the fountain as stated, 15 feet from fountain to spectfully ask you to inform me how many gallons of outlet. The overflow pipe at the pool outlet is 5 feet below have a stop valve in the pipe at the fountain? A. No. 2. reasonably good and properly run, you will require be-Is it necessary to have an exhaust pump at the high point? A. Yes. 3. Is it necessary to have a globe valve at the power. outlet? A. There should be a valve to control the delivery of the water. 4. When filled with water, and the outlet valve opened, will the water continue to run on the siphon principle; and is there any trouble, provided the pipe is air tight, in a successful operation of said pipe on the siphon principle? The ascent from the fountain to the height named is gradual and the descent is gradual. A. Yes, if the pipe is perfectly tight. In to former answers or articles, will be kind enough to laying the pipe we would advise you to sink it in the ground at the highestpoint as much as possible to reduce the lift.
  - (9) F. B. asks: At what date was telegraphing practically used in the United States, also in England? A. The first public exhibition of Morse's telegraph in this country was on September 2, 1837. The first working line was built between Washington and Baltimore in 1843-44. On May 27, 1844, the first dispatch was sent. The Morse system was introduced into Europe in 1845.
  - (10) E. D. T. asks for a recipe for ink powder that will make good black writing ink by dissolving in cold water, so as to be fit for use in a few hours or less. A. Tannic acid, 7 ounces; sulphate of iron (copperas), 1 pound; gum arabic, 1/2 pound; sugar (white), 1/4 pound; powder as finely as possible; rub all together, adding a few drops of clove oil.
  - (11) F. H. M. asks: How is wood alcohol made? A. It is obtained mixed with pyroligneous acid (crude wood vinegar) from the destructive distillation of wood. When this is heated in a still the first portions distilling are impure wood spirit. This purified by seve ral rectifications (redistillations) yields common wood naphtha. The empyreumatic matters, acetone, etc. which it contains may be removed by heating it in a still over a water bath with an excess of chloride of calcium
- cussion over the safety of a lightning rod, and would like to have your opinion. The rod is on the spire of one of our churches, about 155 feet from the ground to iron, and without insulation of any kind, but fastened | fications not being printed must be copied by hand. about every 21/2 feet by an iron spike driven into the wall or roof. The points are not soldered in any way but the lower piece is pointed and hooked into an eye in (3) A. H. M. writes: 1. Give me a cheap the upper piece. We do not know how the rod is has been struck once by lightning that we know of. The solder on the cross on top was melted, being the only injury sustained. A. If the rod is thoroughly soluble gelatin process? A. Boil the cloth in weak grounded it may do; but it is not large enough to carry very heavy discharges of electricity, and unless enlarged book telling anything about it? A. Transfer a well the joints should be thoroughly soldered, so as to make the muffle. We know of no book on the subject. 4. most important part of every rod is the bottom or un-What kind of liquid soap is petroleum soluble in oil or, derground connection. The lower end of the rod should Belt, woven en

partly soluble? A. None that we know of. 5. There be well connected with a metallic water pipe or gas pipe is a brilliant leather varnish. I think composed of orthe electrical conducting body having an extensive

- (13) D. F. S. writes: I have seen many inquiries about siphons in the column of answers to correspondents. I had some experience with them and find what would destroy a little green insect called aphis. them more difficult things than they are generally supposed to be. The way to get the air out of the neck is to have a cell at the bend on top like an inverted bottle, with a stop cock in the neck. The air will collect in this know of anything that will rid the pantry of red ants cell and can be taken out by turning the cock and then (very small)? A. Have you tried Dalmatian insect filling the cell with water and closing it and again turnpowder, or a strong solution of sugar with three parts ing the cock. In siphons of large diameter the discharge end must be in water to prevent air from going in. Runor deals in apparatus for pumping by horse power? A. ning water soon fills them with air on account of the See column of Business and Personal. A small adversmall bubbles. A ram is better in such places. The tisement therein would perhaps procure the desired in- places are not plenty where they are needed, and generally something else would answer better. That is my experience.
  - (14) C. H. B. asks: Will electricity in transit over or through a wire, or passing along a wire, emit sparks? or will it ignite combustibles that may surround a wire when passing through the same? A. If the wire is used as a lightning conductor, the current is likely to take the nearest ground, and wherever it leaps a space there will be a spark sufficient to ignite combustible substances. An ordinary battery current will not escape from a wire with a spark except when actual contact is made and broken hetween the terminals of
  - (15) E. S. P.—An analysis of Smith Bros. borax (slightly effloresced) gave: anhydrous borax, 53.01 per cent; water, 46.24 per cent; chlorides, 0.71. A sample of fine English borax (also slightly effloresced) gave: anhydrous borax, 58.63 per cent; water, 41.15
- (16) C. N. M. writes: In an argument, I contended that, in looking at the moon through a telescope first, and then through an empty tube of same dimensions-although illusory-it seemed really to the eye, to take a longer time for the moon to pass from sight while looking through the empty tube, than it did to prevent pencil drawing from rubbing. I think he the telescope. The other party held out that there was no apparent difference in either. I tried to explain an atomizer (a 25 cent one is good enough) the easiest that the difference was caused in being magnified and bringing the object nearer to the eye. Which is right? A. You are right. The apparent motion of the moon is magnified in the same proportion as its disk is magnified. so that with the lenses in the telescope tube, the moon would pass much more rapidly out of the field than with the empty tube.
- (17) G. J. S. writes: Thinking it an advantage to have the water consumed by our boilers by register rather than by yearly rent, we would like to find water will be consumed per hour per horse power at the surface of the fountain. Queries: 1. Is it necessary to 75 lb. steam pressure? A. If your boiler and engine are tween 3 and 31/2 gallons of water per hour per horse
  - (18) F. W. S. asks: 1. Can an engine with a cylinder say 2 inches diameter and 4 inches stroke, be constructed upon the principle of the small oscillating toy engines that would be of any utility for driving machinery? A. Yes, to work one-half to three-fourths horse power. 2. What should be the boiler capacity for size above given? A. Should have 10 to 12 feet face surface.
  - (19) E. A. B. asks (1) how outriggers are made for raceboats? A. Outriggers are generally made of iron 3% inch to 5% inch diameter, with the offset required and bolted to side of boat. 2. Is a boat 16 feet in length and 2 feet beam large enough for two oarsmen? A. 2 feet beam is not sufficient, it should be at

#### COMMUNICATIONS RECEIVED.

On the Hydraulic Mineral Belt of Texas. By J. D. On Mechanical Measures for Affecting the Water. By G. H. B.

Not a Serpent. By J. A. C. Stone Implements. By S. C. G. On the Thermal Telephone. By G. W. McP.

[OFFICIAL.]

#### INDEX OF INVENTIONS

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

July 13, 1880, AND EACH BEARING THAT DA'TE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866 will be furnished from this office for one dol-(12) J. H. M. says: We have had some dispatent desired and remit to Munn & Co., 37 Park Row, New York city. We also furnish copies of patents point of spire. The rod is of % inch square wrought granted prior to 1866; but at increased cost, as the speci-

	Agricultural boiler, J. W. Hudson	229,891
l	Air compressing engine, E. Hill	229,821
l	Animal shears, J. G. Corey	229,872
	Animal trap, J. L. Ramaley	229.913
	Aspirator. W. Autenrieth	229,796
	Auger, hollow, G. N. Stearns (r)	9,293
	Axle box, car, A. Higley (r)	9,295
	Axle lubricator, S. Broadbent	229,859
	Axle skein, vehicle, J. C. Sebring	229,920
	Baby chair strap, M. W. Blacker	
	Bale tie, J. White	230,093
	Baling press, T. D. Kane	229,892
	Ballot box, Crowe & Hestar	229,965
	Bed bottom, J. R. Pafford	230,045
	Bedstead frameleg, G. Steinson	
	Bedstead, invalid, L. Prince	
	Belt tightener, Rinehart & Albertson	229,841
ı	Palt woven andless S W Paker	230 030

108		Scientif	ic	American.
Berry basket, R. E. Morey	834	Incubator, II. B. Tatham, Jr. Indicator lock, H. L. Russell (r). Ink fountain, Libbey & Parcelle.	9,300	Telegraph, duplex, D. B. C Telegraph pole, J. L. Taylo Telegraph sounder, H. Va
Bitters, J. Christophel	,804 ,883	Knit fabric, S. Love	229,896 230,0 <b>4</b> 7	Telephone transmitter, A. Thill coupling, E. H. Shin
Blind fastener and s'at operator, W. I. Wooster 230.0  Boiler furnace, steam, M. C. Jones	827	Lamp, miner's, J. Vogele	229,825	Tile kiln, W., I., & B. Wic Timber chutes, frog for, H. Time lock, E. H. Flint
Book cover, J. A. Möller	036 071	Lathe, hub turning, C. Seymour Leather finishing machine, J. Liedtkie	230,07 <b>4</b> 229,895	Tobacco, machine for mak Tobacco, process and app Robinson
Bottle stopper, E. P. Raether	,054 .850	Lifting jack, H. R. FevrisLime kiln, R. DunlopLiquors, etc., preserving the flavor of fermented,	229,811	Traction engine, J. Poitev Truck, barrel, B. Colvin
Box fastener, O. N. Brainerd       229,6         Brine evaporating apparatus, V. P. Collins       229,6         Brush tooth, Holz & Meyer       229,8	,8 <b>71</b> ,823	O. Zwietusch	9,291	Tug, hame, J. E. Moeller. Type, elastic-faced printin Uppers, machine for strete
Brush, upholstery, E. M. Pine       230,0         Bung, barrel, C. W. Bauce       229,3         Button fastener, B. F. Bee       229,5	943 853	Wyman	229,969	P. Fairfield
Button, separable. J. H. Hodges		machinery, D. A. Woodbury	229,874	Vapor burner, G. W. Billin Vegetables, desiccating, H. Vehicle, passenger, C. M.
Buttons from plastic material, manufacture of,         230,0           P. L. Sylvester         230,0           Car coupling, J. C. Brooks         229,9	950	Milk cooler, Kimball & Williams	229,858 229,909	Vehicle seat spring, E. R. Vehicle spring seat, W. Sn. Vise, J. F. Hall
Car coupling. C. R. Howard	038 044		229,875	Wagon brake, Ladenberge Wagon running gear, C. E Wagon running gear, J. C
Car coupling, J. T. Rice       230,0         Car coupling, W. S. Sampson       229,8         Car coupling, J. T. Wilson       229,8	916	Music leaf turner, Ransom & Stone	229,837	Walls, coating and finishin Warming and ventilating, Washing machine, Trambi
Car coupling link, W. S. Sampson       229,9         Car door grain, T. Hibbert       230,0         Car seat, C. Beggs       229,9	012	Nut lock, J. Harding	230,056	Waste pipe valve, J. C. Da Water from atmospheric a ing, O. Kropff
Car seats, folding rack for sleeping, C. E. Lucas 229,8 Cars, etc., ventilator for, Hayden & Thiell 23070	897 011	Padlock, J. W. Reinhart	230,055 229,973	Waterproof compound, P. Well boring apparatus, H.
Cars by electricity, propelling, S. D. Field         229,9           Card, geographical game, W. G. Read         229,9           Card holder, F. G. Hunter         230,0	914	Paper bag machine, W. C. Cross	229,997 229,798	Wells, blasting in oil, J. S. Wells, temper screw for oil Whiffletree hook, W. C. Co.
Carding engines, apparatus for turning cylinders' of, B. S. Roy	844	Paper pulp. machine for preventing waste of, A.  McDermid.  Pen and brush, combined marking, C. I. Wallis	230,029	Whiffletree hook, Horner of Whip socket, A. Searls (r) Wind wheel, G. A. Myers
flats of, B. S. Roy	808	Pen, stylographic fountain, C. H. & C. L. Downes Pencil, lead, J. E. Faber Permutation lock, D. J. Kenny	229,988	Wire coiling device, C. D. Wire cutting machine, J Wire for drawing, preparing
Carving fork, C. L. Butler         229.8           Cash register, J. R. Kenworthy         230.0	802 022	Pianoforte. J. Hardman	229,820 230,018	Wire tightener, R. Ellwoo Yoke, neck, J. L. Babb
Casting apparatus, C. A. Caspersson	979	Plaiter and ruffler, combined, W. T. Elliott  Plane, bench, W. T. Wainwright	229,877	DES
Check bit, B. T. Henry       229,8         Child's chair, G. M. Patten       230.0         Child's chair and carriage, Mosler & Ladewig       229.9	048	Planter, corn. C. G. Everet	229,954	Bottle, T. M. Lahey Bottle, fountain, M. H. Ha Carpet, H. Christie
Chuck for turning polygonal bodies, lathe, S. Block 229,8 Churn power, N. Boren, Jr	947	Plow, gang, R. Holgate	229,816	Carpet, H. Horan
Cigarette, E. L. Witthaus	931 810	Plow, sulky, J. B. Neff	230,042 229,893	Chain hook, watch, E. A. I Match box, C. Kitschelt
Clay washer and grinder, G. L. Witsil	831 818	Printing plate, photo-mechanical, J. H. Whitley Printing press feeding attachment. F. L. Goss Pulp machine, wood, H. A. Frambach	229,998 229,879	Table cover, H. Pichler Upholstery trimming, L. I
Corks, device for compressing, T. B. Comins, Jr 229,9           Cornice hook, J. Day	873	Pump valve, H. F. Gaskill	229,840	TRADE Baking powder, yeast pow
Crank pin, D. A. Woodbury       230,0         Crimping machine, J. W. D. Fifield       229,9         Crucible, J. Pedder       230,0	989	Railway, portable, N. W. Condict, Jr. (r)	229.921	preparations, Hatch & Bed bottoms, spring, G. H. Butter, G. W. Simpson
Crushing milis, ore feeder for, J. O. Mortz.       229,9         Cultivator, wheel, J. H. Rhamy       230,0         Curling iron, O. Medary       229,8	057	Railway switch, J. B. Carey	229.866 230,095	Damascée, Moss Manufact Muslins, plain and fancy, J Pickles and chowchow, N.
Dental plugger, A. M. Denham	809	Railway train arrester, automatic, J. Wood	230,097 230,067	Tobacco, chewing and smo Veterinary powders, S. J. I Whisky, Hoffheimer Broth
Dish heater, N. D. Morey	039 8 <b>7</b> 8	Riveting machine, J. F. Allen	229,795 229,924	English Patents I
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Pictures, transferring, H. K. Flagler, Boston, Mass.
Printing machinery, W. P. Kidder, Boston, Mass.
Railroad signal, J. A. Emery et al., Boston, Mass.
Railroad signal, J. L. Williams, Riverton, N. J.
Refrigerating apparatus, J. Chase, Boston, Mass. Screw threads, machine for cutting, 1. S. Schuyler et al., Brooklyn, N. Y.

Signaling apparatus for mines, C. Cummings, Virginia

Type, means for holding curved lines, of, H. P. Hubbard,

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