## Business and Lersonal.

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.

Portable and Stationary Engines; Boilers of all kinds; 45 Cortland: St., N. Y. Erie City Iron Works, Erie, Pa.

Drawings and Engravings of Machinery a specialty. Pemberton & Scott. draughtsmen, 37 Park Row, Room 30.

Alcott's Turbine received the Centennial Medal.

Wanted .- Second Hand Screw or Lever Press for die work, 6 in. space, die 20 in. long. Address New York city.

For Sale-36" x 48 Horizontal High Pressure Condensed Engine; very cheap. At Shearman's, 132 N. 3d St.. Philadelphia.

For Sale-State Rights of Mathews' Monitor Windmill. Address D. Bennett Bancroft, Almont, Mich

Four Horse Power Engine and Boiler, N. Y. Safety Steam Power Co.'s make; good as new: for sale at a bargain. H. M. Quackenbush. Herkimer, N. Y.

ture on Royalty. R. K. Teller, Unadilla (N. Y.) Ma-

Address all orders for the Eclipse Engines, described in Sci. Am. of April 6, 1878, to Charles Sperry, Westbrook, Conn. Send for circulars

Blower Wanted .- Second-hand Noiseless Fan to feed Boiler. Frank Haynes, Box 2739. Boston, Mass.

Manufacturers' special interest to address Bentel, Margedant & Co., Hamilton, Ohio. for the best and latest improved Wood Cutting Machinery.

Makers of Steel Thimbles will please send their address to Henry Kennedy, Fairview. Erie Co., Pa.

Wanted .- Woolen Mill Superintendent; one thoroughly conversant with the manufacture of all classes of woolen and worsted fabrics. Address, giving references as to character, ability, and experience, and expectations as to salary, P O. Box 1926, N. Y.

For Sale-60" Boring Lathe, \$100; 18" x9 ft. Lathe, \$185; 8 ft. Planer, \$350. At Shearman's, 132 N.3d St., Phil-

\$10,000.—A manufacturing company having room and power to spare, desire to find some additional stable article to make affording good profit, and that can be extended into a large business. Part of the necessary capital furnished if desired. Address P. O. Drawer 417, Bridgeport, Conn.

Corliss Engine Builders, with Wetherill's improvements, Engineers. Machinists, Iron Founders, and Boiler Makers. Robt. Wether Il & Co., Chester, Pa.

Buzz Planer, both in first-class order, for sale by Bentel, Margedant & Co., Hamilton, Ohio.

For Town and Village use, comb'd Hand Fire Engine & Hose Carriage, \$350. Forsaith & Co., Manchester, N. H. Wrenches.—The Lipsey "Reliable" is strongest and best. Six inch sample by mail 60 cents. Roper Caloric Engine Manufacturing Co., 91 Washington St., N. Y.

Carriage Axles, Springs, Bolts, Wanted full particuabove. Address Selby & Co., Longmore St., Birmingham, England.

Cornice Brakes. J.M. Robinson & Co., Cincinnati,O. Saws direct on the arbor, and Upright Mill Spindles, which can be stopped instantly; Safety Elevators, and Hoisting Machinery. D. Frisbie & Co., New Haven, Ct.

Union Eyelet Company, Providence, R. I., Manufacturers of Patented Novelties on royalty or otherwise.

For the best Bone Mill and Mineral Crushing Machines—five sizes, great variety of work—address Baugh & Sons, Philadelphia, Pa.

More than twelve thousand crank shafts made by Chester Steel Castings Co. nowrunning; 8 years' constant use proves them stronger and more durable than wrought iron. See advertisement, page 270.

Machine Cut Brass Gear Wheels for Models, etc. (New List.) D. Gilbert & Son., 212 Chester St., Phila., Pa.

Boilers & Engines cheap. Lovegrove & Co., Phila., Pa. Weldless Cold-drawn Steel Boiler and Hydraulic Tubes. Leng & Ogden, 212 Pearl St., N. Y.

Skinner Portable Engine, Improved, 21-2 to 10 H. P. Skinner & Wood, Erie, Pa.

Improved Wood-working Machinery made by Walker Bros., 73 and 75 Laurel St., Philadelphia, Pa.

ForPower&Economy.Alcott's Turbine.Mt.Holly.N.J. Walrath's Improved Portable Engines best in market;

3 to 8 H. P. Peter Walrath, Chittenango, N. Y. Bolt Forging Machine & Power Hammers a specialty.

Send for circulars. Forsaith & Co., Manchester, N. H. The Cameron Steam Pump mounted in Phosphor Bronze is an indestructible machine. See ad. back page.

For Solid Wrought Iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for

John T. Noye & Son, Buffalo, N. Y., are Manufactur ers of Burr Mill Stones and Flour Mill Machinery of alkinds, and dealers in Dufour & Co.'s Bolting Cloth. Send for largeillustrated catalogue

Power & Foot Presses, Ferracute Co., Bridgeton, N. J. Solid Emery Vulcanite Wheels-The Solid Original Emery Wheel - other kinds imitations and inferior. rule you can solve the examples: Horse power=(area Caution.—Our name is stamped in full on all our best Standard Belting, Packing, and Hose. Buy that only. The best is the cheapest. New York Belting and Packing Control of the Cont ing Company, 37 and 38 Park Row, N. Y.

1,000 2d hand machines for sale. Send stamp for descriptive price list. Forsaith & Co., Manchester, N. H. Steel C stings from one 1b. to five thousand .bs. Invaluable for strength and durability. Circulars free. Pittsburgh Steel Casting Co., Pittsburgh, Pa.

Hydraulic Presses and Jacks, new and second hand.

Talley's Hydraulic Engine (see description and cut rch 9, 1878), as a simple, cheap, effective and economical power. is unsurpassed, and is meeting with great success. Economy Hydraulic Engine Co., Kansas City, Mo. Sperm Oil, Pure. Wm. F. Nye. New Bedford, Mass.

Bound Volumes of the Scientific American.-I have on hand bound volumes of the Scientific American, which 1 will sell (singly or together) at \$1 each, to be sent by express. See advertisement on page 270. John Edwards, P. O. Box 773, N. Y.

#### NEW BOOKS AND PUBLICATIONS.

DIE SAHARA, ODER VON OASE ZU OASE. Von Dr. Josef Chavanne. A. Hartleben's Verlag in Wien, Pesth und Leipzig. 1878. Lieferung I. & II.

Two widely separated portions of the earth are at present, more prominently than all others, engaging the attention of explorers—the Arctic regions, and the mysterious interior of that dusky continent, Africa. To a portion of the latter country, full of importance and interest both from its extent and remarkable natural characters, the author has devoted his book entitled "The Sahara, or From Oasis to Oasis." There is, per-Wanted, Business.—Will buy Inventions or Manufac- haps, no region of the globe about which more erroneous ideas popularly exist than regarding the Sahara. The notion usually held is precisely that of the old Roman geographers, who picture it as a boundless plain over which the wind continuously and sportively chases clouds of sand. The truth is, however, that we find here conjoined the sharpest contrasts of landscape character. Every gradation of landscape form is represented-Alpine scenery in no wise inferior to that of Switzerland, wild, deep, rocky valleys, large and extended mountains with snow-crowned summits, areas of luxuriant vegetation, a wealth of water which manifests itself under the form of lakes and rivers; then, a few hours farther on, almost imperceptibly, we reach bare, waterless plains, destitute of organic life and dotted with sandy dunes. A long residence and travels of many months in the northwestern part of the Desert have encouraged the author to sketch, in a popular, easily understood, and somewhat extended form, a nicture of the Sahara in its entirety which shall be true to nature. It is not his intention to give a description which shall meet the demands of the exact sciencesthe book is rather designed to present to the gaze of the general reader a correct view of the natural characteristics of every part of the Sahara, and the life, manners, and customs of its inhabitants. Where words alone fail to give a correct idea of a landscape, a type of the people, scenes of domestic life, or forms of vegetation, illustrations will be added to the text. The complete work will contain seven colored plates, sixty-four text illustrations, and a map of the Sahara. Theen-24 inch Second-hand Planer, and 12 inch Jointer, or tire work will be issued in 18 parts, of about 32 pages each, the first two of which have just reached us

> UNCLAIMED MONEY. A Handy Book for & Turner.

The author, who has made a specialty of the subject treated of in this little work, has here brought together a large amount of curious, interesting, and valuable information on unclaimed money, eccentric wills, and | feed water heater with sediment collector, and fresuch kindred topics. Although evidently prepared more especially to meet the wants of the English Friction Clutches warranted to drive Circular Log people, it may not prove less valuable to some of our own countrymen, particularly those who are connected by ties of consanguinity with the "mother country," pectations "from that quarter.

> ARGUMENTS BEFORE THE COMMITTEE ON PATENTS OF THE HOUSE OF REPRESENTATIVES, in February and March, 1878; pp. 355. Washington City: Thos. Mc-Gill & Co.

We have here the arguments of Messrs. J. H. Raymond, G. H. Christy, C. C. Coffin, H. D. Hyde, J. J. Storrow, George Payson, C. S. Whitman, A. H. Walker, Diamond Planers. J. Dickinson, 64 Nassau St., N. Y. Elisha Foote, Chauncey Smith, and S. A. Hurlbut, for and against the bill to amend the patent laws, now before the House of Representatives. As we shall review at considerable length elsewhere the facts and arguments presented by these gentlemen, we need say no more here than that the volume contains very much of interest to all who have the industrial progress and prosperity of our country at heart.

Messrs. W. Holberton & Co., of 117 Futton street, this catalogue and handbook for sportsmen, which we can fully recommend to all desiring guns, fishing tackle, camp outfits, sportsmen's clothing, sporting books, etc., as an excellent manual showing the best and most approved articles of the kind. Mr. Holberton is an ex-| perienced fisherman, and his advice may be relied upon when selection of goods is left to him, and at the same Painters' Rapid Graining Process. J.J. Callow, Clev'd, O. that is new and useful of the latest improvements in 1877, p. 323. sporting tackle. The catalogue is finely illustrated and ntaina apvoral excellent practic shooting, and camping. Its price is 15 cents.



D. C.—By the application of the following of piston in square inches) × (speed of piston in feet per minute)×(mean pressure of steam during stroke in lbs. per square inch):33,000.-J. L. & Co.-Your best plan, before making a change, is to have your engine and boiler tested, since it is possible that the engine is wasteful, so that the boiler may be large enough.-J. W. S.—We could not do justice to the subject in these columns. If you have no opportunity to visit a ropewalk, consult some good encyclopedia.-S. B. and J. Best Turbine Water Wheel, Alcott's, Mt. Holly, N. J. No. 109, p. 1738.—T. J. F.—See p. 408, Scientific Am- to, however, was mentioned as an absurdity.

ERICAN, June 30, 1877.-G. I. W.-You donot send sufficient data for the air pump, but you can calculate approximately how much steam your engine will use per minute, and then make an air pump of sufficient capacity to deliver from 35 to 40 times as much weight of water. T. C .- It is difficult to give a simple explanation, free from analysis, that is satisfactory, and the subject would require too much space for these columns. You will find a popular description in Johnson's Cyclopedia. -J. D. W.-Any kind of hide that is thick enough can be made to answer. The best qualities of lace leather derive many of their advantages from the careful treatment to which they have been subjected. We are not positive about the sample.-J. G. R.-You should make your wishes known through the "Business and Personal" column.-J. J. J.-It is probable that the circulation will be imperfect with the arrangement described, unless the pipes are quite large.-S. E. W.-If you will address a manufacturer you may obtain in formation on the points referred to in your letter.—J.J., W.—Consult Nugent's "Treatise on Optics."—R. K. F. -The problem is one of those quibbles which can never be put to rest. It was discussed at length in the Scien-TIFIC AMERICAN, vol. 27, No. 21, p. 330, and other issues. -W. H. D.—See answers Nos. 19and 22, p. 155, Scien-TIFIC AMERICAN, of March 9, 1 78.—H. P. C.—The premises on which your questions are put are incorrect It is impossible to straighten the rope.—W. B. P.—See Supplement, No. 20, p. 315. — "Cincinnati." — It appears to us that the buildingwould be safer without lightning rods than it would be with rods put up in the way described.—C. E. O.—It may be that your magnet is not sufficiently powerful. It should hold about 1 oz, of the magnet wrapped with one layer of writing paper. of March 9, 1878.—C. W. B.—It will be necessary to send sample of the water containing the animals reare a number of devices of the kind referred to in your turers letter. You can probably obtain addresses by inserting a notice in the "Business and Personal" column.

(1) E. W. asks: 1. What is meerschaum? A. Meerschaum (sepiolite) is a hydrous silicate of magnesia—silica 60.8, magnesia 27.1, water 12.1—100. 2. Where does it come from? A. It is found in Spain and several countries at the head of the Mediterranean.

(2) C. E. L. writes: I notice in the Scien-TIFIC AMERICAN of April 6, 1878, p. 209, an account of the performance of certain telephone circuits not connected in any way with the wires over which the concert music was being transmitted. There was one incident that the papers had no account of, that took place on the wire of Dr. Speare, which is worked with Morse instruments and does not approach nearer than 15 feet to the Western Union wires. He received the whole concert on an ordinary Morse sounder by placing a cylinder of cardboard over one of the coils, upon Heirs at Law, Next of Kin, and Persons which he placed an ordinary ferrotype picture. The in Search of a Clew to Unclaimed Money. Doctor says he is frequently able to hear the Morse By Edward Preston. London: Reeves workfrom the Western Union wires in the same man-them bright when exposed to the air.

> (3) J. F. M. writes: The water at this place contains a large amount of lime. How can I prevent scale forming in the boiler? A. You should use a quently blow off.

(4) F. M. C. asks: What will take the scale ut of a steam boiler? The one I refer to is an upright of about 6 horse power. A. Without knowing the natif the platinum wire is thin, less battery power is reand who may perhaps, for that reason, have "great ex- ture of the scale, it is impossible to recommend any quired to do the same work, but the thin wire, when specific remedy. By allowing the water in the boiler to heated, is easily broken. become cool, after the fire has been hauled, and then letting it out, the scale is frequently so much softened that it can be brushed or washed off.

> does it require to draw a 14 inch plow, cutting 6 inches deep, through ordinary ground? A. For any special this could only be determined by experimen

> What will make a cheap black paint to dip harrow teeth in? A. We think tar thinned with turpentine would answer very well.

What book will assist me in making drawings of models? A. Professor Warren's works are highly From this equation the proportions of cylinder for a spoken of. See also the series of articles by Professor MacCord in the Scientific American Supplement.

(6) H. K. writes: 1. In Barnes' "History of the United States," at the close of the description of the Atlantic cable, it is said that a message had been cit, have issued a new and enlarged edition of their sent by a battery made of a percussion cap. Please explain. A. We believe the cap was filled with acidulated water, and in it was suspended a shred of zinc, thus forming a battery, in which the positive pole was the copper gun cap, and the shred of zinc was the negative pole. 2. Is moist earth a better conductor of electricity than water? A. That will depend on the kind of earth. 3. How is the Trouvé moist battery contime his knowledge enables nim to offer a stock of all structed? A. See Scientific American, November 24,

(7) G. H. O. writes: I am making an electric machine, and a shorttime ago purchased a sheet of vulcanized rubber about ¼ inch thick and 15 inches in di- A. Consult Luce's or Alston's "Seamanship." ameter for the plate. This was cut round, and promised to do well. But it has commenced to curl up, and I cannot straighten it out. What is the cause of this, and is there any remedy forit? A. It may be that the rubber plate is not hard enough, or that it has been exposed to unque heat, and sagged out of form by its own weight; however, you can straighten it again by placing it on a flat sheet of metal, held on the surface of boiling water. The rubber plate will become softened by the heat of the boiling water, and when it lies flat on duce sharp impressions. How can I make a copper the meta; plate, the latter should be removed from the surface of the water and allowed to cool slowly, with the rubber plate on it.

AMERICAN of April 6, 1879, p. 214, under the caption ameter last July, and have never yet been able to use "How some mysterious boiler explosions may occur," For Best Presses, Dies, and Fruit Can Tools, Bliss & S. A.—See answer No. 67, SCIENTIFIC AMERICAN, April it is stated that some theorists have put forward the which appear in the water no matter how long it is al-Williams, cor. of Plymouth and Jay Sts., Brooklyn, N.Y. 20, 1878, and pp. 191 and 219, current volume.—C. E. 11. idea that the steam had turned to gas. Can that be lowed to run. The pipe is not exposed to the air, but -You will find the information desired in full on p. 38, possible? A. Yes; by decomposition of the steaminto in the well is covered with rust a quarter of an inch in Lathes and Machinery for Polishing and Buffing metals. vol. 36, of Scientifio American. We have not much its elements, hydrogen and oxygen, by chemical or thickness. The stones of the well near the surface of E. Lyon & Co., 470 Grand St., N. Y.

faith in such instruments.—A. S. C.—See Supplement, electrical means. The statement in the case referred the water are also covered with a yellowish rusty look-

- (9) J. C. asks: What is the simplest method of melting brass for small castings? A. In a plumbago crucible in a blacksmith's forge,
- (10) E. W. M. asks: What is the way to apply diamond powder to the edge of a soft iron lap? The lap is to be used in cutting glass. A. With a brush and olive oil.
- (11) S. S. C. asks: Is any greater injury lone to the bottoms of boilers, and also to grate bars, by the use of coke as fuel than by the use of coal? A. Generally, no.

(12) J. H. A. asks: Will not a given amount of water (say 36 cubic inches) raise more water to a given height (say 40 feet) if applied on a breast bucket wheel 10 feet diameter under an 8 foot head, driving a force pump, than it would if applied to a hydraulic ram? A. The wheel will probably give as much as twice the efficiency of the ram. 2. Is not a suction and forcepump better (for that height) than a force pump alone? A. We doubt whether one has any especial advantage over the other. 3. Does it require more power to force a stream of water, say 34 inch, through a large pipe, say 12 inches in diameter, than through a 34 inch pipe? A. Quite the contrary.

(13) A. J. B. writes; I have a small horizontal engine with cylinder 3 x 6 inches, running at 300 revolutions per minute, mounted on a horizontal boiler of the locomotive pattern, 16 inches in diameter by 4 feet long, with 11 2-inch tubes. 1. Is the boiler of sufficient capacity for the engine? A. We think so. 2. What shall I use to feed the boiler, an injector or a iron. Use finer magnet wire, and wind it directly on pump? A. An injector will answer very well. 3. What material is best for painting the engine? A. Black var-See answers 19, 15, and 22, p. 155, Scientific American nish made from petroleum can be used. 4. Will not this engine, with 70 lbs. of steam, and cutting off at 3 stroke, give fully 2 horse power? A. It probably will ferred to before we can answer you. -J. C. H.-There In reference to other inquiries address the manufac-

> (14) G. W. H. asks: If a ball were dropped from the surface toward the center of the earth, through a hole passing through the earth, would it pass beyond the center or stop when it reached its center? A. It would pass beyond, and return.

(15) J. W. A. asks: How many lbs. can a good engine raise 1 foot from the ground if fed with 1 oushel of coal? What is the amount of power stored up in that quantity of coal? A. Good engines require from 21/2 to 3 lbs. of coal for each horse power developed per hour, or perform 1,980,000 foot lbs. of work, with the above amount of coal,

It is said that the temperature of an Esquimaux snow hut is sometimes raised to 90° Fah., partly by the heat from the bodies of its inmates, and par's by two or three lamps burning. If so, why does the hut not melt down? A. The statement can scarcely refer to the walls of the hut.

(16) T. W. G. writes. I am making a collection of coins, and would like a recipe for keeping pale animé varnish is often used; dry and warm the coin and dip quickly. Photographers' unsensitized collodion also answers well if the coin is not handled.

(17) S. W. writes: I have read of a plan of felling trees by cutting through them with a platinum wire heated red hot by a battery. Please inform me further. A. The battery must be of sufficient power to readily heat the platinum wire to a very bright red heat;

What is the best brain food? A. That which is found to have the best effect on the system generally.

(18) J. W. P. asks: What is the system of (5) M. E. J. asks: What effort, in foot lbs., laying out a steam cylinder? I would like to know how much space it takes for 1 horse power. A. It will depend on the pressure of steam and piston speed. Thus, calling A the area of the piston in square inches, P the mean pressure in the cylinder in lbs. per square inch, and S the piston speed in feet per minute,

Horse power =  $\frac{A \times S \times P}{33,000}$ 

given case can be determined.

(19) C. S. asks: Will you please define in plain language precisely what is the meaning of the phrase, "limit of elasticity" or "elastic limit" so frequently used in discussions on the strength and qualities of iron? A. As ordinarily used, the expression means the tensile force, in lbs. per square inch, that a material can bear without receiving an injurious set.

(20) A. G. C. asks: What substance is used rith plumbago for coating the hulls of yachts, and what is the mode of applying? I do not mean a temporary coat to last just for a race, but a permanent coating. A. We are not aware of any mode of applying a permanent plumbago coating. It is usually put on with tallow, and only intended for special work.

Whatbook gives information on rigging boats, of ropes, in fact general information on the subject?

(21) A. L. H. asks: Are locomotive engineers obliged to have papers? A. The regulations in regard to this matter vary on different roads, and you should make inquiries of the officials. We believe there are no State laws requiring locomotive runners to be

(22) E. B. J. writes: I have tried plaster moulds to run metal to make a medal. It does not promould? A. By cutting it out with die sinkers' tools.

(23) G. D. M. writes: Please advise me as to the best pipe for conveying water to house from well (8) E. F. G. writes: In the Scientific 250 feet distant, We laid new iron pipe 1 inch in dithe water owing to flakes of rust and fine particles ing slime. A. Use lead pipe lined with tin.

(24) J. F. asks: If I condense ten volumes of atmospheric air into one volume, and cool it, say, to 40°, then allow it to suddenly expand to the original ten volumes, what will be its temperature? A. The following formulæ are applicable to such cases, provided there is no loss of heat by radiation or conduction: T=absolute temperature of air before compression; t =absolute temperature of air after compression; V= volume of air before compression; v=volume of air after compression; P=pressure of air before compression; p=pressure of air after compression. Then  $\left(\frac{\mathbf{v}}{\mathbf{v}}\right)^{0.408} = \left(\frac{\mathbf{p}}{\mathbf{P}}\right)^{0.29}$ 

(25) E. M. F. writes: I wish to have some metallic cylinders cast, about 10 inches long, 21/2 inches in diameter, and To inch thick. Lead is too soft. What cheap metal can be moulded as thin and be moderately strong? A. Soft or yellow brass, or solid drawn brass tubing, might answer.

MINERALS, ETC. - Specimens have been received from the following correspondents, and examined, with the results stated:

A. T. B.-Principally a ferruginous clay. May be used as a cheap paint if properly calcined. -T. J. H.-It is a bituminous shale or clay slate. It will yield a small quantity of oil illuminating gas by destructive distillation.

#### COMMUNICATIONS RECEIVED.

The Editor of the Scientific American acknowledges with much pleasure the receipt of original papers and contributions on the following subjects:

Locomotive Strokes. By W.G. Protection against Torpedoes. By F. P. The Towne Scientific School. By H. H., Jr. Is the Nation Safe from Invasion? By C. S. The Weather and Rheumatism. By J. H. Treatment of "Rusty" Gold. By J.T. Claude Bernard. By H. M. D. Galvanic Action. By C. P.

OFFICIAL.

### INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending March 19, 1878,

### 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, 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.

	201,536	]
	201,321	]
Animal trap, J. McMahel	201,546	]
Ashes, separating breeze from, J. Coyne	201,393	1
		j
Axle box, J. A. P. Vanclain Bag machine, G. O. Lackey	201,425	]
Bale band tightener, Sevey & Manz	201,361	
Bale tie, F. M. Logue	201,431	1
Bed, camp, M. A. Stevens	201,463	I
Bedstead, wardrobe, W. Fay	201,343	1
Bevel, square, and level, W. P. Walter	201.371	1
Billiard cusbion, H. W. Collender (r)	8,133	1
Billiard table cushion, H. W. Collender (r)	8,132	1
Bit brace, C. H. Amidon	201,379	I
Blanks, receiving and arranging, H. W. Bassett	201,483	1
Blasting powder, Graham & Ward	201,520	1
Blind, outside window, J. Hester.  Blind stile mortising machine, Doane & Bugbee.	201,413	1
Boiler, sectional steam, J. W. Hard	201,412	]
Boilers, removing sediment from, T. C. Purves		1
Book binding, I. Reynolds	201,450	]
Boot and shoe machine, N. J. Simonds	201,457	1
Boot, balmoral or laced, L. R. Stockbridge (r)	8,128	1
Boot legs, device for stretching, J. H. Walker Brake, wagon, Keene & Van Order	201,370 201,423	1
Brick machine J. A. Gamewell	201,515	1
Brick machine, J. A. Gamewell	8,127	
Bridle bit, J. Stanley	201,566	]
Broom brace, C. H. Butler	201,496	1
	201,491	1
Burglar alarm, A. Beck		
Button hole cutter, A. J. Lytle		ľ
Cake holder and cooler. S. W. Larrabee	201,538	1
Cake holder and cooler, S. W. Larrabee Can, metallic, Green & Wilson, Jr. (r)	8,126	1
Can spout, A. L. Fisher	201,513	]
	201,585	1
	201,421	
Cars, draw bar for railway, G. F. Godley  Carriage, child's, J. A. S. Simonson		Ľ
Chair, rocking, C. C. Nichols	201,440	ľ
Chimney cap, J. W. Taylor	201 466	ľ
Churn, J. Huebethal. Churn, O. O. Moore	201,528	1
Churn, O. O. Moore	201,438	1
Clamp, E. F. Gordon	201,407	1
Corn sheller, Scharnweber & Barkham Cornices,mould for running plaster, J. Y. Brickey	201,359	1
Cornices, mould for running plaster, J. Y. Brickey Corpse cooler, G. C. Hill	201,493	1
Corset, I. W. Birdseye		ا
Cotton opener and cleaner, R. Kitsen	201,424	l,
Cultivator sleeve manufacture, C. P. Buckingham	201,324	ı
Cut off, self-adjusting, W. Lowe	201.359	ľ
Cylinder with steam jackets, Leavitt, Jr., & Jones	201,429	ľ
Depot platform, L. J. Swett	201,571	1
Digging machine I Coast	201,473 201,499	1
Digging machine, J. Coast	201,433	1
Dough mixer, J. M. Stanyan	201,460	
Dredging tongs, C. A. Scanlan	201.559	1
Drill, grain, J. R. Finch	201,341	-
Drill grinder, A. K. Rider	201,449	
Drills, making twist, C. F. Jacobson		Ü
Drilling, etc., subaqueous, J. H. Striedinger et al. Egg carrier, Laffin & Elliott	201,569 201,426	
Egg carrier, P. Schulze	201,459	
Egg carrier, J. L. Stevens	201,568	F
Egg cup, W. Starkey	201,364	1
Electrical currents, C. H. Wilson	201,374	
Elevatorfeeder, R. Marquis		1
Engine for cotton presses, C. E. Emery	£01,397	1

Engine, wind, Croft, Sr., & Croft, Jr	201,456
Fare box, M. M. Moore	201,437
Faucet, lock, F. C. Lillis	201,430
Fence post, D. C. Johnson	201,422
Fence post, D. K. Mabie	
Fence wire, barbed, T. H. Dodge	201,507
Filter, G. H. Moore	
Fire arm, Henry & Fraser	201,524
Fire escape, C. A. Sheldon	201,455
Fish and animaltrap, G. Davis	201,504
Flanging machine, Campbell & Richards Flour and meal chest, sifting, C. Romine	201,557
Flue, H. R. Bash	201,484
Flume, R. H. Campbell	
Funnel, D. Williams	201,472
Game apparatus, C. Eusten	201,398
Garment supporter, T. J. Carroll	201,327
Grain binder, A. S. Hoyt	201,346
Grapple, A. L. Larwill	201,427
Gymnastic apparatus, J. S. Chamberlin	201,328
Harrow, J. K. Miller	201,435
Harrow, Smith & McCulley	201,363
Harvester, G. H. Spaulding	201,579
Harvester, cotton, 1. Boone	201,384
Hat brims, machine for curling, T. Lees Hat and cap, sweat leather, W. J. Van Horne	201,575
Hatchway, L. Pare	
Heaters, register box for, J. Moore, Jr	201,551
	201,476
Hog dressing machine, I. Boone	201,385
Horses, toe weight for, C. Ferrier	
Hose carriage, C. Castle	<b>J</b> 01 <b>.38</b> 8
Hot air apparatus, E. Moreau	
Hub, W. H. Wright Irrigating apparatus, C. D. Page	201,583
Ivory imitation, J. W. &C. M. Hyatt	201,348
Jewelers' soldering tweezers, C. F. George Key fastener, J. T. White	
Knitting machine, A. Reichenbach	201,447
Lamp, F. B. Squire  Lamp chimney, E. S. Drake	201,565
Lamp extinguisher, A. Hall	201,411
Lamp extinguisher, L. W. Swem Lamp, shoemaker's, A. Rosenstjerna	
Landroller, A. H. Ufford	201,368
Latch, gate, W. F. GoldenLatch, reversible, I. E. Van Benthuysen	201.573
Leather stuffing machine, J. W. Hildreth	201,526
Lewises, Graham & DennisonLifting jack, Tichenor & Dexter	201,467
Lifting jack, etc., A. W. Comstock Lighting device, W. W. Batchelder	
Lock, bag, A. Oberndorfer	201,552
Lock, permutation, G. W. Youmans Lock, time, P. F. King	
Lock, trunk, J. Arnold	201,480
Locks, striker for spring, W. H. Taylor Lubricator, W. A. Clark	201,572 201,332
Lubricator, loose pulley, W. G. Beach	201,487
Lubricator, G. W. Farnham Lumber, drying, G. Woods (r)	
Lumber, running through flumes, N.P.Chipman. Machinery, driving light, M. Everhart	201,330
Machinery, driving light, M. Everhart	901 900
Manhole and cover, T. Kerr	201,349
Marble, artificial, J. J. Williams	201,349 201,580
Marble, artificial, J. J. Williams	201,349 201,580 201,344 201,403
Marble, artificial, J. J. Williams	201,349 201,580 201,344 201,403 201,347
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges  Metals, expanding and contracting, G. W. Ford  Mill for pulverizing, J. W. Hyatt  Mirror and other frames, G. Eastman  Mirrors, T. Carney.	201,349 201,580 201,344 201,403 201,347 201,394 201,497
Marble, artificial, J. J. Williams	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,377
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,377 201,511 201,464
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,377 201,511 201,464 201,482 201,396
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,377 201,511 201,464 201,482 201,396
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical ton T. W. Harrison	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,511 201,464 201,462 201,396 201,410 201,345
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,511 201,464 201,492 201,396 201,410 201,336 201,345 201,334
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.	201,349 201,580 201,344 201,403 201,347 201,377 201,511 201,464 201,464 201,464 201,396 201,410 201,330 201,454 201,454 201,345 201,419 201,341
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer  Mud pipe cleaner, H. Green.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.	201,349 201,580 201,344 201,443 201,347 201,394 201,497 201,377 201,511 201,464 201,492 201,492 201,492 201,410 201,345 201,419 201,401 201,534 201,419 201,401 201,534
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,511 201,462 201,438 201,410 201,380 201,410 201,380 201,410 201,624 201,419 201,624 201,419 201,624 201,419 201,564
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.	201,349 201,580 201,344 201,403 201,347 201,394 201,497 201,571 201,464 201,462 201,346 201,346 201,346 201,345 201,514 201,514 201,514 201,515 201,518 201,518 201,518 201,518 201,518
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,511 201,462 201,462 201,396 201,41 201,41 201,396 201,41 201,41 201,396 201,41 201
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer.  Mud pipe cleaner, H. Green.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer  Painting machine, C. T. Brandon  Paper pulp machine, J. G. Moore.  Planoforte action, F. St. Amant.  Pin, dowel, B. F. Allen	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,461 201,461 201,360 201,361 201,361 201,419 201,401 201,564 201,564 201,564 201,564 201,466 201,566 201,466 201,566 201,466 201,566 201,466 201,566 201,466 201,566 201,466 201,566 201,466 201,566 201,466 201,566 201,566 201,466 201,566 201,466 201,566
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Alken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T., Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Plant duster, J. O'Brien.	201,349 201,580 201,344 201,403 201,347 201,394 201,377 201,571 201,571 201,461 201,432 201,396 201,410 201,396 201,410 201,345 201,534 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,410 201,518 201,401 201,518 201,564 201,566 201,560 201,461 201,378 201,461
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Piannforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planting machine, J. B. Stockham.  Plant duster, J. O'Brien.  Planter attachment, Armsworth & Brown.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,511 201,464 201,462 201,365 201,341 201,401 201,380 201,410 201,401
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planing machine, J. B. Stockham.  Plant duster, J. O'Brien.  Planter attachment, Armsworth & Brown.  Planter, C. Berryman.  Planter, C. Berryman.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,511 201,432 201,345 201,434 201,438 201,438 201,441 201,438 201,345 201,534 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,380 201,401 201,486 201,486 201,486 201,486 201,486 201,486 201,486 201,486 201,486 201,488
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T., Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Piannforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planting machine, J. B. Stockham.  Planter, C. Berryman.  Planter, O. C. Green.  Planter, O. B. Seamans et at.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,511 201,464 201,462 201,365 201,340 201,350 201,410 201,360 201,410 201,360 201,411 201,564 201,564 201,564 201,564 201,566 201,411 201,368 201,368 201,419
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planter, O. Berryman.  Planter, O. Berryman  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,511 201,462 201,492 201,396 201,442 201,396 201,454 201,497 201,518
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Moutor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter, O. B. Green  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. C. Carpenter.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,401 201,396 201,419 201,496 201,496 201,497 201,497 201,497 201,497 201,497 201,497 201,497 201,497 201,497 201,497 201,497 201,498 201,598 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,598 201,498 201,59
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Plant dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter, O. Berryman.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. C. Carpenter.  Plow, J. Follock.  Plow, J. Pollock.  Plow, J. Pollock.	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,511 201,401 201,396 201,442 201,396 201,442 201,396 201,441 201,497 201,401 201,362 201,513 201,564 201,513 201,564 201,396 201,441 201,479 201,486 201,596 201,441 201,479 201,488 201,597 201,486 201,598
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer  Painting machine, C. T. Brandon  Paper pulp machine, J. G. Moore.  Plannoforte action, F. St. Amant.  Plant duster, J. O'Brien.  Planter datsehment, Armsworth & Brown.  Planter, C. Berryman.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. Follock.  Plow, T. I. Wade.  Plow, C. A. Weed  Plow cutter, Wansbrough & Speer	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,377 201,464 201,462 201,346 201,346 201,346 201,346 201,419 201,401 201,355 201,461 201,364 201,419 201,419 201,419 201,419 201,419 201,419 201,554 201,554 201,550 201,461 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,375 201,471 201,471 201,471 201,375 201,375 201,375 201,375 201,375 201,375 201,471
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer  Painting machine, C. T. Brandon  Paper pulp machine, J. G. Moore.  Plannoforte action, F. St. Amant.  Plant duster, J. O'Brien.  Planter datsehment, Armsworth & Brown.  Planter, C. Berryman.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. Follock.  Plow, T. I. Wade.  Plow, C. A. Weed  Plow cutter, Wansbrough & Speer	201,349 201,580 201,344 201,403 201,347 201,347 201,377 201,377 201,377 201,464 201,462 201,346 201,346 201,346 201,346 201,419 201,401 201,355 201,461 201,364 201,419 201,419 201,419 201,419 201,419 201,419 201,554 201,554 201,550 201,461 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,366 201,419 201,375 201,471 201,471 201,471 201,375 201,375 201,375 201,375 201,375 201,375 201,471
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Alken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Eickemeyer  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T., Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter, O. Berryman.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, L. Eberle, Sr., et al.  Plow, C. A. Weed.  Plow C. A. Weed.  Press, hay and cotton, P. K. Dederick (r)  Printing machine, G. Rosquist.	201,349 201,580 201,344 201,403 201,344 201,403 201,347 201,377 201,377 201,377 201,464 201,462 201,464 201,462 201,362 201,461 201,362 201,461 201,362 201,461 201,362 201,461 201,362 201,461 201,564 201,564 201,564 201,461 201,366 201,461 201,366 201,461 201,378 201,466 201,470 201,466 201,470 201,465 201,470 201,465 201,470 201,465
Marble, artificial, J. D. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in Sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter, O. B. Green  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. Pollock.  Plow, C. A. Weed  Plow, C. A. Weed  Plow, C. A. Weed  Press, cotton and hay, G. W. Soule.  Press, hay and cotton, P. K. Dederick (r)  Printing, transfer sheets for, C. T. Moore.	201,349 201,580 201,344 201,403 201,347 201,347 201,347 201,377 201,377 201,464 201,462 201,366 201,410 201,380 201,343 201,419 201,401 201,364 201,564 201,564 201,564 201,564 201,564 201,564 201,564 201,564 201,565 201,466 201,471 201,489 201,521 201,489 201,521 201,489 201,521 201,489 201,521 201,477 201,489 201,521 201,477 201,477 201,477 201,477 201,475 8,130 201,478 8,130 201,478
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Moutor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planter attachment, Armsworth & Brown.  Planter, O. C. Berryman.  Planter, O. E. Berryman.  Planter, O. B. Seamans et al.  Plow, J. C. Carpenter.  Plow, J. C. Carpenter.  Plow, L. Eberle, Sr., et al.  Plow, J. Pollock.  Plow, T. I. Wade.  Plow, C. A. Weed.  Plow cutter, Wansbrough & Speer  Press, cotton and hay, G. W. Soule.  Press, hay and cotton, P. K. Dederick (r)  Printing machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing machine, F. A. Cushman.  Pump and condenser, R. M. Marchant.	201,349 201,580 201,343 201,344 201,403 201,347 201,347 201,377 201,377 201,571 201,464 201,462 201,464 201,462 201,362 201,363 201,363 201,364 201,410 201,362 201,564 201,564 201,564 201,564 201,564 201,564 201,560 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,368 201,378 201,468 201,378 201,468 201,378 201,468 201,378 201,468 201,378 201,468 201,378 201,470 201,465 8130 201,578 8130 201,558 201,476
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Elckemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Plant duster, J. O'Brien.  Planter attachment, Armsworth & Brown.  Planter, C. Berryman.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Plow, J. Pollock.  Plow, T. I. Wade.  Plow, C. A. Weed  Plow, C. A. Weed  Plow, C. A. Weed  Plow, C. A. Weed  Press, hay and cotton, P. K. Dederick (r)  Printing machine, F. A. Cushman.  Pump and condenser, R. M. Marchant.  Pump, ship's, J. Edson	201,349 201,580 201,341 201,403 201,342 201,343 201,347 201,377 201,377 201,377 201,464 201,462 201,362 201,362 201,464 201,462 201,564 201,564 201,564 201,564 201,564 201,565 201,461 201,366 201,419 201,486 201,550 201,461 201,550 201,461 201,550 201,471 201,486 201,570 201,471 201,486 201,570 201,471 201,486 201,570 201,471 201,486 201,570 201,471 201,486 201,576 201,471 201,486 201,576 201,471 201,486 201,576 201,471 201,465 8,130 201,501 201,475 201,476 201,471 201,486 201,501 201,471 201,486 201,501 201,471 201,473
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water. W. F. Eyster.  Moutor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oiling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter, O. Berryman.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Plow, J. Pollock.  Plow, J. C. Carpenter.  Plow, L. Eberle, Sr., et al.  Plow, C. A. Weed.  Plow cutter, Wansbrough & Speer.  Press, cotton and hay, G. W. Soule.  Press, hay and cotton, P. K. Dederick (r).  Printing machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, J. B. Beckett (r).	201,349 201,580 201,344 201,403 201,347 201,407 201,377 201,377 201,571 201,464 201,462 201,400 201,300 201,345 201,534 201,410 201,300 201,301 201,302 201,410 201,302 201,410 201,302 201,410 201,302 201,410 201,302 201,410 201,302 201,401 201,302 201,410 201,410 201,41
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Motor, water, G. W. Stith.  Motor, water, G. W. Stith.  Motor, weight, A. Barker  Mower, R. Elckemeyer  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer  Painting machine, C. T. Brandon  Paper pulp machine, J. G. Moore.  Plannoforte action, F. St. Amant.  Pin, dowel, B. F. Allen  Planter duster, J. O'Brien.  Planter datachment, Armsworth & Brown.  Planter, O. B. Green  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. Pollock.  Plow, T. I. Wade.  Plow, C. A. Weed  Plow, T. I. Wade.  Press, hay and cotton, P. K. Dederick (r)  Printing machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore  Pulping machine, F. A. Cushman  Pump and condenser, R. M. Marchant.  Pump, ship's, J. Edson  Pump yalve, Tregoning & Hastings  Railway, street, J. R. Beckett (r)  Rake, hand, J. Benedict	201,349 201,580 201,344 201,403 201,347 201,347 201,347 201,377 201,377 201,377 201,514 201,464 201,462 201,346 201,340 201,345 201,540 201,345 201,564 201,564 201,564 201,362 201,466 201,467 201,366 201,467 201,366 201,467 201,467 201,468 301,568 201,465 8,130 201,465 8,130 201,465 8,130 201,465 8,130 201,465 8,130 201,468 8,125 201,360 201,470 201,468 8,130 201,501 201,360 201,468 8,125 201,336 201,43
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Mootor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Plant duster, J. O'Brien.  Planter attachment, Armsworth & Brown.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. Pollock.  Plow, J. Pollock.  Plow, J. Pollock.  Plow, C. A. Weed.  Plow, C. A. Weed.  Plow, C. A. Weed.  Plow cutter, Wansbrough & Speer  Press, cotton and hay, G. W. Soule.  Press, hay and cotton, P. K. Dederick (r)  Printing machine, G. Rosquist.  Printing machine, G. Rosquist.  Printing machine, G. Rosquist.  Printing machine, F. A. Cushman  Pump valve, Tregoning & Hastings  Railway, street, J. R. Beckett (r).  Rake, hand bay, D. J. Starrett.  Range, J. Briggs.	201,349 201,580 201,344 201,403 201,347 201,407 201,377 201,377 201,571 201,464 201,462 201,462 201,360 201,410 201,380 201,410 201,380 201,410 201,380 201,534 201,419 201,534 201,419 201,532 201,401 201,382 201,401 201,382 201,401 201,382 201,401 201,382 201,486 201,550 201,486 201,550 201,486 201,550 201,486 201,378 201,461 201,378 201,461 201,470 201,465 201,378 201,465 201,378 201,465 201,378 201,468 201,385 201,468 201,385 201,468 201,385 201,468 201,385 201,468 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386 201,486 201,386
Marble, artificial, J. J. Williams.  Meats, powder for curing, E. Gorges.  Metals, expanding and contracting, G. W. Ford.  Mill for pulverizing, J. W. Hyatt.  Mirror and other frames, G. Eastman.  Mirrors, T. Carney.  Moulding in sand, Aiken & Drummond.  Motor, water, W. F. Eyster.  Moutor, water, G. W. Stith.  Motor, weight, A. Barker.  Mower, R. Eickemeyer.  Mud pipe cleaner, H. Green.  Musical instrument, valve action, T. Artaud.  Musical top, T. W. Harrison  Nails, picture, W. E. Jones.  Neck tie retainer, O. P. Hurd.  Numbering machine, C. Ewing.  Oil cup, A. S. Smith.  Oil cup, A. S. Smith.  Oilling wheel axles, H. D. Goodrich.  Padlock, W. D. Spencer.  Painting machine, C. T. Brandon  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, Baxendale & Barry.  Paper pulp machine, J. G. Moore.  Pianoforte action, F. St. Amant.  Pin, dowel, B. F. Allen.  Planter attachment, Armsworth & Brown.  Planter attachment, Armsworth & Brown.  Planter, O. B. Seamans et al.  Planter, O. B. Seamans et al.  Planter, P. B. Doty.  Plow, J. C. Carpenter.  Plow, J. Pollock.  Plow, L. Eberle, Sr., et al.  Plow, T. I. Wade.  Plow, C. A. Weed  Press, lay and cotton, P. K. Dederick (r)  Printing machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Printing, transfer sheets for, C. T. Moore.  Pulping machine, G. Rosquist.  Pump, ship's, J. Edson.  Pump and condenser, R. M. Marchant.  Pump	201,349 201,580 201,341 201,403 201,342 201,343 201,347 201,347 201,377 201,377 201,461 201,492 201,362 201,419 201,401 201,380 201,554 201,419 201,401 201,380 201,564 201,564 201,564 201,564 201,564 201,564 201,565 201,466 201,471 201,489 201,521 201,486 201,576 201,471 201,489 201,510 201,489 201,510 201,468 201,510 201,471 201,489 201,510 201,471 201,471 201,465 8,130 201,516 8,125 201,478 201,516 8,130 201,478 201,516 8,130 201,488 201,516 8,130 201,488 201,516 8,130 201,488 201,516 8,130 201,488 201,516 8,130 201,488 201,538 201,486 8,125 201,383 201,486 8,125 201,383
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