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

In the advertisement of H. W. Johns M'f'g Co. in last issue of this paper, the words felt packing should read flat packing. The advertisement as now inserted is

Parties manufacturing Traction Engines suitable for log hauling are requested to correspond with Drew & Bucki, Suwannee Steam Saw Mills, Ellaville, Florida.

Mica in sheet and scrap for sale in quantity to suit, Parties using Mica in any form please send for samples.

Atlantis Land and Mining Co., Box 2762, Lead ville, Col. A No. 6 Root Blower, steel shafts of extra strength, and used less than four months, in good order. Charles L. Oudesluys & Son, 67 Exchange Place, Baltimore, Md.

Wanted .- A live man (engineer preferred) to introduce the "Hydrostatic" Joint, for gas and water mains. A lead joint and the best in the world. A good opportunity for a competent man. W. Painter, 44 Holliday

Asbestos Wick Packing for Valve Stems, etc., is one of the most desirable articles ever produced for use around steam. It is practically indestructible. H. W. Johns M'I'g Co., 87 Maiden Lane, are sole manufacturers of genuine Asbestos materials.

New Economizer Portable Engine. See illus, adv. p. 108. A New Fruit Jar. Simple and durable; easily opened; no mouldy fruit. Territory for sale. Address C. A.

Barnes, Lockport, N. Y. Portable Railroad Sugar Mills, Horizontal and Beam Steam Engines. Atlantic Steam Engine W'ks, B'klyn, N.Y Portable Forges, \$12. Roberts, 107 Liberty St., N. Y. For Sale. - Foundry and Machine Shop, third city in

State; good business. Box 275, Winona, Minn. For Sale .-- Horse Detaching Patent. Best ever invented. W. R. Kitchen, Willard, Ky.

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

Steam Engine for sale very low. See advertisement

A Rare Chance.-We have on hand a 40 H. P. Horizontal Oscillating Engine, built for special work, but never used. It is first-class in all respects; has patent guides to prevent wear; has balance wheel, but no pulley. Price \$350. Heald, Sisco & Co., Baldwinsville, N.Y.

For Sale.—One Wood Turning Lathe, 20" swing, 14 ft. bed. Jig Saw and Face Lathe, for pattern work; also Blacksmiths' Tools. D. Frisbie & Co., New Haven, Conn.

Campbell's Self-acting Window Shade Rollers are the best in the market. Models and terms to the trade. 85 Centre St., New York.

Cheapest Portable Forges. H. Crumlish, Buffalo, N.Y. Forsaith & Co., Manchester, N. H., & 213 Centre St., N. Y. Bolt Forging Machines, Power Hammers, Comb'd Hand Fire Eng. & Hose Carriages, New & 2d hand Machin-

ery. Send stamp for illus. cat. State just what you want. Electrical Indicators for giving signal notice of ex tremes of pressure or temperature. Costs only \$20. Attached to any instrument. T.Shaw, 915 Ridge Ave.Phila.

Partner Wanted .- See advertisement on inside page. Instruction in Steam and Mechanical Engineering. A 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. Collection of Ornaments.-A book containing over 1,000 different designs, such as crests, coats of arms, vignettes, scrolls, corners, borders, etc., etc., sent post free on receipt of \$2. Palm & Fechteler, 403 Broadway, New York city.

Best Oak Tanned Leather Belting. Wm. F. Forepaugh, Jr., & Bros., 531 Jefferson St., Philadelphia, Pa.

The Baker Blower ventilates silver mines 2,000 feet deep. Wilbraham Bros., 2318 Frankford Ave., Phila., Pa. To stop leaks in boiler tubes, use Quinn's Patent Ferrules. Address S. M. Co., So. Newmarket, N. H.

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

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

For Solid Wrought Iron Beams, etc., see advertise ment. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

Split Pulleys at low prices, and of same strength and obtain such information without remuneration.

Works, Drinker St., Philadelphia, Pa. Stave, Barrel, Keg, and Hogshead Machinery a specialty, by E. & B. Holmes, Buffalo, N. Y.

Solid Emery Vulcanite Wheels-The Solid Original Emery Wheel - other kinds imitations and inferior. 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 Company, 37 and 38 Park Row, N. Y.

Sheet Metal Presses, Ferracute Co., Bridgeton, N. J Telephones repaired, parts of same for sale. Send stamp for circulars. P. O. Box 205, Jersey City, N. J.

Eclipse Portable Engine. See illustrated adv., p. 94. For best low price Planer and Matcher, and latest improved Sash, Door, and Blind Machinery, Send for catalogue to Rowley & Hermance, Williamsport, Pa.

The only economical and practical Gas Engine in the market is the new "Otto" Silent built by Schleicher. Schumm & Co., Philadelphia, Pa. Send for circular.

For Sale Cheap.—The entire patent for best Egg Beater ever put on the market. See illustration in this number of the SCIENTIFIC AMERICAN. Address H. C. Mann, Frankford, Pa.

Address Keystone Portable Forge Co., Phila., Pa.

Solid and Opening Die Bolt Cutters, Screw Plates, and Taps. The Pratt & Whitney Co., Hartford, Conn.

Silent Injector, Blower, and Exhauster. See adv. p. 109. The Paragon School Desk and Garretson's Extension Table Slide manufactured by Buffalo Hardware Co.

Planing and Matching Machines, Band and Scroll Saws, Universal Wood-workers. Universal Hand Jointers, Shaping, Sand-papering Machines. etc., manuf'd by Bentel, Margedant & Co., Hamilton, Ohio. "Illustrated History of Progress made in Wood-working Machinery," sent free

Linen Hose and Rubber Hose of all sizes, with or vithout coupling. Greene, Tweed & Co., New York. Fire Brick, Tile, and Clay Retorts, all shapes. Borgner & O'Brien M'f'rs, 23d St., above Race, Phila., Pa.

Machine Diamonds, J. Dickinson, 64 Nassau St., N. Y. The Improved Hydraulic Jacks, Punches, and Tube

Expanders. R. Dudgeon, 24 Columbia St., New York. For Superior Steam Heat. Appar. , see adv., page 110.

ForPat, Quadruple Screw Power Press, see adv., p. 108. Steam Cylinders bored from 3 to 110 inches. L. B.

Flanders Machine Works, Philadelphia, Pa. Valve Refitting Machine. See adv., page 110,

Cut Gears for Models, etc. Models, working machinery, experimental work, manufacturing, etc., to order. D. Gilbert & Son, 212 Chester St., Phila., Pa.

Walrus Leather, Solid Walrus Wheels; Wood Wheels covered with walrus leather for polishing. Greene, Tweed & Co., 18 Park Place, New York.

Holly System of Water Supply and Fire Protection for Cities and Villages. See advertisement in SCIENTIFIC AMERICAN of last week.

The E. Horton & Son Co., Windsor Locks, Conn. manufacture the Sweetland Improved Horton Chuck. Special Wood-Working Machinery of every variety. Levi Houston, Montgomery, Pa. See ad. page 45.

The best Truss ever used. Send for descriptive circular to N. Y. Elastic Truss Co., 683 Broadway, New York. end. Power Hammers. P. S. Justice, Philadelphia, Pa. p. 77.

For Shafts, Pulleys, or Hangers, call and see stock kept at 79 Liberty St., N. Y. Wm. Sellers & Co.

For Reliable Emery Wheels and Machines, address The Lehigh Valley Emery Wheel Co., Weissport, Pa.

Company, Philadelphia, Pa.

Hand Fire Engines, Lift and Force Pumps, for fire and all other purposes. Address Rumsey & Co., Seneca Falls, N.Y., and 93 Liberty St., N. Y. city, U.S.A.

Wm. Sellers & Co., Phila., have introduced a new injector, worked by a single motion of a lever.

Ore Breaker, Crusher, and Pulverizer. Smaller sizes run by horse power. See p.77. Totten & Co., Pitts'g. Comb'd Punch & Shears: Universal Lathe Chucks. Lambertville Iron Works, Lambertville, N. J. See ad. p.108. Inventors' Institute, Cooper Union. A permanent exhibition of inventions. Prospectus on application. 733

NEW BOOKS AND PUBLICATIONS.

Broadway, N. Y.

MILLS' DIRECTORY OF STEAM BOILER AND Engine Owners, Engineers and Steam Users in New York and Brooklyn. New York: Jas. N. Mills. Price \$3.

Business men having dealings with engineers and steam users will readily appreciate the value of 6,000 names and addresses in lines in New York and Brooklyn. The book is neatly made.



HINTS TO CORRESPONDENTS

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

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

We renew our request that correspondents, in referring 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 Presses, Dies, and Tools for working Sheet Metal, etc. of a personal character, and not of general interest, Fruit & other can tools. Bliss & Williams, B'klyn, N. Y. | should remit from \$1 to \$5, according to the subject, Bradley's cushioned helve hammers. See illus. ad. p. 110. as we cannot be expected to spend time and lahor to

Any numbers of the Scientific American Supp MENT referred to in these columns may be had at this office. Price 10 cents each.

of salicylic acid recommended for rheumatism is from 5 to 10 grains two or three times a day.

(2) F. H. H. asks: What danger is there in an ordinary coal oil lamp (lighted) when about one third full, or has a large space between the oil and top of lamp? What does the space contain-explosive gas or atmospheric air? A. Unless the best quality of cite coal and good furnace, from 10 to 12 lb. iron are kerosene is used there is great danger of an explosion, as the lower grades of oils give off vapor at ordinary temperatures which, when mixed with a certain proportion of air, form an explosive which requires only fire to develop its power. Many lamp burners are so contrived that it is possible for fire to run down in the wick tube and ignite the explosive below.

(3) C. F. A. asks: Will you be so kind as to inform me, through the columns of the Scientific side of his locomotive (thereby compelling him to use have now proper size of openings. 3. Is there any such AMERICAN, the relative cost and economy of the rotary his left hand to control the levers) is because it is natural an invention as an apparatus for opening the doors of engine as compared with other forms of the steam en- for him to do so; that is, the instinctively uses his left locomotives by means of levers or springs? A. We gine? A. While the cost of rotary engines is generally hand for many delicate operations, and his right where know of no such thing in practical use.

Forges, for Hand or Power, for all kinds of work. somewhat less than that of the reciprocatory, they have strength is the main requirement. In violin, and occanever yet been made to equal the latter in economy. The relative economy depends upon the character and construction of the rotary.

> (4) E. H. M. asks: Will shellac varnish form a sufficient insulator for the wire in the helix of a magnet for telegraphic purposes? A. Yes, if carefully applied and wound before it becomes so dry and hard as to crack.

> obtain an electric shock by simply holding the poles of . a battery, or must I have a machine? A. You will require an induction coil like that described on p. 203, Vol. 39 (14), SCIENTIFIC AMERICAN.

(6) W. H. writes: I have a job in about 30 minutes; it cracks and makes agreat noise. Please tell me the reason of water and noise, and how to remedy it. I will give you the way the pipes are placed. I start from the boiler with a 2 inch main to the first riser to 1 radiator, then I reduce to 11/2 pipe to the next riser to 1 radiator, and then reduce to 11/4 to next riser to 1 radiator, and from this to the fourth and last radiator I reduce to one inch; there is about 30 feet between the two last radiators. It is the last or furthermostfrom the boiler that is not working right, the second and third risers go to radiators on the third flat; the first and last are on the ground floor or store; the full length of the main from boiler is 65 feet. A. You do not send sufficient data for an intelligent reply, but judging from the action of the water and the noise, your pipes must be too small, or reduce in size too soon. Ac. definitely known. As to the chemical nature of metals, cording to the description given, a 11/2 inch pipe has to supply steam to every radiator except the first one. When the area of a 2 inch pipe is represented by 4, a 1½ inch pipe is represented by 2¼, which in practice for long lengths should not be valued higher than 2. On page 356, No. 23, Vol. xli., it says: "Mains which have given the best results leave the boiler of sufficient size, and reduce very slowly, if at all, until verynear the

power of an engine; cylinder diameter, 18 inches; stroke, 20 inches; revolutions per minute, 165; boiler pressure, 80 lb? A. If you call the average pressure on the piston 50 lb.=212 horse power. 2. Where can I get square in. Pittsburgh Steel Casting Co., Pittsburgh, Pa. Engines," "Edwards' Catechism of the Marine Engine," Electro-Bronzing on Iron. Philadelphia Smelting | for sale by industrial publishers who advertise in our

> (8) J. C. J. asks what books to buy on steam engineering. A. See reply to I. M., above.

(9) C. H. C. writes: I have six cells of a battery, the outer cup or jar is glass, and into this fits a porous cup containing a carbon core and some other ingredients. I also put in the bottom of the cells salammoniac, to produce the electricity. The point I desire to ascertain is, How much salammoniac should I keep in the cells to insure it in a working condition at all times? A. Enough salammoniac should be placed in the cell to form a saturated solution. It will do no harm if some of the crystals are left undissolved in the bottom of the jar.

(10) "Printer" asks: 1. Will a windmill run a cylinder printing press having a reverse motion unlike others? A. We think the speed would be too irregular. 2. Does a windmill always run machinery in the same direction? A. Yes. 3. Can it be regulated governors are generally used in connection with the best windmills.

(11) H. L. B. asks: 1. Are the wheels of the Hudson River steamers Vibbard and Powell placed precisely amidship? A. They are not precisely in the middle of length, and we do not know their exact position. 2. What are the Powell's dimensions and size of engines and boilers? A. Length 290 feet by 34 feet cut it if the strokes are repeated a sufficient number of beam, out to out, by 9 feet 4 inches hold; engine, 72 times. 2. What mixture with bichromate of potash is inches cylinder by 12 feet stroke; 2 boilers, 10 feet diameter of waist, and 25 feet in length.

(12) J. P. M. asks: 1. Is there anything better than a lever to secure a great power in a small space where but little motion is required? A. You might employ the principle of the hydraulic press. 2. to former answers or articles, will be kind enough to If a system of compound levers is used, and not enough motion, can any arrangement be made that will give the increased motion without diminishing the power! A. No.

> (13) C. M. writes: I see in No. 2 of Sci-ENTIFIC AMERICAN of 1880, in query No. 11, of W. S. W., how to find the cubic contents of a cylinder, your answer is to multiply the diameter by the decimal 0.7854. I wish to make a correction. It is to multiply the square of the diameter, that is, the diameter multiplied into itself, by the decimal 0.7854 to get the area, then multiin the electric arc of the ordinary carbon lamp. A. are correct. By some oversight the diameter was given for the square of the diameter]

(14) H S. C. asks: 1. How many bushels has these qualities. (1) E. F., J. S. B., and others.—The dose of coke will it take to melt 1,000 lb. iron in an ordinary medium sized two tuyerecupola? A. From 240 to 280 th to one ton Much depends upon the form and proportions of cupola. 2. How many pounds of coal will it take to melt same amount under same circumstances. about 10,000 lb. iron, in four charges? A. With anthramelted to the pound of coal consumed. 3. About how many bushels of coke will a ton of bituminous coalmake if coked to best advantage? A. From 60 to 75 per cent of weight of coal.

> (15) E. S. E. writes: A company of gentlemen have agreed to ask your opinion upon a question which hopelessly divides them. I maintain that the reason a railroad engineer is placed upon the right

sionally in piano playing, this appears. My opponents, say that the mentioned peculiarity of locomotives is accidental. I contend that there is a reason for it, and that it is only a recognition of a fact, which though not explainable, is patent to all. A. There is no special reason for the position of the engineer except habit and custom. Some years since, on several railroads the engines passed on the left side of each other, that the engineer might have a clear view of approaching trains; (5) P. S. asks whether it is possible to but we believe that in every case they have now changed to pass on the right, as is now the rule.

(16) F. H. L. writes: 1. Suppose a windmill built with sails in the ordinary manner, but not turning to face the wind, and suppose friction, etc., reduced to a minimum. Would the number of turns per which there is one radiator that fills with water for minute vary as the velocity of wind, when the wind was in the direction of the axis? Thatis, if n=number revolutions per minute, v=velocity in miles, and C some constant, should we have n = Cv? A. Yes, the pressure is as the velocity. 2. If the wind made an angle, A, with the axis, should we have n=Cv 'cos A? A. Whatever angle the course of the wind makes with the axis. the speed will vary as the velocity of the wind so long as the direction is unchanged.

> (17) H. M. asks: 1. What are the chemical properties of telegraph wire? Which of its separate properties act as a conductor of electricity? A.All metals, as well as many non-metallic substances, are to a certain extent conductors of electricity. The precise manner in which electricity is transmitted through these is not consult some elementary work on chemistry 2 Is there anything of a transparent nature a conductor of $electricity -\!\!\!\!-either~a~liqui~do~r~solid,~solid~preferred-that$ will not be affected by the current? A. We know of no such substance. Acidulated water conducts electricity, but slowly suffers decomposition by its action.

(18) Short Hand.—"Student" and others ask: 1. What is the best system of short hand? A. There is no demonstrably "best" system. Any one of (7) I. M. asks: 1. What is the horse numerous systems in use will serve well enough as a basis for the beginner. Ultimately every successful reporter has to develop his own system in accordance with his experience and the requirements of his own hand and mind. The man who has the rare qualifica-Hydraulic Cylinders, Wheels, and Pinions, Machinery and what is the best work on mechanical engineering tions of quick and tenacious memory, unlimited patience, Castings; all kinds; strong and durable; and easily and management and care of steam engines and boilers, nice discrimination of form, and capacity for manual worked. Tensile strength not less than 65,000 lbs. to and what it will cost? A. "Roper on Land and Marine skill, requisite for rapid reporting, will succeed with any system. Some of the most successful reporters have based their writing on ordinary script 2. Can short hand be learned without a teacher? A. Probably nine out of every ten reporters have acquired the art without a teacher. A good teacher, however, will be of great assistance to the learner. 3. How long will it take to learn to report? A. Three months under good instruction, with several hours' daily practice, will suffice for easy work, proper capacity and industry on the part of the learner being assumed. The great majority of those who attempt the art, however, fail to acquire skill enough, after years of practice, to report a fairly rapid speaker, 4. Are there any good books on the subject? A. Any bookseller's list will show numbers of them, each and all guaranteed to be the very best. 5. Is reporting a profitable occupation? A. No. generally speaking. Still there is no occupation which cannot be made to yield a living, often verymuch more, to any one of proper capacity who will pursue it with prudence, zeal, and energy. Considering, however, the great time and labor required to master the art of short hand reporting, and the low average reward. the occupation is not an inviting one. Nevertheless as an as regards speed by anything like a governor? A. Yes; auxiliary to other lines of business short hand is well worth studying by any one who has time for it. The incidental training of hand and eye and memory is

(19) R. B. N. asks (1) how to cut carbon sticks in the best manner. A. A hardened steel point drawn along a straight edge, and at the same time pressed against the carbon with considerable force, will used in the battery which consists of a zinc plate suspended between two carbon plates? A. Dissolve 2 parts of bichromate of potash in 20 parts of warm water. When cold add slowly 1 part of sulphuric acid. 3. Is there a cheap device by which I can wind wire on an iron core for an induction coil? A. See directions for making an induction coil, p. 203, Vol 39, Scientific AMERICAN, and SUPPLEMENT, No. 160

(20) W. H. A. writes: There are being constructed in Illinois a line of towers extending longitudinallyacross the State, made of wood, frame of pyramidal shape, ranging from 125 to 200 feet high, from 1 to 3 miles apart, as we understand. What is their purpose? A. They are used by the engineers in the United States Survey Service in triangulation.

(21) G S. J. asks (1) if platinum is fusible plying by the length you get the cubical contents. [You Yes. 2. Is there any substance that is not fusible in the electric arc, and at the same time a non-conductor of electricity? A. There is no known substance that

(22) L. M. writes: 1 All our machinery is not having been run more than four months. We have a battery of flue boilers, one of which has on the first sheet a flaw in the iron above the fire box about 1-3 of the way up the side of the boiler; it is about 12 inches bed in both cases to he counted in; whole heat to melt long and has a ragged appearance. This outside shell is about 1/4 thick. The boiler is of 3/4 plate. We carry 80 to 95 lb. steam. Do you think it is dangerous to run it in this condition? A. Yes; repair your boiler before using. 2. Our hoisting engines are strongly built, size of cylinder 12x20, the best time we can make is 9 seconds; throttle open wide, 90 lb, steam. The coal is hoisted one hundred feet out of a shaft. How can I make the engines quicker, without increasing the steam pressure? The valves have 1/2 lead, 1/2 lap. steam cut-off at 3/2 stroke. A. We think you cannot make them quicker, if you

- ing a curve will travel more on the high than on the low side. How do they do it when the wheels on both sides are making the same number of revolutions? A. The face of the tire is generally ' coned," and the outer wheel runs on a larger diameter; also, the inside wheel slips or slides to a certain extent, depending on the radius of the curve. 2. On what principle does an injector work? A. By the velocity and consequent momentum given the water by the effluent steam.
- (24) V. V. G. asks: Will a locomotive without train, with a 41/2 foot wheel disconnected on one side, be equal to a 9 foot wheel? Will a locomotive run faster with one side disconnected? A. The locomotive will not travel faster than the wheel travels. Disconnecting one side makes no difference so long as the wheels have the same velocity.
- (25) R. H. D. asks: What is the best way to irrigate a strawberry field, $\frac{1}{2}$ acre, water to be taken from a lake, highest point 9 feet above low water; greatest distance 200 feet; time water is wanted, during the month of June? I can pump in a tank by hand and spread by gravity, or draw with team and self-filling tank attached under wagon. Is there a better or cheaper plan? A. Put up a windmill to pump into your tank, and spread by gravity.
- power tubular boiler to test with waterpressure; took the one having two cylinders? A. Two engines. water from a pond covered with ice, boiler was out doors; thermometer about 26°, or 6° below freezing cloudy day; gave it a pressure of 120 lb, in that condition. How much steam pressure would it be equal to? I claim it would be as hard on the boiler as 150 lb. steam or hot pressure. A. It would be harder on the boiler, because the water has no elasticity, while the actual pressure would be the same. The iron would also be more brittle at the low temperature.
- (27) A. B. P. writes: I have a large cistern, and the pipe that feeds my boiler is constantly five feet under water. Would it be injurious to the boiler. or in any way objectionable, to let the exhaust from the engine into the cistern at the top of the water, if I use country tallow only in the cylinder? A. No, unless you use the tallow in large quantity.
- (28) G. H. C. asks: 1. What was the depth of girders and what was the width from outside to outside of same across the track on the recently destroyed spans of the Tay bridge? A Depth 27 feet, width between girders about 12 feet. It was a single track bridge. 2. Are hexagonal nuts ever used on bolts in fish plates in this country, or are they all square? A. They are almost invariably square. 3. Is a fish plate bolt screwed up tight as any other bolt in any piece of machinery, or is it left moderately loose to admit of expansion and construction of rails? A. It is screwed up tight, but the fish plate has a little elasticity.
- (29) A. O. K. writes: 1. I have charge of a boiler of the locomotive type. I have considerable trouble with leaks at the bottom of the water legs, caused by fractures in the cast iron "ring" surrounding the fire box. Calking does no good; I have also tried a cement of iron turnings, salammoniac, and sulphur, placing it on the cracks, but that also failed to stop the leaks. Bran does better, but does not stop them entirely. How can they be stopped effectually? A. First chine, which cuts teeth in the edges of the whole series ase coarse Indian meal on the inside, and when it has worked well into the cracks, fill above it with hydraulic cement 1 to 2 inches thick, being careful that the top of melted, and so on. the cement is some distance below the top of grate bars. 2. I want to black small casting by dipping. Can you give a recipe for a paint for this purpose that will have a gloss after becoming dry? A. Use asphaltic black varnish,
- recently, he asserted that the wagon brake produced greater effect in retarding the vehicle when barely allowing the wheels to turn, than when it locked them entirely. I said he was mistaken, but could give him no why? A. Your friend is correct. It is true also of rail. the cause of the figures instead of crystallization, as road brakes when the wheels are locked; the same surcomes glazed; when allowed to turn, new surfaces are
- (31) C. E. B. asks: 1. Of what kind of Fit a mandrel the size of the shaft in the box and cast
- (32) J. H. W. asks for a recipe for a toilet lotion that will improve complexion of ladies, which contains nothing injurious. A. We do not recommend the skin attainable by no artificial means.
- 20 feet deep, and I have a pump with 1 inch gas pipe; it iron piping. The water tastes a the iron. How can I keep it from tasting? A. Use wood tubing instead of the iron pipe.
- (34) J. C. S. asks: How can cattle hoofs or horns be melted so as to form a transparent composition? A. Horns are soaked in hot water until the bone are cut. Hoofs are usually cold pressed. Neither are melted as suggested.
- (35) J. A. W. writes: Can you tell me the usual way of covering lead with powdered chromium for negative plates, and do you consider such plates equal to carbon? Do you know of an imitation or any substitute for hard rubber? A. The metallic chromium according to Beasley, is pressed into the surface of the turn the edge of everything I have tried. A. It is lead by passing between steel rolls. It compares favorably with carbon in some electrotypes. Celluloid can be it, use a revolving disk of thin sheet iron or copper supmade to closely resemble ebonite or vulcanite.
- steam launch of the following dimensions: Length over all 25 feet, beam 5 feet, depth 334 feet. Boiler 24 inches (47) G. W. H. asks how can I drill

- (23) W. F. asks (1) why an engine in mak- diameter, 36 inches high, 90 or 100 one inch tubes. Enthrough stone or earthenware vases holes, 1/4 in. say, t gine, cylinder 5 inches by 6 inches stroke, working pressure 150 lb. The exhaust steam to be led through the bottom of the boat and along the keel to and around the stern, then forward and empty into a tank in the boat. The diameter of the exhaust pipe will be 114 inches, length about 30 feet under water. Will 30 feet of 11/4 inch pipe have enough surface to condense all the steam; if not, how long ought the pipe be? A. No; do not use less than 2 inch pipe.
 - (37) R. E. W. asks: By what process is condensed milk made? A. The fresh milk is pumped into large air tight vessels (vacuum pans) placed over a warm water bath and connected wit hair pumps, by which a partial vacuum is maintained within them Under these circumstances the milk boils and parts with its water at a very low temperature. Where the milk so condensed is to be preserved for a very long time i is mixed with a certain per cent of pure white sugar and put up in hermetically sealed cans.
- (38) A. B. F. asks (1) for the dimensions of scow that will carry about 40 tons of freight in addition to her engine, and not draw over 18 inches of water. A. About 75 or 80 feet long and 15 feet beam. 2. What would be the power of an engine to drive it at about 4 miles per hour with a stern wheel? A. Two engines, 6 inches cylinder and 2 feet stroke. A. Which (26) W. F. H. writes: We had a 40 horse is best for such a boat, an engine with one cylinder or
 - (39) F. A. S. asks: 1. Is it true that Bessemer steel cannot be used for mould boards for plows, or bottoms of road scrapers. A. Yes. 2. Is it because such steel cannot be properly hardened? A. Yes. 3. If it cannot be made sufficiently hard, why is it? A. It contains too little carbon to be materially affected by the ordinary hardening process
 - (40) J. B. R. writes: I have a private telegraph line, two wires, 1/2 mile long. The line is annealed wire, such as tin men use in putting stoves. The line has been in use three years. It has been broken several times and spliced. I use three cells Watsons battery to charge the line. It works good for three or four days, then it ceases to work until I cross the wires in the office for a few minutes, then it will work again as stated. Why will it not work all the time? The current is very strong when I cross the wires in the office. A. Without further data we cannot explain the action of your line. It is probable, however, that the resistance of your line is excessive. Use regular telegraph wire. If you require a small wire, use copper.
 - (41) F. H. L. asks if there is any composition of brass that can be melted in an ordinary coal stove that is of sufficient hardness to cast small models from and its composition. A. Common yellow brass may be readily melted in a coal stove, but it is doubtful if brass can be easily made in an ordinary stove, as the copper, which must be first melted, fuses at a much higher temperature than brass. A very good formula for yellow brass is copper 70 parts, zinc 30 parts.
 - (42) J. A. C. asks how are the teeth put in the small bracket saws not larger than 1-16 inch wide. A. A number of steel plates having the thickness of the saws are clamped together and placed in a milling maof plates simultaneously. The saws are then sheared from the edges of the plates, and the plates are again
- (43) G. D. R. writes: On page 69, current volume, Scientific American, I find an article by G. F. Barker, entitled "Crystallization in Canada Balsam." I have frequently observed the figures assumed by balsam or Damar varnish, when boiled between slips of (30) A. R. B. writes: Riding with a friend glass; and they are like the cut in the article referred to. If the gum is thick enough and allowed to cool under pressure, the figures are permanent. I am not prepared to dispute or discuss anything; but unless I was sure the glass in question had not been exposed to a "prairie satisfactory reason. Am I right, and if so, please explain fire" or some other source of heat, I should say heat was heat sufficient to boil balsam will not char wood, or if face is constantly presented for friction and soon be carefully applied, scorch varnish. My proposition can be easily demonstrated by any one with a drop of balsam and two small pieces of window glass.
- (44) B. T. F. writes; In Scientific Amerimetal is the rings in an engine cylinder composed of? CAN, February 7, 1880, page 91, article 4, C. M, K. asks: A. Generally cast iron. 2. How can I run Babbit t What will drive away or destroy fieas? I reply; Permetal boxes for a saw mandrel or other shafts? A. sian insect powder. I tried it and got rid of the terrible
- (45) G. H. writes: Having discovered traces of silver in several places upon large tracks of land we own in this region, we should like to have some simple method of testing or assaying specimens such lotions. Temperate living, plenty of out-of-door of the rock. From tests made in the East of several exercise, and frequent bathing impart a clear vigor to different specimens, we are led to believe the stuff will yield from \$35 to \$40 a ton, but wish to try this ourselves. Can you tell us of any simple apparatus? A. (33) J. F. P. writes: I have a well that is Charge into a 6-ounce crucible (a Battersea F answers very well) 1 ounce each of the ore and dry bicarbonate of soda, 2 ounces of litharge (free from silver), 3 ounce of argal, and cover with 1/2 inch of dry salt. Heat the crucible until the contents are in a quiet state of fusion, remove from the fire, cool, break, and clean the lead button by pounding on an anvil. If the button weighs more than, say, half an ounce, scorify it is easily separated, when they are softened in hot down in a scorifying dish in an open muffle. Heat 114 water, slit up, and spread out betweenwarmplates under inch bone ash cupel in the muffle, drop into it the pressure. From these plates the articles referred to button, and keep up the temperature of the muffle to a bright red heat until all the lead has been scorified off and absorbed by the cupel, and the small bead of gold or silver (if the ore contains any) becomes well rounded and clear. The ore must be finely powdered, and the whole of it passed through an eighty-mesh sieve.
- (46) E. B. L. asks: How to cut up and work into shape retort carbon. It is very hard, and will Locomotives, tramway and other, J. Matthews... 223,746 worked in the same manner as glass or stone. To saw plied plentifully with emery and water. To shape it, (36) J. S. writes: I wish to build a small use an iron lap supplied with sharp sand or emery and

1/2 in. diameter? The vases are about 1/4 in. thick. A Use a copper tube for a drill, and supply it with emer

(48) W. H. P. asks: Who was the first man who had knowledge of the existence of the American continent? A. Seeing that the most ancient vestiges of man thus far discovered have been found on this continent in formations antedating a portion, if not the whole, of the Glacial Period, history may be pardone for not recording the first comer's name. white man certainly known to have visited our continent was Leif Ericsson, in the year 1001. There are tra ditions of earlier voyages of Europeans to America, bu the historical evidence of such visits is insufficient.

[OFFICIAL.]

INDEX OF INVENTIONS

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

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AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, in cluding both the specifications and drawings, or any patent issuedsince 1867, will be furnished from this office for one dollar. In ordering please state the number and date of the patent desired, and remit to Munn & Co., 3

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	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer, J. P. Eddleman	223,713 223,755 223,752 223,7740 223,715 223,668 223,633 223,780 223,780 223,662 223,662 223,662 223,662 223,662 223,668 223,668 223,668 223,668 223,668 223,668 223,668	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald	223,777 223,791 223,677 223,728 223,745 223,708 223,725 223,657 223,722 11,610 11,611 11.612 11,613 11,615
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman tal. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E.	223,713 223,755 223,755 223,775 223,776 223,715 223,668 223,682 223,782 223,741 223,665 223,662 223,662 223,665 223,665 223,665 223,665 223,665 223,655 223,655 223,655	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffierree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald	223,777 223,791 223,677 223,728 223,745 223,708 223,725 223,657 223,722 11,610 11,611 11.612 11,613 11,615
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot Fence, barb, Walsh & Dutot Frence post, H. M. Beecher Fifth wheel, J. Wampach Filtering apparatus, M. Lansburgh Firearm lock, W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy.	223,713 223,755 223,755 223,775 223,776 223,715 223,668 223,682 223,782 223,741 223,665 223,662 223,662 223,665 223,665 223,665 223,665 223,665 223,655 223,655 223,655	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, A. Heald Carpet, T. J. Stearns Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix. Spoon or fork handles, A. Hart.	223,777 223,791 223,677 223,728 223,745 223,708 223,725 223,657 223,722 11,610 11,611 11.612 11,613 11,615
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking, J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Frence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes	223,713 223,752 223,752 223,775 223,740 223,715 223,668 223,668 223,662 223,662 223,662 223,662 223,662 223,662 223,662 223,672 223,672 223,672 223,672	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, D. McNair Carpet, T. J. Stearns Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS.	223,777 223,797 223,797 223,717 223,728 223,778 223,725 223,725 223,722 11,610 11,611 11.612 11,613 11,614
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot Fence, barb, Walsh & Dutot Frence post, H. M. Beecher Fifth wheel, J. Wampach Filtering apparatus, M. Lansburgh Firearm lock, W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy.	223,713 223,752 223,752 223,775 223,740 223,715 223,633 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,678 223,682 223,678 223,682 223,678 223,682	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Winsk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored	223,777 223,797 223,797 223,798 223,748 223,748 223,748 223,748 223,725 223,657 223,722 11,610 11,611 11.612 11,613 11,614
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray.	223,713 223,752 223,775 223,740 223,740 223,668 223,683 223,782 223,741 223,666 223,665 223,782 223,667 223,665 223,720 223,652 223,720 223,720	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller. Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffletree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, T. J. Stearns. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company7,796	223,717 223,717 223,717 223,728 223,725 223,725 223,725 223,722 11,610 11,611 11.613 11,613 11,615 11,614
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Frence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Filrearm lock, W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working. machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt.	223,713 223,752 223,752 223,740 223,715 223,780 223,780 223,782 223,782 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,682 223,782	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, D. McNair Carpet, T. J. Stearns Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company	223,777 223,717 223,717 223,728 223,725 223,725 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassworking, machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon.	223,713 223,752 223,775 223,776 223,775 223,740 223,715 223,668 223,663 223,782 223,762 223,662 223,662 223,662 223,673 223,655 223,720 223,720 223,720 223,720 223,720 223,720 223,720 223,720 223,720 223,720 223,720 223,720	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company	223,717 223,791 223,797 223,717 223,717 223,728 223,708 223,725 223,708 223,725 223,722 11,610 11,611 11,613 11,615 11,614
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot Fence, barb, Walsh & Dutot Fence, barb, Walsh & Dutot Fiener post, H. M. Beecher Fifth wheel, J. Wampach Filtering apparatus, M. Lansburgh Filtering apparatus, M. Lansburgh Firearm lock, W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith Fruit gatherer. J. P. Eadleman Gelatine for vitriflable prints, preparation of, E. Salvy. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt Grain binder, W. M. Piatt Grain inder, W. H. Allen. Grate, J. Collins	223,713 223,752 223,775 223,740 223,741 223,682 223,782 223,782 223,782 223,662 223,662 223,662 223,662 223,662 223,720 223,720 223,720 223,720 223,720 223,721 223,722 223,732	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller. Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Winsk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald	223,717 223,717 223,717 223,727 223,728 223,725 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614
	Cultivator, J. J. Deal Cultivator, Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitriflable prints, preparation of, E. Salvy. Glassworking, machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grate, J. Collins. Grainding and polishing implement, T. B. Stone.	223,713 223,752 223,775 223,740 223,775 223,668 223,665 223,762 223,662 223,662 223,662 223,662 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company	223,777 223,717 223,717 223,728 223,725 223,725 223,725 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614
	Cultivator, J. J. Deal. Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassworking, machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, D. Strunk Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain grad polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove	223,713 223,752 223,775 223,740 223,740 223,745 223,665 223,782 223,782 223,761 223,665 223,762 223,665 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,7762	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, D. McNair Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix. Spoon or fork handles, A. Hart TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann.	223,717 223,797 223,717 223,717 223,717 223,725 223,708 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 1,7,796 1,7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Frence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Endleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Platt. Grain binder, D. Strunk Grain meter, W. H. Allen. Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r).	223,713 223,752 223,775 223,740 223,745 223,665 223,782 223,741 223,666 223,666 223,666 223,666 223,666 223,741 223,764 223,764 223,773 223,764 223,773 223,764 223,771 223,764	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann.	223,717 223,791 223,797 223,717 223,725 223,708 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 7,798
	Cultivator, J. J. Deal Cultivator, Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working. machinery for handling blow pipes in, R. Gray. Glassware. manufacture of, J. M. A. Deherrypon. Grain binder, W. H. Piatt. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain in meter, W. H. Allen. Grainin gand polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r) Horseshoe, D. Hudson.	223,713 223,752 223,775 223,740 223,775 223,668 223,665 223,762 223,762 223,662 223,662 223,662 223,662 223,673 223,762 223,762 223,763 223,763 223,763 223,774 223,774 9,050 223,737	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann.	223,717 223,791 223,797 223,717 223,725 223,708 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 7,798
	Cultivator, J. J. Deal. Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, D. Strunk Grain meter, W. H. Allen Grate, J. Collins Grate, J. Collins Grate, J. Collins Grate, J. Collins Grate, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic motor. Class & Briegleb	223,713 223,752 223,775 223,740 223,740 223,745 223,668 223,665 223,782 223,762 223,662 223,662 223,662 223,662 223,720 223,762 223,762 223,762 223,773 223,762 223,774 9,050	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann.	223,717 223,791 223,797 223,717 223,725 223,708 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassworking, machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Hydraulic motor, Class & Briegleb Hydraulic motor, Class & Briegleb	223,713 223,752 223,775 223,740 223,745 223,665 223,782 223,741 223,666 223,665 223,666 223,666 223,667 223,667 223,720 223,764 223,763 223,774 223,774 9,050 223,771 9,050 223,776	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller. Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Winsk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald	223,777 223,717 223,717 223,728 223,728 223,725 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 7,795 7,798
	Cultivator, J. J. Deal Cultivator, Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Filtering apparatus, M. Lansburgh. Fiftering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grain meter, W. H. Allen. Grain binder, D. Strunk Grain meter, W. H. Allen. Grain in meter, W. H. Allen. Grain gand polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic press, J. Watson. Ice cream freezer, C. W. Packer.	223,713 223,752 223,775 223,740 223,775 223,740 223,765 223,665 223,782 223,761 223,665 223,665 223,761 223,665 223,762 223,665 223,762 223,763 223,763 223,764 223,763 223,774 9,050 223,774 9,050 223,775 223,776 9,050 223,776	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, bydraulic, C. W. Baldwin, Brooklyn, N.	223,777 223,717 223,717 223,728 223,728 223,725 223,725 223,722 11,610 11,611 11,613 11,615 11,614 1,7,797 7,795 7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassworking. machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, D. Strunk Grain meter, W. H. Allen Grate, J. Collins Gratin meter, W. H. Allen Grate, J. Collins Grain meter, W. H. Allen Grate,	223,713 223,752 223,775 223,740 223,715 223,668 223,663 223,665 223,782 223,666 223,662 223,665 223,720 223,762 223,763 223,763 223,774 9,053 223,707 223,707 223,707 223,707	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y.	223,717 223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,612 11,613 11,615 11,614 1,7,797 1,7,795 1,7,796 1,7,798 1,7,798
	Cultivator, J. J. Deal Cultivator, Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Filtering apparatus, M. Lansburgh. Fiftering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grain meter, W. H. Allen. Grain binder, D. Strunk Grain meter, W. H. Allen. Grain in meter, W. H. Allen. Grain gand polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic press, J. Watson. Ice cream freezer, C. W. Packer.	223,713 223,752 223,775 223,740 223,745 223,665 223,665 223,782 223,660 223,645 223,665 223,720 223,763 223,763 223,763 223,764 223,763 223,774 9,050 223,774 9,050 223,775	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller. Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Winsk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, I	223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614 1,61,7,797 7,795 1,7,796 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glassworking. machinery for handling blow pipes in, R. Gray. Glasswork manufacture of, J. M. A. Deherrypon. Grain binder, D. Strunk Grain meter, W. H. Allen Grate, J. Collins Gratin meter, W. H. Allen Grate, J. Collins Grain meter, W. H. Allen Grate,	223,713 223,752 223,775 223,740 223,775 223,740 223,668 223,663 223,665 223,782 223,666 223,667 223,762 223,762 223,763 223,763 223,763 223,763 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774 9,050 223,774	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I. Paper, manufacture of, R. A. Fisher, Philadelphia, I.	223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614 1,61,7,797 7,795 1,7,796 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator, G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt Grain binder, W. M. Piatt Grain meter, W. H. Allen Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay. M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson Hydraulic press, J. Watson Lee cream freezer, C. W. Packer Lee ceream freezer, C. W. Packer Lee cream freezer, T. Scantlin. Inhaler, nasal, J. H. Yates Leweler's clamp, A. A. Cowing. Journal box, anti-friction, E. D. Draper.	223,713 223,752 223,740 223,740 223,745 223,746 223,665 223,782 223,741 223,666 223,666 223,666 223,667 223,741 223,660 223,645 223,741 223,652 223,742 223,754 223,754 223,754 223,754 223,764 223,773 223,764 223,773 223,764 223,773 223,765 223,773 223,765 223,773 223,7758 223,7758 223,7758 223,7758 223,7758	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller. Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Paper, manufacture of, R. A. Fisher, Philadelphia, Paper, man	223,717 223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,612 11,613 11,615 11,614 1,7,797 2,7,795 2,7,798 3,7,798 3,7,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798 4,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, both, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grain binder, D. Strunk Grain meter, W. H. Allen. Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic motor, Class & Briegleb Hydraulic motor, Class & Briegleb Hydraulic press, J. Watson. Lee cream freezer, T. Scantlin. Inhaler, nasal, J. H. Yates Iron and steel, manufacture of, J. Reese. Jeweler's clamp, A. A. Cowing. Journal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S.	223,713 223,752 223,775 223,740 223,765 223,666 223,665 223,782 223,741 223,666 223,666 223,667 223,667 223,767 223,762 223,764 223,763 223,774 223,764 223,763 223,764 223,776 223,765 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,777 223,785 223,776 223,778 223,776 223,778 223,776 223,778 223,778 223,778 223,778 223,778 223,778 223,778	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. F. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, D. McNair Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Paraffin, refining, W. Bell, New York city. Photo relief engraving, G. C. Bell, Brooklyn, N. Y.	223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 11,610 11,611 11,612 11,613 11,615 11,614 1,617 1,7,797 1,7,795 1,7,798 1,7,79
	Cultivator, J. J. Deal Cultivator, Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitriflable prints, preparation of, E. Salvy. Glassworking. machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain gand polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horserake, J. Watson. Lee cream freezer, C. W. Facker Lee cream freezer, T. Scantlin. Inhaler, nasal, J. H. Yates Iron and steel, manufacture of, J. Reese Jeweler's clamp, A. A. Cowing Journal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S. Cornfiel.	223,713 223,752 223,775 223,740 223,775 223,740 223,765 223,668 223,665 223,762 223,662 223,662 223,662 223,662 223,762 223,762 223,762 223,762 223,762 223,763 223,774 233,774	Ventilating apparatus, W. F. Thiers. Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, bydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Faper, manufacture of, R. A. Fisher, Philadelphia, Faper, manufacture of, R. A. Fisher, Philadelphia, Faper, manufacture of, R. Bell, New York city. Puddling furnace, W. Stubblebine, Bethlehem, Pa.	223,777 223,797 223,717 223,728 223,727 223,728 223,725 223,725 223,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722 23,722
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm, nock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter Fish, preserving, H. Sellman tal. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working, machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, D. Strunk Grain meter, W. H. Allen. Grate, J. Collins Grate, J. Collins Grating and polishing implement, T. B. Stone. Harness breeching stay. M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson Hydraulic press, J. Watson Lee cream freezer, C. W. Packer Lee cream freezer, T. Scantlin. Inhaler, nasal, J. H. Yates Leven and steel, manufacture of, J. Reese. Lournal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S. Cornfield Lamp, electric, F. Winters, Jr.	223,713 223,752 223,775 223,740 223,740 223,745 223,668 223,665 223,782 223,762 223,665 223,762 223,665 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,762 223,773 223,762 223,774 9,050 223,773 223,774 9,050 223,773 223,775 223,777 223,778 223,778 223,778 223,778 223,778 223,778 223,779 223,778	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald Carpet, D. McNair Carpet, T. J. Stearns Carpet, P. Tetrel Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Paper, manufacture of, R. A. Fisher, Philadelphia, Paper, manufacture of, R. A. Fisher, Philadelphia, Paper, manufacture, W. Stubblebine, Bethlehem, Pa. Railroad rails, manuf. of, G. Webb, Johnstown, Pa. Railroad rails, manuf. of, G. Webb, Johnstown, Pa.	223,717 223,797 223,797 223,717 223,728 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,613 11,615 11,614 1,7,797 7,795 1,7,796 7,798 1,7,798 1,8
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working. machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay. M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic motor, Class & Briegleb Hydraulic press, J. Watson. (see cream freezer, T. Scantlin. inhaler, nasal, J. H. Yates Iron and steel, manufacture of, J. Reese Jeweler's clamp, A. A. Cowing. Journal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S. Cornfield Lamp, electric, F. Winters, Jr. Lamp regulator, electric, Houston & Thomson.	223,713 223,752 223,775 223,740 223,745 223,666 223,665 223,782 223,741 223,666 223,665 223,761 223,665 223,762 223,665 223,762 223,763 223,763 223,763 223,763 223,774 9,050 223,763 223,774 9,050 223,775 223,775 223,776 223,785 223,776 223,785 223,776	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Faper, manufacture of, R. A. Fisher, Philadelphia, Fapraffin, refining, W. Bell, New York city. Photo relief engraving, G. C. Bell, Brooklyn, N. Y. Puddling furnace, W. Stubblebine, Bethlehem, Pa. Railroad rails, manuf. of, G. Webb, Johnstown, Pa. Steam boiler, heating apps., J. Evans, Philadelphia, Pasteam boiler, heating apps., J. Evans, Philadelphia	223,717 223,797 223,797 223,717 223,728 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,613 11,615 11,614 1,7,797 7,795 1,7,796 7,798 1,7,798 1,8
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator G. T. Smith. Fruit gatherer, J. P. Eddleman Gelatine for vitriflable prints, preparation of, E. Salvy. Glassworking. machinery for handling blow pipes in, R. Gray. Glassworking. machinery for handling blow pipes in, R. Gray. Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt Grain binder, W. H. Allen. Grain meter, W. H. Allen. Grain meter, W. H. Allen. Grain gand polishing implement, T. B. Stone. Harness breeching stay, M. M. Sulgrove Horseshoe, D. Hudson. Hydraulic press, J. Watson. Ice cream freezer, C. W. Packer Ice cream freezer, T. Scantlin. Inhaler, nasal, J. H. Yates Iron and steel, manufacture of, J. Reese. Jeweler's clamp, A. A. Cowing. Journal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S. Cornfiel Lamp, electric, F. Winters, Jr. Lamp regulator, electric, Houston & Thomson. Lathe feed mechanism, J. Houck.	223,713 223,752 223,775 223,740 223,745 223,668 223,683 223,782 223,782 223,764 223,665 223,720 223,655 223,720 223,754 223,754 223,754 223,754 223,754 223,755 223,755 223,776 223,757 223,758 223,771 223,769 223,776 223,776 223,776 223,777 223,776 223,776 223,777 223,776 223,777 223,776 223,776 223,776 223,777 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776 223,776	Ventilating and cooling dairies, J. Wilkinson (r). Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, T. J. Stearns. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin Woolen goods, such as cassimeres, suitings, etc. E. Qelbermann. English Patents Issued to America From January 16to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, hydraulic, C. W. Baldwin, Brooklyn, N. Gas regulator, M. G. Wilder, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Paper, manufacture of, R. A. Fisher, Philadelphia, Paper, manuf	223,717 223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,612 11,613 11,615 11,614 1,7,797 1,7,795 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798
	Cultivator, J. J. Deal Cultivator, comb'd riding and walking. J. Pierpont Cultivator teeth, coupling joint for, D. C. Owen. Currycomb, M. Sweet Door plates, making, H. D. Kramer. Door plates, making, H. D. Kramer. Drum, heating, W. C. Doddridge. Exercising machine. O. Duplessis Felt fabrics, manufacture of wool, E. Belknap. Fence, barb, Walsh & Dutot. Fence, barb, Walsh & Dutot. Fence post, H. M. Beecher Fifth wheel, J. Wampach. Filtering apparatus, M. Lansburgh. Firearm lock, W. W. Wetmore. Firearm, magazine, W. Trabue Firearm, revolving, P. A. Holter. Fish, preserving, H. Sellman et al. Flame regulating device, F. Koesewitz Flour mill dust separator. G. T. Smith. Fruit gatherer. J. P. Eddleman Gelatine for vitrifiable prints, preparation of, E. Salvy. Glass working. machinery for handling blow pipes in, R. Gray Glassware, manufacture of, J. M. A. Deherrypon. Grain binder, W. M. Piatt. Grate, J. Collins Grinding and polishing implement, T. B. Stone. Harness breeching stay. M. M. Sulgrove Horse rake and hay spreader, G. N. Palmer (r). Horseshoe, D. Hudson. Hydraulic motor, Class & Briegleb Hydraulic press, J. Watson. (see cream freezer, T. Scantlin. inhaler, nasal, J. H. Yates Iron and steel, manufacture of, J. Reese Jeweler's clamp, A. A. Cowing. Journal box, anti-friction, E. D. Draper. Knitting machines, needle cylinder or bed of, S. Cornfield Lamp, electric, F. Winters, Jr. Lamp regulator, electric, Houston & Thomson.	223,713 223,752 223,775 223,740 223,740 223,745 223,663 223,665 223,782 223,666 223,667 223,662 223,662 223,762 223,762 223,762 223,762 223,762 223,763 223,763 223,763 223,774 9,050 223,763 223,777 223,785 223,777 223,785 223,777 223,785 223,777 223,785 223,777 223,785 223,777 223,785	Ventilating apparatus, W. F. Thiers. Ventilating apparatus, W. F. Thiers. Wagon brake, automatic, W. P. Wood. Washboard, E. A. Kitzmiller Washing machine, G. W. Dorris. Washing machine, F. Hamblin. Washing machine, F. Hamblin. Whiffietree guard, W. I. Marsh. Whisk, H. Bradt. Windmill, S. B. Goff. Wire, etc., machine for polishing, S. P. M. Tasker Wooden rods, polishing round, C. Erk. DESIGNS. Carpet, A. Heald. Carpet, D. McNair. Carpet, P. Tetrel. Key bow, F. W. Mix. Spoon or fork handles, A. Hart. TRADE MARKS. Cotton fabrics, unbleached, bleached, and colored woven, Hill Manufacturing Company. Throat and lung diseases, remedy for, Lawrence & Martin. Woolen goods, such as cassimeres, suitings, etc. E. Oelbermann. English Patents Issued to America From January 16 to January 20, inclusive. Car starters, J. Hill, Williamsport, Pa. Elevator, bydraulic, C. W. Baldwin, Brooklyn, N. Y. Paper, compound for, R. A. Fisher, Philadelphia, Faper, manufacture of, R. A. Fisher, Philadelphia, Faper, m	223,717 223,717 223,717 223,717 223,717 223,728 223,725 223,708 223,725 223,722 223,657 223,722 211,610 11,611 11,612 11,613 11,615 11,614 1,7,797 1,7,795 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798 1,7,798

	[February 21, 18	8 o .
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0	Measuring machine, cloth, O. W. Dodson	. 223,71
١.	Milk cooler, D. Van Hovenberg	. 223,66
У	Mill for reducing, levigating, etc., L. Smith	. 223,76
	Mower, lawn, J. H. Olcott	. 223,75
n	to be used in making perforated, G. B. Kelly.	
n	Musical instruments, making perforated sheet	
f	for mechanical, G. B. Kelly Neck band shaper, W. H. H. Tracy	223.67
-	Neck band shaper, W. H. H. Tracy	223,778
e	Packages, apparatus for expelling substances	3
l	from, W. H. Macy, Jr	223,743
t	Paper cutting machine, Leviness & Vanhorn (r)	9.054
-	Paper cutting machine, A. Malm	223,744
-	Paper feeding machine, F. H. Lauten	223,744
7	Paper, making paneled, Sipe & Rogers	223.768
	Paper pulp from wood, etc., making, W. E. Farrell	
•	Partition, wooden, F. G. Himpler	223,734
	Pen, movable cattle, D. Harrington Pen, stylographic fountain, Hawkes & Madeheim	223644
	Pens. fountain attachment for writing, T. Willans	
	Plastered wall, A. H. Becker	223,696
	· Plow, A. G. Christman	223 666
	Plow, J. H. Close	
9	Plow point, J. Oliver	
•	Porte monnaie, G. C. G. Williamson	223.789
	Preserving grapes, etc., apparatus for, C. J. Renz.	223,759
	Pulley block sheave, C. H. Hadley Pump, H. R. Eaker	283,795
	Pump, H. R. Baker	223,631
•	Pump, rotary, J. M. Taylor	223,684
	Pumping engine, N. W. Wheeler	
	Quartz, etc., method of and apparatus for pul-	
-	verizing and separating metalliferous, S. F.	
,	Hodge (r)	9,05
ì	Quartz mill feeder, T. A. Cochrane (r)	9,048
7	Railway head, C. W. Anderson	223,629
	Roof, composition, T. Fugate	223,671
	Rotary engine, J. A. Adams	
3 :	Saddle box loop, harness. O. Rosencrans	
,	Sausage stuffer, A. Diffenderfer	
9	Scale beam, H. Willard	
3	Screws or bolts, machine for rolling threads of, H. A. Harvey	
7	Sewing machine and trimming device therefor,	~~0,100
3	J. E. Wiggins (r)	9,056
3	Sewing machine button hole attachment, C. M.	
7	Banks	223,694
)	Sewing machines, clutching and breaking device for power driven, L. Sternberger	223 656
3	Shearing horses, device for, F. Y. Wolseley	
·	Sidewalk, D. Watson	223,784
?	Sign, H. J. Blowney	223,698
2 .	Slate frame, noiseless, W. S. Davis	223,636
2	Spinning machine, T. Mitchell Spinning machine, ring, Howland & Lawton	223,748
3	Spinning machine, ring, Howland & Lawton Spinning spindle bolster, R. Gillman	223,014
5	Square, framing, M. B. Cornell	
1	Company must make a semplimed C D ITallow	000 707
1	Steam and hot air pipes covering, A. B. Battelle Steam engine reversing gear, W. Baxter	223,695
3	Steam engine reversing gear, W. Baxter	223,632
ŀ	Steel, tempering, J. C. Jenkins	
7	Stirrup, H. D. Adel	223 607
3	Stone or marble, making artificial, W. H. Hoopes.	223,735
Į	Straw cutter, D. A. Walker	223,781
3	Suspenders, M. Altmann	223,628
	Switch and signal connections, foundation for,	

DESIGNS.

Carpet, D. McNair	
Carpet, T. J. Stearns	
Carpet, P. Tetrel 11,613	
Key bow, F. W. Mix	
Spoon or fork handles, A. Hart 11,614	
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TRADE MARKS.	
Cotton folision unblooched blooched 2 1 2	

Cotton fabrics, unbleached, bleached, and colored,
woven, Hill Manufacturing Company7,796, 7,797
Flour, wheat, Empire Mill Company 7,795
Throat and lung diseases, remedy for, Lawrence &
Martin 7,799
Woolen goods, such as cassimeres, suitings, etc.,
E. Oelbermann
w

English Patents Issued to Americans. From January 16 to January 20, inclusive

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