Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue

Order pattern letters and figures from the largest variety. Knight & Son, Seneca Falls, N. Y., drawer 1115.

"U. S." metal polish. Indianapolis. Samples free.

Kemp's Manure Spreader, Syracuse, N. Y. See Adv.

Chain Belting & Grain Dryers, F. H. C. Mey, Buffalo, N.Y.

Portable and Stationary Cylinder Boring machines. Pedrick & Ayer, Philadelphia, Pa.

Wm. Jessop & Sons have a handsome display of steel in Mining building at the World's Fair.

The Improved Hydraulic Jacks, Punches, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Stow flexible shaft. Invented and manufactured by Stow Mfg. Co., Binghamton, N. Y. See adv., page 270.

Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

Centrifugal Pumps for paper and pulp mills. Irrigating and sand pumping plants. Irvin Van Wie, Syracuse, N. Y.

Guild & Garrison, Brooklyn, N. Y., manufacture steam pumps, vacuum pumps, vacuum apparatus, air pumps, acid blowers, filter press pumps, etc.

Split Pulleys at Low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

For Sale or Lease—Patent on article used in every office. Simple, practical, of easy manufacture and small cost. C. M. Moore, Franklin Park, Mass.

Perforated Metals of *all* kinds and for *all* purposes, general or *special*. Address, stating requirements, The Harrington & King Perforating Co., Chicago.

To Let—A suite of desirable offices, adjacent to the Scientific American offices, to let at moderate terms. Apply to Munn & Co., 361 Broadway, New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, $4; Munn & Co., publishers, 361 Broadway, N. Y.

Canning machinery outfits complete, oil burners for soldering, air pumps, can wipers, can testers, labeling machines. Presses and dies. Burt Mfg. Co., Rochester, N. Y.

Inventor wants financial assistance to patent his inventions. Will give interest in patents. For particulars address George Maneer, Portage la Prairie, Manitoba, Canada.

Competent persons who desire agencies for a new popular book, of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361 Broadway, New York.

Patent for Sale or Royalty—A new novelty. Attachment made of metal by which any lady can change parasol cover to suit wearing apparel. A. Nicholas, 104 Montclair Ave., Newark, N. J.

Want to Purchase—A patented vapor engine, the right to manufacture and sell same, or to arrange with manufacturer of one already in the market for their exclusive use for certain purposes. Address, with particulars, Vapor Engine, P. O. box 773, New York.

☞Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(5070) S. E. B. writes: To settle a controversy between myself and Dr. A., please state whether or not the surface of Lake Michigan has fallen, or is eight to ten feet lower now than ten years ago. The doctor goes to Petosky, Michigan, every August, and he claims that the surface of the water in Little Traverse Bay is now eight or ten feet lower than when he first visited the place, ten years ago. I claim that he is wrong, or we would have seen some mention of the fact in some of the newspapers. A. According to one of our best authorities, Professor G. K. Gilbert, of the United States Geological Survey, who has made a special study of the great lakes, there is no steady or continuous lowering of the waters of Lake Michigan. Two years ago the lake was two feet below the average, while a few years earlier it was a few feet higher than the average, which would make an apparently continuous drop of four feet. The lake is entirely dependent on rainfall for its general level, rising during a rainy season, and falling during a protracted drought, and differs only from smaller bodies of water in this respect, that the supply from drainage or watershed of the surrounding shores is less appreciable. In the long run the average level remains essentially the same. According as the conditions just indicated vary, the Chicago river, for instance, flows to or from the lake, but were there any permanent lowering it could not be made to flow backward into the Mississippi. The writer lived in Chicago thirty years ago, and both river and lake are at the same average height they were then. Long-continued winds to or from the shore materially affect the height of the lake locally, but such influences are quite ephemeral.

(5071) C. W. M. says: Can you direct me where to find instructions for making sheet wax for dentist's use? A. Dr. H. E. Beach, Clarksville, Tenn., says: Take of pure clean wax anywhere from 1 to 5 pounds, put in a tin bucket or any deep vessel, with clear water sufficient to fill it within 2½ inches of the top. Set on the stove till thoroughly melted, then set aside until partially cooled; skim all the air bubbles off. Then fill a smooth, straight bottle with ice water, a bucket of which you should have by you. Soap the bottle and dip it deliberately in the solution two or more times, according to the thickness you desire your wax. After the last dip, as soon as the wax hardens to whiteness, cut a line through it and remove it from the bottle as quickly as possible. Spread to cool and straighten out smooth while warm. Continue this process until all the wax is made into sheets. Paraffine, or paraffine and wax, may be made in the same way and colored and perfumed to suit one's fancy. The water in the bottle should always be kept cold, in order to get the best results.

(5072) R. W. H. asks how to make a good lye. A. Hickory ashes are the best for making common washing soft soap (when it is not desirable to use the potash lye), but those from sound beech, maple, or almost any kind of hard wood except oak will answer well. A common barrel set upon an inclined platform makes a very good leach, but one made of boards set in a trough in V shape is to be preferred, for the strength of the ashes is better obtained, and it may be taken to pieces when not in use, and laid up. First, in the bottom of the leach put a few sticks, over them spread a piece of carpet or woolen cloth, which is much better than straw, put on a few inches of ashes and from 4 to 8 qt. lime, fill with ashes moistened, and tamped down well; tamp the firmest in the center. It is difficult to obtain the full strength of ashes in a barrel without removing them after a day's leaching, and mixing them up and replacing. The top should be first thrown off and new ashes added to make up the proper quantity. Use boiling water for the second leaching. This lye should be sufficiently strong to float a potato.

(5073) F. H. says: 1. Please give me the voltage, amperage, resistance, and durability of the Fuller battery, and also a description of the battery. A. The electromotive force of the Fuller battery is about 2 volts, its resistance is about 2 ohms; therefore the current will be equivalent to approximately 1 ampere on a circuit of no resistance. 2. I have four zinc carbon piles; with them I want to light an 8 volt 0·8 ampere Swan incandescent lamp. Which would be the best and cheapest filling, and how long would it last? And how would I be able to prevent chemical action on an open circuit, because I want to use the lamp every evening? A. Probably a chromic acid solution would be best, but we know of no way to prevent action when the circuit is open, and furthermore, it would soon become exhausted when used in electric lighting.

(5074) F. L. asks: 1. How many Leclanche or sal ammoniac cells will it take to ring a common bell over a 700 foot line of No. 18 annunciator wire? Would a return wire be more satisfactory than grounding? A telephone is to be used on the same line. A. Four cells will operate the line if the resistance of the bell is not too great. 2. Is it the high resistance of our bodies that causes us to receive a shock from a strong current of electricity passing through them? A. It is the effect of the current upon the nerve centers. 3. If the two arms of a U-shaped piece of steel are placed against the positive pole of a dynamo, will the two arms be of the same polarity? Will the curve or bend be the positive and the two arms negative? I have one so magnetized, and the filings arrange themselves around the middle of each arm of the magnet. A. The poles which touch the positive pole of the dynamo are negative. The fact that the filings gathered about the middle of each arm of the magnet shows that consequent positive poles were developed. 4. Does it weaken or take magnetism from a permanent magnet to magnetize other steel objects with it? A. No.

(5075) W. S. P. writes: 1. In regard to a Fuller bichromate battery. I would like to make one to hold 3 pints of Grenet battery fluid, and put the zinc in the porous cup. Can you tell what I could put in the porous cup instead of mercury? Can I use a rod of zinc? Can I make a porous cup out of plaster of Paris or out of white clay? A. There is no substitute for mercury in the Fuller battery, and although you can use a rod of zinc if you desire to do so, the cone used in the regular Fuller battery is preferable. A plaster of Paris cup is of no value in a battery of this kind; you can, however, make the cells out of white clay baked; but as porous cells cost very little, we think you would derive more satisfaction from the regular manufactured one.

(5076) H. M. W. says: We are having a good deal of trouble in our trimming department with moths. Can you give us any remedy whereby we can fumigate our rooms and kill the moth flies and moth worms? Reply by Professor Riley: The insect complained of is probably either the buffalo moth or more properly the carpet beetle (*Anthrenus scrofulariæ*), or the common case-bearing clothes moth (*Tinea pollionella*). The first of these insects I have treated in *Insect Life*, Volume II., pp. 127–130, and the latter is illustrated on page 212 of the same volume, in the article upon clothes moths, which covers pages 211 to 215, to which for details I would refer. Briefly, I may summarize the life histories of the two species as follows: The larva of the carpet beetle is brown in color and is clothed with stiff brown hairs, which are longer around the sides than on the back, and still longer on the extremities. It is elliptical in form and active and it is in this stage that the greatest damage is done. The perfect beetle is 3-16 of an inch long, broadly elliptical in shape, and black, white, and scarlet in color. The beetles begin to appear in the fall and continue to issue throughout the winter and spring. Under ordinary circumstances there is probably but one annual generation, although with plenty of food and a high temperature there may be more. The case-bearing clothes moth is light brown in color and begins to make its appearance in May, and may occasionally be seen flying as late as August. The female lays her eggs in dark corners and in the deep folds of garments, the white soft-bodied larvæ making cases for themselves in the fragments of cloth upon which they feed. The case is in the shape of a hollow roll or cylinder and the interior is lined with silk. When full grown they transform to pupæ within their cases, sometimes leaving the cloth and crawling to some distance to transform. Of this insect also there is but one annual generation. A thorough spraying with benzine will kill either of these insects in all of their stages, but as the company wishes to do something in the way of fumigating, they can do no better than to close the infested rooms tightly over Sunday, arranging the trimmings so that they are not in compact masses. Then place here and there, on shelves and step-ladders, open vessels containing bisulphide of carbon, the rapid evaporation of which will fill the room with its deathly vapor and destroy all, or nearly all, of the insects. The amount to be used depends upon the cubic contents of the room to be treated. It is safe to say that one pound to each one thousand cubic feet will be sufficient, but the proportions may be increased somewhat without danger. Thus, one pound will suffice for a room 10×10×10, but eight pounds would be required for a room 20×20×20. As before stated, the room should be closed as tightly as possible and left for 24 hours. It should then be thoroughly aired and every precaution should be taken to avoid the introduction of fire or light into the room until the vapor has thoroughly dissipated, as it is very inflammable and explosive when at all compressed. A thorough trial of this remedy will probably prove satisfactory.

(5077) A. W. writes: As you are frequently publishing simple modes of illustrating physical principles, I send you something which I trust you will find new. Cut a strip of opaque paper, and hold it horizontally before the flame of a lamp turned edgewise. On looking at the paper with one eye closed, it will appear to be notched where it cuts the flame. This is caused by the persistence of the bright image of the flame on the retina, and is one more instance that the eye cannot see two things that are separate at one and the same instant. A. The effect to which you refer is not due to persistence of vision, but to irradiation. The appearance of the notch is caused by the sympathetic action of the retinal nerves adjoining those directly acted upon by the light.

(5078) J. T., Jr., writes: 1. I have a Bunnell battery, such as is used for telegraphing. Will it run a small Gramme ring motor described in SCIENTIFIC AMERICAN, January 17, 1891? A. Yes. 2. How many cells of this battery will run a sewing machine motor? A. A gravity or sulphate of copper battery is not suitable for running electric motors designed for doing any great amount of work. 3. Is there an electric motor for running sewing machines on the market, and are they any good? A. Such motors are on the market and they are used more or less. You will find them referred to in our advertising columns. 4. What book on electricity for amateurs would you recommend? A. We would recommend "Experimental Science," price by mail $4; and Ayrton's "Practical Electricity," price $2.50.

(5079) W. H. B. asks: 1. In making zincs for medical batteries is anything but pure zinc used? A. No. 2. Should the zincs for medical batteries be amalgamated with mercury? A. Yes. 3. Give most approved formula for making medical battery fluid. A. It depends upon the kind of battery. If it is an ordinary Grenet battery, use a bichromate solution made by dissolving bichromate of soda in water to saturation, then add one-fifth its volume of common sulphuric acid. If it is a chloride of silver battery, the solution may be one chloride of ammonium, or of common salt.

(5080) H. R. E. asks: By what name is caustic magnesia known to the trade, and is it dangerous to handle? A. Calcined magnesia is the form in which the oxide occurs in commerce. This is the anhydrous oxide MgO. The hydrate or caustic magnesia $Mg(OH)_2$ occurs as the mineral brucite. There is no danger in handling them.

(5081) W. H. asks how to make nitrite of soda from nitrate of soda. A. Fuse with lead or copper filings, dissolve in water, filter, and evaporate to dryness.

(5082) J. P. L. writes: I have read that large masses of cast iron could be broken by drilling a hole in the most solid part of the casting, and filling it with water and fitting a steel plug in the hole, and by striking it with a drop the casting would break. Why is it that cast iron can be broken in this way? A. An enormous hydraulic pressure can be thus produced, which breaks the metal.

(5083) L. H. H. asks for a recipe for obtaining a good black color on cast brass name plates, such as are put on various machines by the makers. A. The letters are filled in with the following composition: Melt together in a clean iron pot 2 parts each of best asphaltum and gutta percha, stir well together, and then add 1 part of gum shellac in fine powder. It may be used hot and mixed with smalt, vermilion or other pigment, if desired.

(5084) C. De W. S. asks: 1. Can a person run electric lights with the same batteries that are used for telegraph? A. The resistance of telegraph batteries is too great to permit of their use for electric lighting purposes. 2. What is a good receipt to paint blackboards with, so that they will not act greasy and the chalk will rub off clear and clean? A. Five pints of 95 per cent alcohol, 8 ounces of gum shellac, 12 drachms of lamp black, 20 drachms ultramarine blue, 4 ounces powdered rottenstone and 6 ounces of pumice stone.

(5085) W. M. C. asks: What does the term tons mean when used to indicate the size of a ship? I had the idea that it meant the weight of the ship, but have recently heard that it denoted the carrying capacity. Which is correct? If the latter, what does the word displacement mean, used in the same connection? As for instance, the size of the United States ship Philadelphia is given as 4,324 tons displacement. A. Displacement is the weight of a vessel and is named in tons of water that it displaces. Tonnage is the carrying capacity of a vessel.

(5086) W. F. Z. asks: Will you please inform us which is the best and cheapest paving for a mud street in a town of 5,000 to 10,000 inhabitants? A. The cheapest in first cost is wood. Cheapest, considering durability, is brick. It might be well for you to examine the various exhibits at the World's Fair, relating to pavements and roadways.

(5087) J. F. S. asks: 1. Are Leclanche batteries capable of lighting the small Edison incandescent lamps, say from five to ten minutes at a time, three or four times per night? A. Yes. 2. How many cells will be required to run two lamps of 4 and 6 candle power, connected in series? A. The lamps of this size are rather large for use in connection with Leclanche batteries. It would require about 10 cells for a 6 candle power lamp and 8 for the 4 candle power. 3. What is the greatest distance the common form of Bell telephone with Blake transmitter has worked successfully? A. Under favorable circumstances, 100 miles or more. 4. What is the multiphase motor? A. The multiphase motor is one in which the current is distributed in the field magnet in such a way as to cause the field to rotate, the poles of the armature following the poles of the rotating field.

(5088) B. E. W. asks: Please say how the tin or iron enameled ware, commonly known as granite ware, is made, and if it could be made on a small scale by a person not skilled in the work. Also, does the blue and white enameled ware made in Germany differ from it except in color? A. Gray enameled ware is done in same manner as the white cast iron ware. It only requires more care in handling and firing the sheet iron goods. The gray color is made by a uniform coat sprinkled with the darker enamel from a brush. In the finest ware two to three firings are required to make the finish. The process and composition of the enamels is described in "Techno-Chemical Receipt Book," $2 mailed. The German enameling is of the same kind as made here, only different color. We do not advise amateurs to try this style of enameling. It requires some skill, a properly built oven and technical knowledge in compounding the enamels.

(5089) B. M. W. asks: Can you give me any information regarding a paint that could be used on iron pipes and vessels that are heated from the inside by steam, the temperature on said vessels not to go over 300° Fah.? All the paints I have tried so far burn off in from 2 to 4 hours. Also a receipt for mending pin holes in rubber air pillows. A. Steam pipes for high pressure steam are usually painted with coal tar or liquid asphalt. Red oxide of iron paint (dry) mixed with boiled linseed oil only is much used on steam pipes. Use rubber cement for mending pin holes in rubber pillows; push the cement through the hole with a small stick while the pillow is partly filled with air and allow it to thoroughly dry before using.

(5090) C. L. asks: 1. About what degree of heat is produced in the oven of any one of the cooking stoves or ranges used by the people of to-day? A. Baking ovens have a range of temperature for cooking from 250° to 350° Fah. 2. Please give three or four metals which possess the greatest expansive properties, yet will not fuse in this heat. A. One of the metals that has the greatest range of expansion by heat is zinc, which melts at 680° Fah. It will expand 0·005 of an inch in 10 inches length for 268° change.

(5091) A. B. asks: Will you please tell us what composite and scrophulariaceous plants are? They are spoken of in a bulletin of the United States Department of Agriculture, Division of Entomology, in connection with buffalo beetles. A. Composite plants include the very large number of plants belonging to the natural order Compositae. Among them as more particularly attractive to the buffalo or carpet beetle (*Anthrenes scrophulariæ*) are the daisies, chrysanthemums, asters, and solidagos or goldenrods. Scrophulariaceous plants, in the same way, include those belonging to the natural order of that name, and among those most attractive to the carpet beetle are the true figworts (Scrophularia) whence the specific name of the insect, the mullein (Verbascum) and the foxglove (Digitalis).—C. V. R.

(5092) K. S. G. asks if there is an electric motor made that will run a 20 foot boat from 3 to 5 miles per hour, using a plunge or any cell battery that will be practical? A. Any of the well known makers of motors could furnish you with a motor that would run the boat easily at the speed stated. A storage battery would be required for the best results. For addresses of makers of electric motors we refer you to our advertising columns.

(5093) J. L. K. asks for the best way to mould sheet zinc into rods the size of carbon pencils. A. You can melt and cast your zinc into rods, using sand moulds. 2. Could I run the simple motor described in "Experimental Science" with the plunge battery made with tumblers each holding one pint, using 1 zinc rod and 2 carbon rods to each cell? If so, how many cells would be necessary? A. The battery you describe will be too small for running the motor referred to. You will be obliged to make a large battery like that described in "Experimental Science."

(5094) J. Q. D. writes: I can find no reliable data as to the proper sp. gr. to make brine for refrigerating purposes. As the operation is one of the abstraction of heat, would a brine just sufficiently strong to prevent freezing at the temperature of the brine tank give better results than one weighted with salt above the amount necessary to prevent freezing, and if so, to what extent? I believe the rule of thumb governs most establishments in making brine, and that therefore little or no attention has been paid to this important point. A. Brine absorbs heat according to its density, and faster than fresh water. For best effect for the least pipe surface the density should be near the saturation point, yet not near enough to produce crystallization in any part of the apparatus, as the intense cold in the ammonia expansion surface would crystallize the brine that would not show saturation by several degrees in the solution tank. We understand this point is well known among experts.

(5095) B. R. writes: 1. The beam, pans, etc., of my chemical balance have been badly corroded by fumes of nitric acid, a bottle of which was placed in the balance by mistake, and left there for some time. How can I restore the original finish to the corroded parts? A. You can only restore the balance by refinishing with flour emery cloth and relacquering. 2. What is the best form of voltaic cell for ordinary electroplating? A. Electroplating, the Smee battery.

(5096) H. S. R. writes: I wish to build a small cannon of gun metal with an inch bore. It will be more of an ornament than anything else, but of course will use it occasionally. It will not be a breech loader. Can you kindly give me information as to its proportion,

as I wish it to be perfectly safe? A. Make the gun for 1 inch bore, 16 inches long over all, 2 inches of metal at breech, 5 inches diameter behind trunnions, and taper to 3 inches at muzzle.

(5097) D. T. S. asks: Suppose you take two iron balls, one weighing one hundred pounds, one weighing fifty, elevate both to the height of 200 feet from the earth, and drop both at once, which will strike the ground first? A. The large ball will reach the ground first, owing to less air friction in proportion to the weight.

(5098) A. W. G. asks for the formula for making the compound used by rubber stamp makers to make matrix or mould of. A. Soapstone (powdered) 1 pound 3 ounces; dental plaster, 1 pound; finely powdered kaolin, 1 pound; mix dry, sift and mix with the following solution, which is made by dissolving 5 ounces of dextrine in 1 quart of hot water. This solution is to be used cold and is made in advance. The composition should be about as stiff as putty or a little stiffer.

(5099) L. G. E.—Soft brass castings are easy to make if you use good copper 2 parts, zinc 1 part, by weight. This is called 8 ounces brass or 8 ounces of zinc to a pound of copper. The "Brass Founder's Manual," by Graham, will probably set you all right. $1 mailed.

(5100) F. C.—You should be able to maintain 12 pounds vacuum per square inch upon the largest piston of your compound engine. The connecting pipe and pump should be a little larger than is necessary for discharging the water of condensation, as it has also to discharge the air in the feed water of the boiler.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

May 23, 1893

AND EACH BEARING THAT DATE.

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

Abdominal supporter, J. A. Marvin 497,803
Album stand, G. J. Kraushaar 498,173
Alcoholic liquors, method of and apparatus for treating, C. Bullock 497 857
Agricultural implements, support for the hoes of, R. Galloway 498,165
Armature for electric motors or generators, J. F. McLaughlin 497,887
Axle, wagon, C. C. Leiwenich 498,177
Bag, T. Manahan 498,180
Bag holder, J. C. White 497,846
Bagasse furnace, F. Cook 497,770
Baling press, G. Schubert 498,032
Bar. See Grate bar.
Barrel hooping machine, L. D. Morrison 497,806
Bearing, antifriction, F. H. Chase 497,764
Bed, folding, J. Lewin 498,179
Bed, sofa, A. H. Moore 498,016
Bicycle, Kortright & Craven 498,172
Bicycle basket carrier, C. M. Luebben 498,015
Bicycle saddle, H. McDonald 498,136
Bicycle support, W. Klages 497,798
Bicycle tool, E. C. Fisher 498,051
Bicycle wheel, H. S. Owen 497,966
Billiard chalk holder and protector, C. Munro 497,886
Billiard cue, W. H. Shumaker 497,929
Billiard table, P. M. Cunningham 498,049
Bit. See Driving bit.
Blacking boots or shoes, stand for use in, R. E. Linkfield 498,066
Blind adjusting device, window, J. Murray 497,810
Block. See Expanding block.
Board. See Game board. Ironing board. Press board.
Bolt. See Jail bolt.
Book rest, Condit & Ladd 498,156
Boot or shoe scouring wheel, W. H. Roche 497,821
Bottle case, H. H. Higham 497,877
Bottle nipple, nursing, L. B. Truslow 497,994
Bottle stopper, G. S. Chamberlin 498,003
Box. See Match box.
Box lifter, E. R. Fletcher 497,780
Box making, expansible form for, Watt & Peterson 497,901
Boxes, manufacture of hooped, H. H. Higham 497,876
Bracket, F. Recht 498,027
Brake. See Car brake. Vehicle brake. Wagon brake.
Brick kiln, W. A. Evans 498,050
Brick machine, H. C. Barker 498,203
Brick or tile machines, roller die for, J. Thompson 497,839
Brick structure, J. J. Hesz 497,959
Bridle bit, W. T. Coburn 498,106
Broiler, electric, S. B. Jenkins 497,790
Brush bridle, W. Lewis 498,065
Brush bridle, adjustable, Hardcastle & Bardsley 497,788
Brush, rotary, H. G. Rockwell 497,989
Burner. See Oil burner. Vapor burner.
Button loop, C. J. White 497,847
Calendar, G. E. Matthews 498,069
Calendar and stamp holder, combined rotary, C. C. Stallman 498,088
Cam, Swift & Mitchell 497,835
Can cover, ventilated, S. Ilgen 497,961
Can top, sheet metal, W. L. Eisengart 497,976
Candy making machine, B. Thoens 498,142
Cane or similar article, O. C. Pugh 498,187
Capstan, W. F. Murray 498,075
Car, T. K. Shea 497,829
Car brake, C. H. Grambs 498,167
Car coupling, W. H. Bush 497,859
Car coupling, C. C. Davison 497,868
Car coupling, N. J. Hopkins 498,117
Car coupling, J. C. Hunsinger 497,920
Car coupling, W. F. Richards 498,029
Car coupling, H. W. Rist 498,190
Car coupling, L. N. Singin 497,930
Car coupling, H. Tatum 497,837
Car draught rigging, G. L. Potter 498,026
Car draw gear, F. E. Ellis 497,777
Car floor frame, F. E. Ellis 497,776
Car hand strap, E. E. Rombauer 497,893
Car loading or unloading apparatus, A. M. Commun 498,155
Car replacer, H. Saunders 497,927
Car sanding device, street, Werst & Womach 497,962
Car, stock, J. M. Burton 497,845
Car, street, G. Moore 498,071
Car wheel, J. A. Webber 498,038
Car wheel and axle, W. R. Kirk 498,171
Car wheel dust and oil guard, C. C. Leiwenich 498,176
Cars, convertible seat and berth for, J. Krehbiel 498,013
Cars of underground cable railway crossings, bumper or stop for, H. E. Poehlman 498,215
Carboy case, H. H. Higham 497,878
Carbureter, C. R. Collins 497,866
Carriage indicator, A. M. Blake 498,101
Carriage, shifting seat, J. T. Clarkson 497,765
Carriage top valance, C. Bauer 498,152
Carrier. See Bicycle basket carrier. Cash carrier. Elevator carrier.
Cart, dumping, A. Voelkle 497,934
Cart, spreading, F. E. Brown 498,151
Cart, wood, E. L. Higgins *et al* 498,056
Case. See Bottle case. Carboy case. File case. Show case.
Cash carrier, T. F. Mark 497,885
Cash register, T. Carney 497,861
Cash register and indicator, T. Carney 497,860
Cash register and indicator, H. G. O'Neill 498,079
Caster, C. F. Mankey 498,130
Casting plant, H. B. A. Kelser 497,984
Cement, manufacture of Portland, M. L. Griffin 497,785
Centerboard, R. Pigott 498,082
Chair frame, A. H. Ordway 498,140
Channel holding machine, J. N. Moulton 498,017
Chart, time, A. Gleason 497,917
Christmas tree holder, W. Windus 497,999
Chuck, W. G. Nelson 497,986
Cigar rolling apron, F. C. Miller 498,134
Circuit closer and indicator, thermal, J. L. Bradley 498,153
Clip. See Singletree or whiffletree clip.
Closet. See water closet.
Clothes drier, E. H. Thomas 498,091
Clothes pounder, L. Hopkins 498,118
Coat, L. Scheimberg 497,928
Cocoanut husks, treating, J. T. Davis 497,911
Coffee making pot or utensil C. Ackerman 498,098
Collar fastener, G. W. Harrop 498,168
Combination heater, C. D. Howard 498,057
Cotton picker, pneumatic, G. A. Mauermann 498,133
Cotton press, F. Garraux 498,052
Coupling. See Car coupling. Pipe coupling. Thill coupling.
Cultivator, I. V. Kelly 497,883
Cup. See Feeding cup.
Cutter. See Fodder cutter. Rotary cutter.
Cycloidal surfaces, machine for forming, J. T. Wilkin 497,998
Dental hot air syringe, F. B. Norris 497,964
Desk office, J. A. Lawson 48,175
Door, combined screen and storm, C. H. Sheldon 497,899
Door machine, E. B. Hayes 497,978, 497,979
Draught equalizer, Hendershot & Ackerman 497,981
Drawbar spring pocket, C. T. Shoen 497,825
Drawers stretcher, F. W. Gilroy 497,782
Drawing roller, fluted or grooved, J. Dodd 497,912
Dredging machine, W. T. Urie 498,143
Drier. See Clothes drier.
Drill. See Grain drill.
Driving bit, F. Swales 497,931
Drying frame, roof, L. Oppenheimer 498,080
Electric accumulator, P. J. R. Dujardin 497,869
Electric distribution, safety appliance for systems of, E. Thomson 497,838
Electric heater, S. M. Cook 497,771
Electric heater, S. B. Jenkins 497,795
Electric heater for flatirons, etc, S. B. Jenkins 497,794
Electric heaters, manufacturing, H. G. O'Neill 498,078
Electric motor or generator, J. F. McLaughlin 497,888
Electrical fuse link, M. C. Walls 497,844
Elevator, A. Koeberlein 497,922
Elevator carrier, O. O. Jones 497,796
Elevator safety device, A. Eck 498,161
Enameling sheet metal ware, Dubois & Stewart 498,207
Engine. See Steam engine.
Exerciser, chest, C. Denison 497,774
Expanding block, A. d'Yochet 497,854
Extractor. See Stump extractor.
Eyeglass frame, W. H. Cowles 497,773
Fabrics with oil, machine for flooding, P. Campbell 497,763
Farm gate, J. M. Keith 498,124
Fastener, metallic, G. W. McGill 498,138
Feeding cup, L. W. Bacon, Jr. 497,940
Fence, P. W. Weienmett 497,996
Fence post, Goodwin & Polly 497,872
Fender. See Wheel fender.
File case and drawer, C. Kiel 498,012
File holder, automatic, R. Thomson 497,993
Filter, S. L. Morison 497,807
Filter, H. H. Teeter 497,991
Firearm, breech-loading, C. M. Wollam 498,043
Firearm shot spreader, J. N. Hall 497,874
Fish hook, C. L. d'Ivernois 497,962
Fish hook disgorger, F. T. Verharen 498,094
Flask. See Moulding flask.
Flatiron heater, electric, S. B. Jenkins 497,792
Fodder cutter, W. F. Ziegler 498,202
Frame. See Car floor frame. Chair frame. Drying frame. Eyeglass frame.
Frying pan, etc., C. Spahmer 498,195
Fuel economizer, G. C. Hawkins 498,211
Furnace. See Bagasse furnace. Glass furnace. Metallurgical furnace. Smoke consuming furnace.
Game board, J. B. Davids ..... 497,908 to 497,910
Garbage receptacle, P. Jasnowski 498,011
Garment supporter, L. G. Abbott 498,217
Gas, apparatus for the manufacture of, H. R. Earl 498,005
Gas making apparatus, M. E. Wilson 498,096
Gas meter, J. H. Mansur 498,181
Gate. See Farm gate.
Generator. See Steam generator.
Glass articles, moulding circular, Yocum & Kacer 498,147
Glass furnace, T. A. Zellers 498,148
Glass mould, mechanically operated, S. Hipkins, Jr. 498,116
Governor safety attachment, W. F. Brown 498,002
Governor, steam engine, G. H. Evans 498,006
Grain drill, Christman & Munn 497,864
Grate attachment, adjustable, M. C. Hutton 497,921
Grate bar, R. W. Peck 498,024
Guard. See Car wheel dust and oil guard. Railway frog foot guard. Spark guard. Trousers guard.
Guitar, C. F. Hartmann 498,113
Gun, machine, R. J. Gatling 497,781
Gun, spring, J. Monaghan 498,070
Gypsum composition, manufacturing, M. B. Church 497,948
Gypsum, forming retarded, M. B. Church 497,947
Hame, P. W. Corcoran 497,772
Hanger. See Trousers hanger.
Harvester, corn, W. M. Piatt 497,967
Harvesting machine knotting mechanism, Whiteley & Dyer 497,848
Hat brim shaping machine, L. H. Hoyt 497,789
Hat tip stretching machine, C. B. Schumann 497,969
Hatchway mechanism, E. D. Shaw 497,828
Hay loader, B. F. Hughes 498,060
Heater. See Combination heater. Electric heater. Flatiron heater. Tire heater.
Heater, C. S. Jones 498,122
Heel nailing machine, J. B. Tilton 498,092
Hides and skins, machine for working, G. W. Baker 497,941
Hinge for collapsible boxes, W. V. Leonard 498,178
Hitching strap, E. Shaw 498,035
Hook. See Fish hook.
Hooks, making wardrobe, C. Glover 497,783
Hose carriage, L. M. Johnson 497,882
Ice cream freezer, J. Foster 498,163
Indicator. See Carriage indicator.
Ink well, J. F. Lash 498,174
Ink well water sealed, H. S. Newberry 497,889
Insects, destroying, W. T. Yandow 497,937
Insulation for underground wires, P. Wright 497,852
Iron. See Soldering iron.
Iron into steel, converting, J. A. Hunter 498,062
Iron or steel, converting, J. A. Hunter 498,061
Ironing board, F. P. Hamlet 497,787
Jail bolt, C. D. Hudgens 498,059
Jar closure, F. H. Palmer 497,812
Jar holder, A. L. Dickinson 497,775
Joint. See Railway rail joint. Wood joint.
Kettle, J. R. Wilkinson 497,935
Kiln. See Brick kiln.
Knife. See Pocket knife.
Knitting machine, circular, G. E. Nye 498,139
Knitting machine stop motion, McMichael & Wildman 498,076
Knitting machines, needle depressing slide for, E. J. Peaslee 498,023
Knot tying device, T. McVeigh 498,185
Lamp electrode, arc, A. C. Seibold 498,141
Lamp, incandescent, G. A. Frei 497,956
Lamp, incandescent electric, G. A. Frei 497,957
Lamp socket, incandescent electric, I. Goldkind (r) 11,341
Lamps, electrode shield for arc, C. E. Scribner 497,898
Lamps, temporary circuit connector for incandescent electric, G. A. Frei 497,955
Lamps, wall socket for incandescent, H. C. Wirt 497,849
Lantern, tubular, F. K. Wright 498,015
Last, E. D. Woods 498,044
Latch, O. Christian 497,863
Latch, C. F. Pease 497,813
Lathe, S. L. Worsley 497,851
Lathe tool support, C. M. Conradson 497,769
Level, plumb, L. J. Rogers 498,084
Lid holder, vessel, M. Murray 498,020
Lifter. See Box lifter.
Lighting and heating apparatus, combined, C. W. Cropp 497,867
Lock. See Nut lock. Permutation lock.
Lock and check clasp, combined, H. J. Welch 497,972
Locomotive draught device, J. P. Serve 498,034
Locomotive draught device, T. Wise 498,097
Locomotives, variable exhaust for, G. B. Taylor 497,970
Loom, O. W. Schaum 497,824
Loom Jacquard mechanism, I. Hillas 497,879
Loom Jacquard mechanism, G. W. Stafford 497,833
Loom warp stop motion, O. Smith ..... 498,191 to 498,194
Looms, take-up mechanism for narrow ware, O. W. Schaum 497,823
Lubricator, A. J. Rogers 497,968
Match box, Korb & Krug 498,064
Measure, tape, F. Buck 498,104
Measuring machine, cloth, S. Loveman *et al* 498,128
Metal working, making dies or patterns for, C. F. Hirons 497,982
Metallurgical furnace, W. Stubblebine 498,009
Meter. See Gas meter. Time meter.
Mill. See Windmill.
Mill, T. L. Sturtevant 498,037
Milling machine, S. L. Worsley 497,850
Mining machine, electric, E. A. Sperry 497,832
Mould. See Glass mould.
Moulded article, A. C. Estabrook 497,778
Moulding flask, J. Oliver 497,890
Motor. See Electric motor.
Mower, H. E. Pridmore 497,816, 497,817
Mower attachment, W. Burdin 498,205
Mower clutch, lawn, H. Broome 497,944
Mower grass receptacle, lawn, Werner & Falker 498,039
Mower sharpener, lawn, Z. T. Bush 498,219
Music leaf turner, J. Hird 498,009
Musical instrument, J. F. C. Abelspies 497,939
Musical instrument fingerboard, T. Wolfram 497,973
Musical ring, L. D. Gerwig 498,008
Nickel-in-the-slot machine, G. Bettini 497,906
Nozzle, adjustable, E. E. Woodward 497,903
Nut lock, J. G. Dulany 498,208
Nut tapping machine, J. A. Plopper 498,186
Nut tapping machine, W. D. Putnam 497,892
Oil burner, C. Trench 497,842, 498,198
Oil purifier, D. H. McClelland 498,184
Oils and products thereof, producing sulphureted, W. D. Field 498,162
Opera glasses, mirror attachment for, M. Murray 498,019
Ordnance, operating, W. B. Gordon 497,977
Ore concentrator, C. B. Walker 497,843
Ore tank, C. G. Brown 497,856
Ores, concentrating and separating, J. W. Meier 497,804
Organ action, W. Schwarze 498,086
Organs, means for operating pressure box bellows of, W. Schwarze 498,087
Pan. See Frying pan. Vacuum pan.
Paper fixture, toilet, C. W. Gay 497,916
Paper press, waste, G. W. Rexicker 497,818
Paper pulp straining apparatus, J. White 498,041
Pen, fountain, H. O. Muller 498,213
Penholder, C. A. White 498,201
Pencil, G. B. Bergen 498,001
Pencil holder, lead, R. Hagenmeyer 497,873
Permutation lock, P. C. Brown 497,761
Photographic negative ribbon for camera boxes, Krause & Schneider 497,884
Phototype machine, A. C. Ferguson 497,914
Piano action, upright, J. F. Terew 497,992
Picker. See Cotton picker.
Pin, E. Le Gresley-Cox 497,801
Pipe. See Waste pipe.
Pipe bell lock joint, sheet metal, C. S. Hamlin 498,210
Pipe bending machine, Lawrence & Letts 498,126
Pipe coupling, W. W. Simrell 497,990
Pipe expander, S. D. Robertson 497,820
Pipe wrench, W. Craige 498,048
Pitman, G. B. Porter 497,815
Planing cycloidal surfaces, machine for, J. T. Wilkin 497,997
Planter, check row, E. C. C. Krogh 497,799
Plastic materials, machine for moulding and shaping, J. J. Denbeigh 498,206
Plow, W. B. Wherry 498,085
Plow, sulky, P. Ries 498,030
Plunger for creasing or creasing and folding machines, J. & E. R. Corbett 497,949
Pneumatic dispatch tube, N. D. Wells 497,815
Pocket knife, H. Schickler 498,897
Post. See Fence post.
Pot. See Coffee pot.
Press. See Baling press. Cotton press. Paper press.
Press board and support for same, E. J. Richardson 498,083
Pressure regulator or governor, R. B. Lincoln 498,014
Printed sheets, associating and folding, W. Scott 498,033
Printer's roller cabinet, S. H. Bradbury 497,855
Printing machines, blanket controller for calico, W. Duncan 497,953
Printing plates, screen for making photomechanical, M. Levy 498,127
Puller. See Stump puller.
Pump gearing, S. L. Fulford 498,109
Radiator, electric, S. B. Jenkins 497,791
Radiator leg, E. E. Mann 498,131
Rail support, Morrison & Swin 498,072, 498,073
Railway conduit, electric, A. H. Heatzman 498,169
Railway conduit, electric, J. L. Reynolds 498,189
Railway, conduit electric, G. F. Moffett 498,135
Railway frog foot guard, C. H. Triphagen 498,199
Railway rail and chair and uniting same, A. J. Moxham 498,074
Railway rail and uniting same, A. J. Moxham 497,808
Railway rail joint, H. P. Stearns 497,834
Railway rails, combined nut lock and electrical connection for, A. L. Johnson 497,963
Railway signal connection, J. P. Annett 497,758
Railway signaling, safety block system for, Sykes & O'Donnell 497,836
Railway switch, G. E. Draper 497,913
Railway track tie, metal, M. Fitzgerald 497,954
Railway trains, smoke, dust, or cinder guard for use on, O. F. Goodwin 498,166
Railway trolley, electric, E. H. Allen 498,046
Rake, W. T. Gallt 498,007
Register. See Cash register.
Regulator. See Pressure regulator.
Rein holder, H. C. Davis 498,107
Ring. See Musical ring.
Roller. See Drawing roller.
Roofing and siding strip, J. W. Hammett 498,111
Rope holder, G. B. Warner 497,900
Rotary cutter, A. S. Vose 498,144
Ruler, desk, R. Chadwick 497,946
Sack holder, P. P. Fjellman 497,870
Safe plate, composite, I. W. Hoyer 498,058
Sandpapering machine, C. L. Ruehs 497,895
Sawing machine, E. B. Hayes 497,980
Sawmill, R. B. Cole 497,768
Screen. See Window screen.
Screw machine die or tap holder, J. B. Clyne 497,767
Screw manufacturing machine, J. B. Clyne 497,766
Seal, F. W. Brooks 498,103
Sewer seal device, Jones & McPhail 498,121
Sewing machine, J. Reece 498,216
Sewing machine needle, N. H. Piffard 497,926
Sewing machine needle clamp carrier, P. B. Laskey 498,212
Sewing machine tuck marker, Corkhill, Jr., & Shields 497,950
Shackle, yielding, W. H. Williams 497,936
Shades, adjustable appliance for hanging window, R. W. Hilliker 497,880
Shafting, flexible, G. Beekman 497,905
Ship locomotive, H. D. Snell 498,036
Shoe shank piece, J. Heckel 498,055
Shoe shank piece, F. Kinsella 498,125
Shoe case, combined sponge and chamois, W. H. Wightman 498,042
Sign and label, changeable, C. A. Gildemeyer 498,053
Singletree or whiffletree clip, E. L. Howe 497,983
Skate, J. A. Whelpley 498,200
Skin coloring machine, A. F. Jones 498,128
Smoke-consuming furnace, C. W. Mills 498,182
Smoke-consuming furnace, L. J. Trecy 498,197
Smoke-consuming furnace, W. O. Thost 497,841
Soldering iron, electric, S. B. Jenkins 497,793
Spark guard, B. A. Estep 498,108
Spectacles, mirror attachment for, M. Murray 498,018
Spinning mule, J. Burns 498,105
Spooling machine thread guide, W. L. Richmond 497,819
Spirits from amylaceous materials, manufacture of, E. Polzar 497,814
Spring check, R. L. Allen 498,099
Square and bevelgauge, combined, J. W. Yingling 497,938
Stand. See Switch stand.
Staple making machine, W. P. White 498,040
Steam engine, E. E. Peacock 497,987
Steam generator, H. Hyde 497,881
Steel in low carbon steel, increasing percentage of, J. A. Hunter 498,063
Steering gear, electric, F. L. & L. H. Dyer 498,160
Stencils, apparatus for the manufacture of, E. de Zuccato 498,149
Stocking supporting catch, L. G. Abbott 498,218
Stool and foot rest, combined, J. K. Phillips 498,081
Stopper. See Bottle stopper.
Stopping and reversing mechanism, J. B. Clyne 497,865
Stove, oil, L. F. Betts 497,760
Stove, straw burning, A. L. Thompson 497 840
Stoves, tanks for gasoline or vapor, H. Ruppel 497,896
Strap. See Car hand strap. Hitching strap.
Straw carrier chute, folding, A. B. Reeves *et al* 498,028
Stud spirals, machine for bending, A. Muehlmatt 497,809
Stump extractor, J. Abbee 498,150
Stump puller, T. A. Terrell 498,090
Sugar, making invert, Wohl & Kollrepp 498,000
Sulky, trotting, S. Rowe 497,894
Switch. See Railway switch.
Switch stand, A. A. Strom 498,196
Syringe, vaginal, F. E. Ackley 497,757
Table. See Billiard table.
Tank. See Ore tank.
Tanning apparatus, J. Davis 497,951
Tawing hides, A. D. Little 498,067
Tawing hides or skins, W. M. Norris 498,077
Tawing skins, W. M. Norris 498 214
Telegraph return signal key, district, J. M. Bell 497,942
Telephones, coin-controlled lock for, P. Cooke 497,907
Therapeutic appliance, electro, H. C. Royer 497,822
Thermometer, G. H. S. O. Moller 497,925
Thermostat, F. C. C. Krogh 497,800
Thermostatic instrument, M. Martin 497,923
Thill coupling, F. M. Hartman 498,114
Thill coupling, A. G. Howland 497,619
Thill coupling, Matthews & Dinsmore 497,904
Thill couplings, anti-rattler for, H. Bunker 497,858
Thill couplings, anti-rattler for, Peters & Forbis 497,988
Thrashing machine separator attachment, R. Keeling 498,123
Ticket holder and bill file, reversible, F. J. Howell 497,960
Tie. See Railway track tie.
Time meter, electric current, H. H. Pattee 498,021, 498,022
Tire, bicycle, H. S. Owen 497,965
Tire, cycle, L. K. Siggons 497,830
Tire fastener, Griffiths & Miller 497,786
Tire heater, J. W. Higgason 497,875
Tire, pneumatic, P. W. Tillinghast 497,971
Tire, pneumatic wheel, E. Siltberg 497,831
Tire, wheel, F. W. Tucker 497,995
Tongs, pipe, R. C. Jones 497,797
Torpedo, Mower & Haight 498,183
Toy, C. L. Pierce 498,025
Toy, J. W. Zinn 497,974
Trammel and calipers, combined, E. Lindner 497,802
Tree suspender, fruit, J. Wright 497,853
Tripod, T. F. Farrell 497,779
Trousers guard, J. W. Cooper 498,047
Trousers hanger and press combined, C. L. Harper 498,054
Truck, B. Bernstein 497,943
Trunk, telescopic, F. J. Palica 497,811
Tube. See Pneumatic dispatch tube.
Tug, hame, J. C. Anderson 497,804
Turning irregular forms, machine for, E. A. Kimball 498,170
Twisting machine, A. B. Bullock 497,762
Twisting machine, G. H. Sellers 497,827
Type writing machine, E. H. Berry 498,100
Typewriting machine, L. J. Magie 498,129
Vacuum pan, C. L. Schaltz 498,085
Valve operating mechanism, lazy tongs, J. R. Floyd 497,871
Valve regulating, N. C. Locke 497,985
Vapor burner, J. A. Chandler 497,862
Vaporizer, disinfectant, L. G. Woolley 498,146
Vehicle brake, D. Miller 497,805
Vehicle running gear, J. Q. A. Haney 498,112
Vehicle wheel, A. W. Grant 497,784
Veneer cutting machine, J. J. Hayes 497,958
Wagon brake, C. C. Reynolds 498,188
Wagon brake, Woodward & Johnston 498,145
Wagon dump and elevator, J. S. Kidd (r) 11,340
Wagon, tower, C. A. Davis 497,952
Wardrobe, folding, E. F. Downer 497,975
Washing machine, J. W. Ash 498,151
Washing machine, B. F. Hartman 497,918
Washing machine, M. J. Herzler 498,115
Washing machines, means for operating, J. Schroeder 498,031
Waste pipe, T. R. Treiber 498,093
Watch hair spring stud, H. E. Duncan 498,209
Watch movement holder, H. E. Duncan 498,004
Water closet, C. A. Blessing 498,102
Water closet seats, protective covering for, P. G. H. Dop 498,159
Well cavities, agitator for oil, T. H. Gallagher 498,164
Wheel. See Bicycle wheel. Boot shoe scouring wheel. Car wheel. Vehicle wheel.
Wheel fender, C. W. Howe 498010
Whistle, mouth, Beardsley & Moulton 497,759
Windmill, C. J. Lonning 498,068
Window, E. C. Horton 498,119
Window screen, H. C. Park *et al* 497,891
Wire corrugating machine, C. Scholl 497,826
Wire machine, barb, J. W. Govier 498,110
Wood carvings, making, W. F. Deweese 498,158
Wood dishes, machine for cutting, J. W. Turner 497,933
Wood dishes, method of and machine for cutting, L. W. Tinkham 497,932
Wood joint, Fulghum & Roberts 497,915
Wrench. See Pipe wrench.
Wrench, G. W East 498,157
Wrench, H. McDonald 498,137
Wrenches, die for the manufacture of, W. S. Bemis 498,204

DESIGNS.

Axle box frame, W. S. Adams 22,467
Axle box frame, J. A. Brill 22,468
Box, O. D. Rodgers 22,462
Cane, W. S. O'Brien 22,451
Cigars, head former for, C. Hvass 22,463
Fan, W. B. Williams 22,452
Hat trimming, G. Gutlohn 22,457
Hub band, wagon, C. C. Field 22,469
Lavatory support, W. F. Malloy 22,465
Lavatory table frame, W. F. Malloy 22,466
Medal, C. C. Bonney 22,455
Metal border, L. C. Hiller 22,460
Napkin holder, J. Walter 22,454
Padlock case, H. Horne 22,456
Picture frame, P. Wiederer 22,459
Spoon, A. F. Jackson 22,453
Stay, dress, D. H. Warner 22,458
Stove, W. D. Southard 22,464
Table, C. E. Dean 22,461
Trucks, upper chord for car, J. A. Brill 22,471
Wagon body, Z. T. Rickards 22,470

TRADE MARKS.

Banjos, guitars, and mandolins, W. W. Knight & Son 23,061
Beer, lager, Quandt Brewing Company 23,078
Bicycles, Gibson & Prentiss 23,108
Canned fish, fruits, and vegetables, Delafield, McGovern & Co 23,087, 23,088
Canned fruits, Seeman Brothers 23,089
Chisels, gouges, plane irons, and hand tools for carpenters, builders, and woodworkers, C. Buck 23,105
Cigars and cigarettes, Wing Brothers & Hartt 23,076
Cocoa and chocolate, P. Griffing 23,080
Coffee substitute, E. C. Wheeler 23,081
Confectionery, Wallace & Co 23,075
Cotton cloth, printed, Sharpless Bros 23,072
Dental rubber, E. J. McCormick 23,067
Lime, manufactured, Marble Head Lime Company 23,101
Liniments, hair restoratives and removers, medicated soap, and embrocations, Bartels Manufacturing Co 23,092
Mandolins and accessories, A. Gemunder & Sons 23,060
Medicated oils, D. M. Bye 23,099
Nail strip, metallic, McKay Metallic Fastening Association 23,104
Oats, rolled white, E. Meinrath 23,086
Oil for inhalation purposes, oxidized, Carnrick & Company 23,098
Paints and paint removers, Rinald Bros 23,100
Paper bags, Union Bag and Paper Company 23,066
Photographic printing paper, Eastman Kodak Company 23,065
Pills and wafers, certain, Cleveland Pill Company 23,095
Pork, cured, Dunlevy & Bro 23,080
Preparations for diseases and blemishes of the skin, H. W. Crowley 23,091
Punch, W. G. Smoot 23,077
Remedy for catarrh, H. J. Mayers 23,093
Salves and ointments, Baldwin & Nalley 23,097
Satins, prints, and cotton piece goods, Arnold Print Works 23,071
Shirts, blouses, trousers, and overalls, Wingate, Stone & Welles Mercantile Company 23,069
Shoes, school, A. Priesmeyer 23,070
Sirup and molasses, B. S. Janney, Jr., & Co 23,082, 23,083
Sirup, table, Wilson Palmer & Co 23,084
Sorghum, Bliss Syrup Refining Company 23,085
Suits for boys and children, T. M. Rasm 23,068
Suppositories, A. Phillips 23,096
Tacks, Atlas Tack Corporation 23,102
Teas, T. H. Rockwood 23,078
Tonics, pills, balsam, ointment, and remedies for neuralgia and catarrh, Hawker Medicine Company 23,094
Vans and other heavy wagons, moving, Ippich & Treffinger 23,106
Velocipedes, bicycles, and parts thereof, Luburg Manufacturing Company 23,109
Violins, J. W. Pepper 23,062
Watches, Hampden Watch Company 23,063, 23,064
Wire rope and chain, G. Cradock & Co 23,103
Woodworking machines, Hall & Brown Wood Working Machine Company 23,107
Yarns and threads, J. R. Leeson & Co 23,073, 23,074