AMERICAN INSTITUTE OF THE CITY OF NEW YORK,
New York, October 14, 1878.

R. J. CHARD, ESQ.,
134 Maiden Lane, New York:

Dear Sir:—For your exhibit at Forty-sixth Exhibition. of Lubricating Oils, "The Medal of Superiority" has been awarded, based upon practical test made by Prof. R. H. Thurston, of Stevens Institute. The medal will be prepared, and you will be notified when ready for delivery.

Yours,
CHAS. WAGER HULL,
General Superintendent.

Notes & Queries

(1) G. S. Y. writes: Is the manufacture of sugar from the beet root a success? Are there any factories for its manufacture in this country, and if so, where located? A. Consult the SCIENTIFIC AMERICAN SUPPLEMENT, pp. 1947, 1963, 1324, 1032, and SCIENTIFIC AMERICAN, p. 169, vol. 37.

(2) A. F. B. asks: 1. Was there a good and sufficient reason for basing our system of numeration upon 10 rather than 12 parts? If so, what? A. The decimal system is not the best; but it is historical, founded on the circumstance that we have ten fingers and not twelve, or any other number. 2. What sufficient reason is there for spelling contrary to pronunciation? A. No reason but custom. 3. Are any or all of the other branches equally faulty? A. All human devices fall short of ideal perfection.

(3) J. M. McC. asks: 1. What are the capabilities of a rather strong medical magneto-electric machine? Can I magnetize with it iron and steel and make magnets strong enough for a telephone; or strong enough to serve as magnets in a larger magneto-electric machine? Can I electroplate with it? A. Your machine is not suited to any of the purposes named. 2. By what rule can I calculate the size or length of wire required in the bobbins for a magnet of given size? A. The amount of wire varies with the use to which the magnet is applied. 3. What battery would be best for a good medical galvano-faradic machine—how many pairs? A. An ordinary sulphate of copper battery, or two small cells of Marié Davy sulphate of mercury. 4. What size of induction coil? A. See p. 203 (14), current volume of SCIENTIFIC AMERICAN.

(4) S. B. T. asks (1) for a recipe for making glue to fasten leather to iron, in order to cover iron pulleys. A. 1 part of crushed nutgalls is digested 6 hours with 8 parts distilled water, and strained. Glue is macerated in its own weight of water for 24 hours and then dissolved. The warm infusion of galls is spread upon the leather, the glue solution upon the roughened surface of the warm metal; the moist leather is pressed upon it and then dried. 2. Also a good dressing to make rubber belts adhere to pulleys. A. We think you should use wider belts or larger pulleys if the adhesion is insufficient. It is a good plan to occasionally wash the worn surface of rubber belts with soap and water. 3. Also a glue for sticking leather to leather at splices. A. See recipes on p. 187 (5), in current volume.

(5) I. H. A. writes: I have been making a mercurial barometer. Can you tell me how to proceed to set the scale? A. Zero of your scale is at the level of the mercury in the cistern. The scale simply indicates the height in inches of the column of mercury contained by the tube.

(6) H. I. writes: A. says the whole working power of steam can only be obtained by an uninterrupted flow of steam from the boiler into the cylinder. B. says the same amount of power can be obtained if the steam comes from the boiler in puffs, provided these puffs are sufficiently rapid (say ten puffs per second). Who is right? A. We think it might be possible, theoretically, to obtain the whole power with either system.

(7) T. B. O. asks for a recipe for a walnut stain. A. Water, 1 quart; sal soda, 1½ oz.; Vandyke brown, 2½ ozs.; potassium bichromate, ¼ to ½ oz.; boil for ten minutes, replacing the water lost by evaporation. Use hot, and allow the work to dry thoroughly before oiling or varnishing.

(8) M. T. writes: 1. In the SCIENTIFIC AMERICAN of August 24 you give the plan of a simple phonograph, but you do not tell what proportions to make it by. How large should the mouthpiece be? A. 2¼ inches external diameter. The small aperture ½ inch diameter. 2. What size should the diaphragm be? A. 2¼ inches, leaving a portion, 1¼ inches diameter, free to vibrate. 3. What would make a good spring? A. Wood, steel or brass. 4. Will the machine work perfectly when properly made? A. Yes, with careful management. 5. What should the body of the instrument be made of? A. Wood of almost any kind. Mahogany, we think, would be best.

(9) E. E. writes: I want to make a Prussian blue that will dissolve in water. I have made a blue, but it is insoluble. A. Mix 1 lb. of the dry blue with a little hot water to form a paste, and triturate this with about 1½ oz. of potassium ferrocyanide (yellow prussiate).

(10) J. L. S. asks: What is the best polish for cleaning the end of the cylinder, and caps that fit over the end of the cut-off? A. One of the best is tripoli, applied with a piece of flannel and a drop of oil. If the metal is very dirty, use first fine emery or emery flour and oil. In some cases it is preferable to use first a little emery moistened with solution of oxalic acid in 5 or 6 parts of warm water.

(11) F. H. D. asks: Did you ever know the water to leave the gauge glass entirely after the fires had been banked under the boiler and the steam pressure gone down of its own accord? What is the cause of its doing so? It is a case that has come under my own personal observation, all the valves being shut at the time; when on opening the gauge cock and air being admitted the water will return gradually, until the water resumes its proper level in the boiler. A. It is not uncommon for water to fall in the gauge when steam goes down, and the boiler becomes comparatively cool; but in the case mentioned by you, as the water shows on the admission of air, we are inclined to think that the connections between the gauge and the boiler must be partly closed, and that there must be a small leak in the gauge through which air could enter as a vacuum formed in the boiler. Air entering the boiler through the gauge in this way would carry the water with it.

(12) H. D. H. asks: What is the intrinsic value of gold per ounce, both 14 carat and 18 carat fine? A. Coin value of fine metal 20·67 per troy ounce; 14 carat 14/24 and 18 carat 18/24 of this value.

(13) G. W. B. asks if forest leaves will answer for filling between the two walls of an icehouse built above ground. A. If the leaves are thoroughly dried, broken, and not too closely packed, they will answer the purpose very well. Sawdust, however, is considered preferable.

(14) E. P. writes: I am making a medicine (of which I am not the inventor; however it is a secret). Can I sell it, or must I have a license? A. If the medicine is not patented, we think you may sell it.

1. SCIENTIFIC AMERICAN, vol. 39, p. 171 (2), contains a recipe for a silver solution. I made it so, but took too much potassium cyanide to settle the silver nitrate, which produced a white foam. What is that foam, and what does the liquid contain? Can it be used yet, and how? A. If the water used was free from chlorides, the white body is silver cyanide. Dilute the mixture somewhat with warm water and let it stand, when the precipitate will settle. If too much potassium cyanide has been added, the supernatant liquid will give a fresh precipitate on addition of more silver nitrate. To prepare silver cyanide the proportion should be 85 parts of silver nitrate to 33 parts of dry potassium cyanide. 2. How much potassium cyanide for 1 gallon solution would you recommend? I have a few recipes which differ from 1½ to 8 ozs. A. The precipitate requires for its proper solution at least 33 additional parts of potassium cyanide dissolved in water. Electroplaters' baths usually contain much free potassium cyanide—water, 1 gallon; potassium cyanide, 9 to 12 ozs; silver cyanide, 1 oz. 3. How can I make a silver solution for a bright deposit? A. We know of nothing that will obviate the necessity of burnishing; polishing is not always necessary. It is said that a little sulphuret of carbon added to the plating solution prevents the chalky appearance and gives the deposit the appearance of metallic silver. 4. Does gold plating need any polishing? A. Yes.

(15) F. H. wishes to know what material is used to prevent rubber in vulcanizing from sticking to iron, brass or steel moulds. A. Soapstone (steatite) powder is used for this purpose.

Can you give me the address of some manufacturing firm where I can get iron such as used for tinning? A. From any large dealer in sheet iron.

(16) H. L. A. asks: What is the percentage of rosin oil in rosin? What is the residue, after the oil is distilled, used for? In what sort of stills is rosin distilled for oil making? A. When rosin is distilled it yields about 74 per cent of liquid distillation. The first portions, called essence of rosin, are yellow and strong smelling. Later in the distillation "pinolin," or rosin oil proper, passes over. The latter is used in paints, for the manufacture of printer's ink, in soap making and in cheap lubricators. The pitchy residue may be used for roofing and similar purposes. The stills may be constructed of iron.

(17) J. S. B. writes: In the September 7 number of the SCIENTIFIC AMERICAN you speak of "Mosso's plethysphygmograph." Please state what it is. A. It is the name given by Mr. Mosso to an instrument of his invention designed for observing the variations in the circulation of the blood in the arms, etc.

(18) W. H. B. asks for an electro silver plating solution; also what is the best mixture for removing grease, etc., from brass before plating. A. See p. 171 (2), current volume, SCIENTIFIC AMERICAN. To clean the brass dip it first in a strong boiling hot solution of caustic soda to remove grease, and (without touching) rinse with clean water, dip for a few moments in nitric acid diluted with two parts of water, rinse again and scour with fine clean sand and a stiff brush; then dip momentarily in the acid bath, rinse quickly, and transfer immediately to the plating bath.

(19) A. T. R. writes: At our temperance meeting recently there was a spirited discussion in reference to the composition of soda water, one man claiming that he could drink enough to produce intoxication; another claimed that its ingredients were wholly mineral, and therefore not intoxicating. A Common soda water is water supercharged with carbonic acid. It is not intoxicating. Some of the sirups used with it not unfrequently contain alcohol.

(20) A. T. J. asks: 1. What is the process for making artificial ice? A. There are several processes. See pp. 159 and 387, vol. 38, and 95, 168, and 335, vol. 37, SCIENTIFIC AMERICAN. Also pp 425, 507, 1159, 1430, and 1348, SCIENTIFIC AMERICAN SUPPLEMENT. 2. Will you please inform me of the name of some book which treats of the subject "Water," and that subject only. A. "Forms of Water"—Tyndall.

(21) C. K. asks how to fasten rubber on brass. A. Melt together in an iron vessel equal parts of pitch and gutta percha. Use moderately hot.

(22) E. W. E. asks: Is there any recipe to make cloth waterproof, and one to make it mildew proof? A. Pass the cloth slowly through a strong, boiling aqueous solution of yellow soap, and then digest for an hour or more in a strong bath of alum or lead acetate (sugar of lead) dissolved in water.

(23) F. G. H. asks: How can I make a good nickel plating liquid, and use it? A. Dissolve ¾ lb. of nickel ammonium sulphate, or 4 ozs. of the correspond, ing chloride, in a gallon of soft water. See article on nickel plating on p. 209, vol. 38, SCIENTIFIC AMERICAN.

Where can silk and cotton covered wire be bought? A. Of any dealer in telegraph and electrical supplies See our advertising columns.

I saw somewhere that the saltness of the ocean and Great Salt Lake was owing to the water escaping only by evaporation. Is this true? A. The saltness is due to a greater loss of water by evaporation than otherwise.

(24) M. C. B. asks for a recipe for removing superfluous hair. A. See p. 107 (8), vol. 38.

Can you inform me how to give canvas a soft, black waterproof coating that will not harden and crack off? A. Soften 2 parts of gutta percha with 3 or 4 parts of benzole by aid of heat over a water bath. Boil vegetable oil to the consistence of jelly, cool, and add 75 per cent of benzole. To seven gallons of this add three gallons of the gutta percha solution, and an additional gallon of benzole containing a sufficient quantity of lampblack, graphite, and boneblack to color.

(25) L. V. S. asks: Is there any substance known which will render copper more easily melted? If so, what is it? A. As we understand you, no.

(26) M. L. A. writes: 1. Two men pulling upon the ends of a rope in opposite directions, each one pulls 25 lbs. What is the strain on the rope? A. 25 lbs. 2. If one end is fast, and 25 lbs. weight applied on the other, what strain does the rope sustain? A. 25 lbs. + its weight.

(27) N. B.—See pp. 1326, SUPPLEMENT No. 83, and 48, current volume, SCIENTIFIC AMERICAN.

(28) A. I. asks for a good work which treats fully on the practical manufacture of Portland and other cements. A. Consult Reid's "Practical Treatise on Cements."

(29) I. E. P. asks: 1. Does any white lead used for painting or commercial purposes contain 98 per cent pure lead? A. No. Commercial white lead is a compound of lead carbonate and hydrate in variable proportions. In general the composition may be represented by the formula $2PbCO_3+PbH_2O_2$. 2. I get from a very fine article, after treating it with dilute nitric acid, a precipitate which does not entirely dissolve in muriatic acid, which would seem to show something besides baryta. What is it? A. It is frequently adulterated with barium sulphate (heavy spar), barium carbonate (witherite), calcium carbonate and zinc oxide, and sometimes with pipe clay or kaolin. Of these the first and last named substances remain as a residue after treatment with nitric and hydrochloric acids. The residue may also contain lead sulphate. 3. What is the best and most decisive test for white lead, and how can I ascertain the percentage of adulteration? A. See p. 269, Thorpe's "Quantitative Chemical Analysis."

(30) M. J. S. asks: 1. How can I separate small particles of emery gathered by means of an exhaust pan? We use wooden wheels covered with leather, upon which we glue No. 60 emery. The emery is still sharp, but cannot be used on account of the iron mixed with it. A. Use a magnet. 2. How can I cement leather to the periphery of an iron wheel, so that it will withstand continual jar, to be used as a buff wheel subjected to rough usage? A. Melt together in an iron vessel equal parts of pitch and gutta percha; roughen the iron and use the cement.

What is the best method for using exhaust steam to create a strong draught for two boilers 30 inches diameter and 30 feet long? A. Direct a thin flat jet of steam up the smoke stack.

(31) E. A. D. P. asks: Will well glazed earthen jars do for a battery for a short telegraph line, say ½ mile, as well as glass? A. Yes.

(32) C. L. writes: 1. In your issue of 28th ult., you describe a simple electric light. Should the carbon holders be made of brass? A. Yes. 2. Could the upright be made of varnished wood? A. Yes. 3. What is a Bunsen cell? A. See reply (24), p. 139, current volume of SCIENTIFIC AMERICAN. 4. Would the light produced by this apparatus be sufficient to light a room 20 x 20? Would several common copper and zinc batteries suffice? A. See reply to H. E. M., on next page.

(33) C. S. writes: In the side of our cistern where the water remains after passing through the filter a large number of the germs of mosqnitoes have made their appearance. In fact the water is thick with them. Is there any remedy? A. Burn a fragment of sulphur in the cistern, and keep the cover on tight; the mosquitoes, finding no outlet, will soon die, and no more will trouble you.

(34) D. W. C. asks: What is the source of the driftwood appearing off the north coast of Ireland every year? The fact is mentioned by Simms in proof of his North Pole theory. A. The wood is probably carried northward by the Gulf Stream.

(35) F. T. asks: Is there a known coppering solution capable of being applied to tin plate? If so, please let me know the ingredients and application. A. Suspend the work to be plated. first thoroughly cleaned, facing a plate of copper of equal surface in a cold saturated aqueous solution of copper diluted with ¼ volume of water Then, by means of stout copper wire, connect the work with the negative or zinc pole, and the copper anode with the positive pole of a Smee (1 gallon zinc carbon) battery in zinc surface exposed, somewhat exceeding the surface of the work exposed in the plating bath.

(36) R. F.—Genuine gutta percha is rendered sufficiently soft by boiling water or steam to mould by pressure. It cannot be rendered liquid by heat without partial decomposition. It dissolves readily in carbon disulphide and in warm naphtha or benzole.

(37) J. C asks for the formula of a baking powder. I have four of the ingredients and lack only the fifth, which you can supply Cream of tartar 4 lbs., bicarbonate of soda 2 lbs., powdered alum 1 lb., corn starch, 3 lbs There is still another ingredient. Please let me know what it is, and the proportion. A. See p. 299 (32), vol. 37. Alum is not a proper constituent for baking powder.

(38) L W. A. M. asks whether grinding iron on an emery wheel is injurious to health. A. Yes, very, unless the dust is carried away by an exhaust fan.

(39) H. E. M.—The simple electric light apparatus described on p. 200 of current volume is designed merely as an experiment. It is not calculated for continued use. It will take 15 or 20 cells of zinc and copper battery.

(40) M. J C. writes: In observing the planets, and Jupiter in particular, through a first class telescope, can the shadow of the planet be seen projected in space ina direction opposite to the sun? A. No.

Has any method everbeen discovered by which lenses can be ground accurately in the form of a segment of an ellipsoid, and would not a lens of this form be free from chromatic and spherical aberration? A. Lenses and specula have been ground in parabolic form by hand and by machine. Telescopic specula of this form are free from the imperfections found in spherical mirrors.

(41) W M. E. writes. 1. Mechanics here say that a patch of new iron put on the inside of the firebox of a boiler over the old iron, without cutting out the old, will make the old burn out faster than it would without the new patch. I can see that the patch would last longer to have water come next to it, but I claim that the old will not burn out until the new is gone. Is this sound? A. The thicker you make the metal with which the flame comes in contact, the less rapidly will the heat be conducted through it, and hence the more rapidly will it burn out. 2. Are ⅝ inch stay bolts once in 6 inches each way, for 18 horse power boiler, in firebox, enough to be safe? Boiler iron $\frac{5}{16}$. A. It depends on the pressure of steam. 3. Give the best and cheapest outside coating for boiler to keep heat in. A. Wisps of straw with a little clay make a very effective coating. Cow hair felt is also very good.

(42) C. M. S asks: Will you give me a recipe for a waterproof cement, one that will harden immediately after the application? A. See p. 187, current volume, SCIENTIFIC AMERICAN, and answer to G. P. P., below.

(43) C. A. T asks (1) if potatoes have any salt in them A. Salt (sodium chloride) is usually found in small quantities in the ash of potatoes. 2. Is salt a mineral? Can minerals exist in vegetables? A. Yes. You should consult some work on agricultural chemistry.

(44) G. P. P asks: What is the strongest and best cement made, and is there any cement made that will unite rocks or pebbles tightly together? Is there any glue that water will not affect? A. For general purposes those given in answer to T. B. A., J. L., and others, p. 187, current volume, SCIENTIFIC AMERICAN, are excellent. Of these Nos. 2, 3, 4, and 5 are quite waterproof.

(45) S. W M.—As far as we can judge from the small sample, the liquor is simply raw whisky containing a notable amount of fusel oil (amylic alcohol).

(46) J. S. A writes: Can you give me the method used in preparing "buttons" of lampblack for use in the Edison carbon telephone? A. The carbon is compressed in suitable moulds under great pressure.

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

L P. S.—Principally iron sulphides—contains a little copper.

COMMUNICATIONS RECEIVED.

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

The Gas Engine. By A. A. T
How to Test a Lathe. By C. A. S.
Forming a Right Angle. By A M. W.
Mine Explosions. By C. W. J.
Telephone. By A. T.
Railroad Signals. By S. F.
Telephone Experiments. By J. H. R.
Steam Joint. By J. H. B.
Constructing a Right Angle. By W. L. T.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

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

September 3, 1878,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

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

Accordion, T. Meinhold 207,759, 207,760
Auger handle, Lovett & Gibson 207,667
Axle skein, vehicle, C. A. Poland 207,677
Baby walker, L. Want 207,698
Bag framing machine, R. W. Chapman 207,714
Bale tie, W. G. Anderson 207,703
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Sadiron, Moores & Shepherd 207,766
Sand papering machine, J. Taylor 207,691
Sawing machine, scroll, W. F. & J. Barnes 207,640
Scale beam, H. L. Grisell 207,735
Scales, platform weighing, J. F. Milligan 207,762
Seeding machine, J. D. Harrison (r) 8,394
Sewer trap, J. Clark 207,644
Sewer trap, W. A. Pitt 207,676
Sewing machine braid guide, E. T. Thomas 207,692
Sewing machine, straw braid, W. Menkhoff 207,763
Sewing machine thread cutter, F. Flather 207,648
Sewing machine treadle movement, P. F. Jonte 207,745
Shearing, etc., metals, machine for, H. O'Neill 207,619
Shoe soles, napping the fibers of, F. Winslow 207,636
Shutter, A. Bijur 207,641
Sieve, H. H. Water 207,633
Spinning rings, etc., device for, C. E. Trowbridge 207,693
Sprinkler, lawn, T. Maguire 207,756
Steam gauge, C. R. Vaillant 207,696
Stocking supporting clasp, L. Loebenstein 207,666
Stove, coal oil, J. M. Adams 207,637
Stove, cooking and heating, C. A. Hamlin 207,604
Stoves, shaking grate for, W. Miller 207,670
Straw cutter, T. E. Marable (r) 8,395
Straw cutter, J. S. & J. Matthews 207,757
Sulky, D. Bushor 207,711
Telegraph, duplex, T. A. Edison 207,723, 207,724
Thill coupling, H. E. Braunfeld 207,587
Tiles, etc., car for drain, Arnold & McGuire 207,638
Tool and handle, farmers', A. T. Clark 207,643
Tool handle, D. Steele 207,781
Tool handle attachment, G. P. Morrill 207,671
Torpedo for oil wells, H. L. Porter 207,678
Tortoise shell, imitation of, A. Miller 207,617
Treadle, W. Levin 207,750
Type, elastic faced printing, A. H. Rogers (r) 8,401
Valve gear, D. O. Ladd 207,607
Valve, water, J. Cantelo 207,712
Vegetable chopper, T. Leonard 207,748
Veneer cutting machine, H. S. Smith 207,628
Vise, hollow screw pin, J. Parmelee 207,620
Watch cases, center rim for, Pearce & Taft (r) 8,396
Water closet valve, W. McElroy 207,615
Whiffletree, A. E. Schatz 207,686
Whirligig, H. D. Forbes 207,649
Wick tube, H. McConnell 207,614
Wind wheel, H. F. Hodges 207,659
Window cleaner, W. C. Gayton (r) 8,393
Wood polishing machine, J. Creager 207,717
Wood staining, A. B. Tripler 207,639
Wool on the pelt, preparing, etc., P. Puech 207,774
Wrench, H. W. Brett 207,709

TRADE MARKS.

Boned codfish, H. Mayo & Co 6,554
Canned meats, Kimberly Brothers 6,538
Carriage trimmings, etc., O. B. North & Co 6,532
Cigars, G. A. Kent & Co 6,553
Cigars, S. Lowenthal & Co 6,529
Cigars, E. Bemis, Jr 6,536
Cigar boxes, F. Hauschildt 6,552
Cigars and cigarettes, A. Lichtenstein & Brother 6,528
Cologne water, W. J. Austen 6,525
Corsets, Worcester Corset Company 6,515
Flour, Graham & Barbour 6,547, 6,548
Hams, tongues, etc., D. C. List, Jr 6,546
Harness soap, W. Greene 6,537
Jewelers' tools and files, F. W. Gesswein 6,551
Lamp burners, Bridgeport Brass Company 6,526
Metallic alloy for plated ware, Brown & Bros 6,535
Medicinal preparations, V. E. Mauger 6,531
Pills or troches, H. A. Tilden 6,534
Pins, the Judson & Fontaine Pin Works 6,540, 6,541, 6,542
Salve, Redding & Co 6,539
Smoking and chewing tobacco, Simmons & Staiger 6,533
Smoking tobacco, C. R. Messinger 6,530
Smoking tobacco, etc., The Amer. News Co 6,543, 6,544
Soap, D. S. Brown 6,549
Soap, D. S. Brown & Co 6,550
Woolen yarns, R. Blankenburg 6,527

DESIGNS.

Heating stoves, J. S. Van Buren 10,796
Inkstands, O. F. Fogelstrand 10,793
Oil cloths, C. T. Meyer & V. E. Meyer 10,794, 10,795
Organ case, R. W. Blake 10,792

[For the week ending August 27th.]

TRADE MARKS.

Baking powder, W. D. McLaren 6,517
Baking and yeast powder, Jewett & Sherman Co 6,520
Capsules for bottles, Betts & Co 6,510
Clothes wringers, Peerless Wringer Company 6,516
Cologne water, etc., D. S. Brown & Co 6,519
Files, New American File Company 6,514
Flour, J. O. Norris 6,515
Ladies' wearing apparel, Siegel Brothers & Co 6,522
Liquors, Rosskam, Gerstley & Co 6,523
Lumber, G. Bell & Sons 6,512
Paints and colors, A. Levesque 6,521
Preparations of cocoa, J. Epps & Co 6,513
Refined petroleum, Bowring & Archibald 6,511
Spool cotton, W. Warren 6,518
Wagons, carriages, etc., R. M. Stivers 6,524

DESIGNS.

Carpeting, E. Petit 10,790
Coffin handles, W. R. McComas 10,791
Playing cards, J. W. Nunen 10,789
Plug tobacco, Gravely & Lawson 10,787
Spoons, H. W. Hirschfeld 10,788

English Patents Issued to Americans.

From September 13 to September 24, inclusive.

Air compressor.—W. F. Garrison, Brooklyn, N. Y.
Arbor for spinning machine.—A. W. C. Williams *et al.*, Hartford, Conn.
Breech-loading arms.—J. Blumel, San Francisco, Cal.
Brush binder.—M. W. Marsden, Connellsville, Pa.
Door knobs.—J. F. Peacock *et al.*, Reno, Nevada.
Electric conductors.—E. F. Phillips, Providence, R. I.
Fare register.—C. B. Harris, New York city.
Glass targets.—C. A. Tatum, New York City.
Horseshoe machinery.—J. W. Chesnut, Pomeroy, Ohio.
Marine engine governor.—J. A. Svedberg, Washington, D. C.
Mowers.—C. H. McCormick, Chicago, Ill.
Ore separator.—E. B. Hastings *et al.*, Palmer, Mass.
Paper machinery.—I. Frank, New York City.
Pulley block.—J. L. Pope, Cleveland, Ohio.
Rail joint.—J. L. Pope, Cleveland, Ohio.
Railway switch.—J. S. Williams, Riverton, N. J.
Railway truck.—E. R. Esmond, New York city.
Show case.—J. H. Smith, Brooklyn, N. Y.
Spinning frames.—G. D. Edmands, Milford, Mass.
Stamp canceler.—R. Smeaton, Milwaukee, Wis.
Thills and harness.—R. B. Boynton, West Townsend, Mass.
Tongs.—W. L. Lay, Oil City, Pa.
Turbines.—J. H. Lidgerwood, New York City.
Veneer cutters.—H. S. Smith, —, N. Y.