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 next issue.

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

Notes & Queries

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 to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from $1 to $5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

(1) A. D. writes: 1. The cistern water we have here, when tested with the permanganate of potassa (distilled water solution), is of a brick dust color instead of a rose color. What is the cause of this? Is it due to the tinned roof or to the cement of the cistern? A. Probably the latter. 2. Do you know any method of restoring the red color which has faded on my Russian leather portmanteau? A. No.

(2) C. B. asks for a recipe for making a composition that would be hard enough to make pool balls, that would not be expensive, and also a recipe for coloring. A. Melt together over a gentle fire in an iron pot: pitch, 1 part; guttapercha, 2 parts; orange shellac, 5 parts; add to this 6 parts of white lead (lead carbonate) in impalpable powder, and stir until a perfectly homogeneous mixture is obtained; then cast and turn out. Color with the aniline dyes mixed with dilute alcoholic solution of bleached shellac.

(3) G. R. asks how to blue gun barrels. A. This is best done by submitting the barrel to heat until the required color is secured; but it may be done in a manner by applying to the barrel a little nitric acid, and allowing it to act upon the iron until a blue film appears, then wash the barrel thoroughly and oil it.

(4) J. G. asks: 1. Is there an ink that will dry quickly, or if there is not, can there be one compounded that will dry quickly, and print as nicely as that used in printing bank notes? A. Try the following: Shellac, 6 ounces; borax, 1 ounce; water, q. s: boil together until perfect solution is effected, and triturate with this enough good iron black or nigrosin, to produce the desired color. A little alcohol will make the liquid flow more readily and dry quicker, but an excess must be avoided. 2. Please explain the principle of the steam injector? A. For a full explanation of the injector, see p. 99, Vol. 40, of SCIENTIFIC AMERICAN.

(5) E. P. M. asks: What would be the proper distance to place a bell from the ground, in order to convey its sound the greatest distance? A. A bell should be placed well above surrounding buildings, and if possible above trees. This subject is fully treated on p. 299 of current volume of SCIENTIFIC AMERICAN.

(6) P. B. asks: 1. What should I use to give a white and smooth surface to statues of plaster of Paris, after coming from the mould? A. Warm the cast and suspend it in melted white wax. The operation should be repeated until the wax is no longer absorbed. It is then allowed to become perfectly cool, when it may be polished. 2. How long should plaster of Paris be mixed with water before casting into the mould? A. Sprinkle the plaster into the water with which it is to be mixed. As soon as it settles to the bottom pour off most of the water, stir the mixture, and pour it immediately. 3. Please state what kind of stuff is used to make the plaster figures have a yellow tint (straw color)? A. Mix a little finely ground yellow ocher with the plaster, or stain the dry cast with a tincture of annatto or turmeric.

(7) "Woodworker" asks: Is there any danger of explosion from fire coming in contact with the fine dust of poplar and hard wood, blown through a Sturtevant blower into a shaving receiver or room? Can you give an instance of explosion of fine wood dust? A. There was an explosion of fine wood dust in the Pullman Palace Car Works in Detroit, Mich., a few years since. It occurred under about the same circumstances as you describe.

(8) C. F. C. asks what is the equivalent of a horse power. A. 33,000 lb. raised one foot high per minute.

(9) C. R. P. asks: Can you give us a substitute for alcohol for heating shoemakers' tools? It must heat well and not smoke the iron. A. There are several heaters in market using kerosene as fuel.

(10) W. W. S. asks: Is a building roofed with tin, corrugated iron, or other metal covering, less liable to be struck by lightning than if shingled, and if so, why? A. A building roofed with tin is not less liable to be struck by lightning than a shingle roofed building. If neither house were provided with a lightning rod, the tin roofed building, if struck, would be the safer, because the lightning would be likely to divide and spread over the metal, and find its way to the earth by several different paths on the exterior of the building, water leaders, gutters, etc. The wooden roof offers no such facility as metal for the spread or division of the electric charge, but is apt to tear its way through the building to the ground in one path.

(11) S. H. writes: 1. I have a spring which has 20 feet fall, with 500 feet of ¾ inch pipe running to my house; how much pressure have I? A. 9 lb. per square inch nearly. 2. Will it run a 6 gallon churn, and what kind of a wheel would be best? A. Address makers of water motors who advertise in our columns.

(12) O. J. H. asks: 1. Will the painting of wrought iron steam pipes with one coat of asphaltum varnish diminish permanently the heat-radiating power of such pipes. A. No. 2. Is there any other painting material preferable to asphaltum varnish for the purpose of giving the steam pipes a better appearance and making it easier to keep them clean? A. No. 3. Considering only the economy in fuel consumed for heating by steam, would it be advisable to use no paint of any kind at all? A. All radiating surfaces should have a dark color. Paint will do no harm provided it is dark and not too thick.

(13) J. A. M. asks how to calculate the proper thickness for cast iron head for wrought iron boiler, 36 inches diameter, 75 lb. pressure per inch. I fail to find it in Haswell or any other work of that kind which I have. A. You will find rules in "Wilson on Steam Boilers." In practice the thickness is more the result of experience than calculation, as much allowance must be made for possible defects in casting; the usual thickness is 1⅜ inch to 1⅝ inch.

(14) J. N. H. asks: Are graphite, plumbago, and blacklead one and the same thing? A. Yes.

(15) D. R. asks for a method by which to deodorize some pistachio nut hair oil, held by me in bulk, bought in London in 1872. There is only about a quart left, but it has become rancid, and can undoubtedly be deodorized. A. Try the following: agitate the warm oil with about one per cent each of caustic lime and calcium sulphite (sulphite of lime) in powder, defecate, and draw off the clear oil. Repeat the treatment, if necessary.

(16) H. W. writes: I am melting a great deal of pig tin and lead, and soon accumulate a large pile of oxide and dross. Can you give me any information in regard to a proper furnace for smelting this dross, so as to recover the metal in a shape for reusing? A. The metal cannot be recovered from the dross in the way suggested. This dross, which consists chiefly of a mixture of tin oxide and finely divided metal, is usually calcined and sold in this condition as putty powder. The metal can be recovered from the dross by mixing the latter with, say, one third its weight of fine coke or charcoal, and heating the mixture in large luted crucibles gradually to full redness. The reduced metal remaining with the unconsumed carbon may be separated by pounding the mass and sifting out the carbonaceous matters, and remelting the granular metal at a low heat.

(17) F. A. B. asks for the receipt for making what are called Chinese rods, and which upon being burnt diffuse a delightful odor. A. 1. Gum benzoin, 6 parts; balsam of tolu and powdered sandal wood, each 4 parts; powdered tragacanth and labdanum, each 1 part; powdered niter and gum arabic, each 2 parts; cinnamon, 12 parts; light charcoal (linden), 48 parts. Form into a smooth ductile mass by aid of heat, mould and cool. 2. Gum benzoin, olibanum, and storax (tears), each 12 oz.; niter, 9 oz.; charcoal, 4 lb.; moistened with solution of 2 oz. tragacanth in a quart of rose water. To this may be added, if desired, essence of roses, pure neroli or orange powder, 1 oz. Oils of cloves and nutmeg, essence of vanilla, cascarilla, etc., are sometimes added in addition to the foregoing.

(18) G. L. D. asks: What is the greatest depth the sea has been sounded—actual, not supposed? A. 4,655 fathoms by Commodore Belknap, U. S. N., and 4,575 fathoms by the Challenger (English) expedition.

(19) P. C. B. asks: 1. How can eggs be preserved so as to keep good for the winter? A. Pack the eggs in a brine consisting of a saturated solution of salt in lime and water. The lime water is prepared by agitating soft water with enough lime to impart to it a milkiness, allowing this to settle in a covered vessel, and drawing off the clear lime water. 2. How can apples best be kept good from fall to the winter and spring? A. The apples to be preserved should be selected with due regard to their time of ripening. A Rhode Island greening, for instance, which ripens in January, can by the following method be preserved in good flavor until March or April, but not longer, whereas a northern spy, golden, or Princess Russell, or any late ripening variety, can be preserved in full flavor until the following August or September, though they must be promptly used after opening. The method of preserving the fruit is as follows: Select only perfect fruit, envelope each tightly in two separate wrappings of any thin paper, pack them in clean firkins or air tight barrels, and head them in securely, air tight. Thus packed apples may be preserved in a perfectly sound condition for a year or more, though, as before remarked, if kept much beyond their regular time of ripening they will lose in flavor. 3. Which is the best way to preserve whole heads of cabbage so as to keep good in the winter and spring? A. Keep them in a dry place, in well aired barrels. 4. I have a copper ore which assays as follows: Copper, 63·76; iron, 10·50; sulphur, 25·57; gangue, 0·10; total, 99·93. The ore carries about 1 3-5 ounces gold per ton (=0·005 per cent) and some silver. How can I best and cheapest] smelt it, say 75 or 100 lb. ore at a time? A. It will probably be necessary to chlorinize the ore and submit it to the amalgamation process. Consult Phillips' "Metallurgy of Gold and Silver."

(20) A. C. writes: I have been trying to make some varnish, but have failed so far, and want to know what is wrong. I put two ounces of bleached lac into a bottle, and covered with alcohol; it swelled, and I added alcohol till it filled a pint bottle. It is now a curdy mass with some fluid on the top of it. I warmed it and stirred without effect. What is the matter? A. Try 95 per cent alcohol.

(21) C. R. asks: Could I convey ground tan bark from the mill to leaches by means of a blower; if so, how should it be applied? A. The tan bark can be propelled by a blower if it is dry. If it is mixed with water, a centrifugal pump should be used. If you employ a blower, the bends in the pipe which conveys the tan bark should be of long radius.

(22) S. B. F. writes: We have a machinist that says a belt will slip less on a pulley that has not been turned than on a very smooth pulley. Is he correct? A. According to the experiments of Hoyt & Co., a belt will drive about 50 per cent more on a polished face iron pulley than on one with a rough face.

(23) A. E. F. asks: Why is it that the light side of the new moon appears larger to the naked eye than that portion made visible by the earth's light? The line of the moon's surface is seen in the bright position, corresponding in size to the outlines of the dark side. It being supposed that the moon has no atmosphere, how do the sun's rays produce this effect? A. The phenomenon observed by you is called irradiation. It is due to the fact that impressions of bright objects on the retina extend beyond the outline of the image. Irradiation differs in different people, and even in the same person it is different on different days. It also increases with the luminosity of the object. The electric light affords a marked example of this phenomenon. The source of light, which is scarcely more than a mere point, appears a miniature sun. An incandescent platinum wire looks many times larger than its actual size.

(24) A. B. C. asks for the best compound or simple substance with which to impregnate baked wood for insulators for telegraph lines. A. Plunge the wood for a few minutes in hot paraffine.

(25) E. H. S. asks: Is a telegraph wire a protection to a building if the wire is well insulated and has good ground connection? A. It might be a protection, but it would be very limited, as a telegraph wire of the usual size is not large enough to conduct a heavy lightning discharge.

(26) J. E. K. asks: 1. Does the density of the atmosphere affect the velocity of falling bodies? A. Yes. 2. To illustrate: Suppose a cup of water or oil to be suspended in the top of an air receiver in which there is a pressure of 60 lb. per square inch, if the cup was upset, would it require a longer time for the fluid to reach the bottom than it would if the air was of ordinary atmospheric density? A. It would.

(27) B. A. asks: Which is preferable for bolting foot blocks to joists, overhead—¾ bolts extending through block and joist with nut on end, or, ¾ wood screws extending through block and into joist 6 or 8 inches, sound hemlock joists—*i. e.* I mean which would be the easier drawn down or out—joists 12 inches thick? A. Through bolts and nuts are to be preferred; but if you use wood screws they should be at least ½ inch larger than the bolts.

(28) B. F. T. asks: 1. How can I make a paint for crockery, etc., that hot water will not wash off? A. Porcelain (or white ware) may be painted in enamel, that is, the design painted in metallic oxides and burned in (see Spon's Practical Receipts). Any ordinary paint that can be applied will not stand much washing, especially if hot water and soap are used. 2. How can I paint on cloth without sizing it and not have the paint spread? A. It is necessary to use size, unless the cloth is waxed.

(29) G. E. W. asks: What mode of measurement do you get the tonnage of a ship? A. You will find rules for tonnage in "Haswell's Engineer's Pocket Book."

(30) S. A. S. asks: How can I clean rust from the iron plates of a hydraulic press, so as to leave the plates perfectly clean and free from chemical odors? A. Try dilute sulphuric acid, say 1 part of acid to 10 of water. Wash the plates thoroughly after the application of the acid.

(31) S. E. W. asks (1) if lump lime will slake in oil. I want it for painting a large ice house as an improvement on whitewash. A. The slaking of lime is due to the formation of a hydrate of lime—to which reaction water is essential. Lime may be made into an emulsion with oil, but this emulsion is very different from the hydrate formed by water. 2. Also please send me the number of your paper that contains a description for making rubber stamps. A. See p. 1326, No. 83, SCIENTIFIC AMERICAN SUPPLEMENT.

(32) M. B. S. B. writes: My engine cylinder is 3⅛ inches long by 1⅛ inches in diameter. What sized boiler do I require? A. Your boiler should have from 10 to 15 feet fire surface, according to the pressure you wish to carry and speed of engine.

(33) E. A. D. P. asks: 1. What is meant by aperture? Is it the diameter of the object glass, or the opening of the diaphragm in the eye piece? A. It is the diameter of the clear or exposed portion of the objective. 2. For an object glass of 2½ or 3 inches diameter, how many lenses, of what size, and how far apart (measured perpendicular to their plane sides), will form the best eyepiece for ordinary astronomical purposes? A. You do not give focal length of your objective. It is probable that the answer to J. W. S. (14), p. 403 of current volume, will assist you.

(34) L. P. B. writes: I desire to send a stream of oxygen through water. Please inform me how I may do the same? A. Pass a glass tube from the oxygen reservoir to the bottom of the vessel. When the gas is placed under a light pressure it will force its way through the liquid.

(35) C. R. M. writes: I have an 80 horse power boiler, carrying 65 lb. of steam, runs a 65 horse engine, also supplies jacketed kettles, coils in tanks for heating water, steam tables, etc.; they are all connected to a narrow steam trap that discharges into a tank. Near the tank I have a double connection, by which I can shut the water from the tank and catch it in a pail and weigh it. Now, how many pounds of water per hour discharged by said trap ought to constitute one horse power? Can you give me a standard and reliable rule? A. There is no rule which will apply; a fairly good steam engine will furnish one horse power by consumption of 22 lb. steam. We think you might assume 22 to 24 lb. water per horse power.

(36) A. P. asks: 1. What tension will ½ inch boiler stand? A. It depends upon the diameter of the boiler and quality of the iron. 2. At what density does sea water form a deposit? A. Deposits of lime will commence, say, at 1½ densities by salinometer, and of salt at about 2½ densities. 3. How far from the first row of tubes must the gauge cocks be? A. 3 to 4 inches. 4. How will salt and fresh water act when being mixed in boilers? A. The mixing will tend to make the water foam.

(37) F. W. D. asks how photographers prevent the disagreeable odor from collodion, etc., from becoming prominent? I cannot use it without scenting up all the surroundings. A. The odor cannot be diminished or cloaked; the annoyance is obviated by using the collodion only in a well ventilated closet.

(38) M. E. H. asks for the process of treating ships' sails so as to preserve them from mildew and decay. A. Saturate the fabric with a boiling solution of curd soap 3 lb., water 5 gallons. Press out excess of the solution between rolls, and digest for two hours or more in a solution of lead acetate 3 lb., water 2 gallons. Finally rinse well in water and dry rapidly without over-heating.

(39) H. K. & J. O B.—Ordinary so called washing fluid is prepared by warming together one part of washing soda (commercial carbonate of soda) and two parts of lime in about 30 parts of soft water, and after the suspended carbonate has entirely subsided decanting the clear liquid for use. Aqueous solutions of water glass, soap, starch, chlorinated soda, borax, etc., are often added in various proportions.

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

N. B.—No 1, feldspathic rock containing crystals of hornblende. No. 2, mica schist. Nos. 3 and 4, hornblende schist. No. 5, quartz and hornblende. No. 6, feldspar.—D. D. B.—Magnetite; if free from phosphorus and titanium an excellent iron ore.—A. S. T.—It is an impure ferruginous clay of little value.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

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

November 25, 1879,

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, or any patent issued since 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., 37 Park Row, New York city.

Air compressor, J. Clayton 222,014
Air or vacuum railway brakes, diaphragm for, B. L. Stowe 221,980
Amalgamating apparatus, vacuum, J. Absterdam. 221,990
Amalgamating pans, device for discharging, E. Coleman 222,018
Amalgamating pan, E. Coleman 222,019
Auger, hollow, W. A. Ives 222,051
Axle, car, S. D. Webster 222,108
Bale tie, R. M. Pattillo 222,073
Bale ties, upset or turn over buckle for, J. L. Sheppard 221,944
Bag fastener, Giles & Bryant 222,032
Barrel safety attachment, J. T. Flynn 222,029
Barrels, rack for tiering F. Stitzel 221,945
Bed, invalid, J. H. Archer 221,952
Beehive, J. Barnes 221,999
Bell, call, J. W. Butler 222,009
Berth for vessels, self-leveling, D. Huston 222,049, 222,050
Billiard cue cutter, H. Gottlieb 222,035
Binder, temporary, W. A. Amberg (r) 8,980
Binder, temporary, E. H. Thompson (r) 8,981
Bolt drawing machine, T. D. Wilson 222,112
Bolting cloth, cleaning, W. H. Moses 221,932
Book, E. S. Glover 222,033
Booms, device for raising and lowering, H. T. Stock 221,946
Boot and shoe heel burnishing machine, Z. Beaudry 221,954
Boot and shoe sole edge burnisher, S. Jacobson.. 222,052
Boring tool, A. F. Temple 222,101
Bottle, nursing, Michales & Bald 222,070
Box heads, machine for finishing, N. L. Seelye.... 222,083
Bracelet, A. W. Magerhaus 221,926
Brick-off bearing case, W. H. Ludlow 222,062
Bricks for constructing sidings, partition walls, etc., I. Marsh 221,963
Brush, C. L. Pond 221,936
Brush for washing carriages, etc., A. T. Gerike.... 222,031
Buckle, G. G. Bugbee 222,007
Buckle and trace carrier, combined, T. L. Wiswell 222,114
Bung, W. H. Stewart 222,094
Burr holder and spirit lamp, combined, T. S. Waters 222,107
Button hole cutter, M. L. & G. M. Sanborn 222,080
Calendering paper, etc., machine for, Schlatter & Gros 222,081
Calisthenicmotor, A. S Gear 221,959
Car door, grain, W. I. Stratiff 222,097
Car seat, E Chesterman 221,907
Cars, cooling and ventilating, W. P. Williamson.. 221,988
Carbureter, J. Wayland 221,948
Card, visiting, F. Oechsli 221,933
Carpet linings and similar fabrics, machine for making, J. C. Gray 222,037
Carriage top, J. N. Hazelip 222,043
Cartridge capping implement, G. A. Barnes 222,000
Cartridge loading apparatus, J. H. Murray 221,971
Castings, malleable iron, J. E. Atwood 221,996
Cattle chute, J. T. & R. A. McCoy 221,931
Cement, manufacture of artificial hydraulic or Portland, C. Brown 222,004
Children's chairs, locking device for the tables of, N. Bartell 222,001
Chuck, G. B. Kirkham 222,056
Churn operating machinery, W. N. Rhodes 222,076
Cigar lighter, automatic, C. Crook 221,911
Clasp, C. E. Johnson 222,055
Clothes line hook, F. G. Slemmer 222,086
Clothes pounder, W. F. Jenkins 222,054
Clutch and coupling, friction, E. L. Hartmann ... 222,040
Collars and cuffs, making celluloid, A. A. Sanborn 221,977
Cooker, steam feed, W. Collings 222,017
Corset, Schilling & Florsheim 222,082
Cotton and hay press, H. C. Green 222,038
Coupling, D. W. Clark 221,908
Cupola furnace, E. C. Atkins 221,995
Currycomb, E. Harris 221,962
Dental engine, E. T. Starr 222,093
Dentist's chair, E. T. Starr 222,092
Dish washing machine, S. Walker 222,103
Ditching machine, J. D. Comstock 221,910
Draught equalizer, R. A. Thompson 221,982
Drawing table, W. Holden 222,047
Drays, tail pin for, H. R. Atwood 221,902
Electric light, apparatus, A. G. Holcombe 221,918
Electrotype dies, making, Tufts & Andrews 221,985
End gate fastening, wagon, L. Talcott 222,099
Fan, air compressing, M. B. Miller 221,970
Fence wire stretcher, Clark & Orris 222,013
Firearm, magazine, A. Burgess 222,008
Firearm, magazine, J. M. Marlin 222,064
Firearm, revolving, J. M. Marlin 222,065, 222,066
Fire kindlers and lighters, composition for, E. Clark 222,012
Fish boner and scaler, A. J. Whitney 221,949
Furnace door, L. McKelvey 222,068
Furnaces and stoves, draught regulator for, G. O. Sanderson 221,978
Garment supporter, H. P. Andrews 221,951
Gas apparatus, vapor, J. Savage 221,942
Gas fixing retorts, heating benches of, T. F. Rowland 221,941
Gas governor, G. S. Woodruff 221,950
Gleaning and grain binding machine, M. A. Keller 221,922
Gold from auriferous deposits, machine for extracting, E. S. Bennett 221,905
Grain binder, S. D. Locke 222,060, 222,061
Grain binder knotting apparatus, M. A. Keller. .. 221,921
Grain drill, M. G. Madson 222,063
Grate, D. Richmond 222,077
Gun, magazine, F. Y. Sunderland 222,098
Hame fastener, J. P. Bell 222,002
Hammock support, V. P. Travers 221,984
Harness, instrument for mending, C. P. Adams... 221,991
Hat sizing machine, E. Beesley 222,117
Hay rake, horse, S. Ritty 221,974
Hinge, P. Hurm 221,963
Hinge, spring, G. M. Jewett 221,964
Hoe, G. W. Cloyd 222,015
Hoe and cultivator, combined horse, B. B. Small. 222,087
Horses, device for stopping, I. J. Warner 222,105
Hub, vehicle wheel, S. P. Ruggles 221,976
Hydraulic elevator, S. C. Rowell 221,940
Inkstand, A. D. Judd 221,965
Jacket can, Mason & Bergman 221,927
Jointer and cutter, combined, H. E. Wisner 222,113
Knob attachment, O. Stoddard 222,096
Lance, bomb, J. A. Brand 222,003
Mallet, A. G. McComb 221,930
Meat chopper, mince and sausage, J. I. Rough... 222,079
Mechanical movement, Z. Beaudry 221,953
Medical compound, G. Collins. 221,909
Millstone supporter and driver, O. J. Bollinger.... 221,906
Mosquito net, etc., apparatus for stretching and dressing, I. E. Palmer (r) 8,978
Musical instrument mechanical, M. Gally 222,030
Oil cup, J. G. McBride 221,928, 221,929
Packing device for packing boxes, etc., A. D. Spencer (r) 8,977
Packing, steam, G. C. Phillips 222,074
Painting fence wire, apparatus for, F. C. Taylor.. 221,981
Painting pipes and tubes, apparatus for, J. B. Root 221,930
Paper collar machine, C. H. Denison 222,023
Paper pulp from wood, making, S. M. Allen 221,992
Pavement, concrete, C. M. Warren (r) 8,982
Pavement, street, E. Devilliers 222,025
Pedomotor, R Gornall 222,034
Pen, fountain, J. S. Bard 221,904
Pharmaceutical apparatus, J. T. West 222,109
Photo-negative engraving, Bachman & Peckinpaugh 221,997
Pipe, machine for the manufacture of spiral jointed, J. B. Root 221,998
Planter and fertilizer distributer, combined seed, J. A. Hill 222,045
Planter, corn, G. D. Haworth 222,042
Planter, corn, J. H Warfield 222,104
Planter, hand corn, E. Putnam 221,973
Planter, seed, B. Richardson 222,078
Plow, R. Adamson 221,901
Plow, C. A. Pratt 222,075
Plow, J. S. & E. C. Robinson 221,975
Pocket, safety, L. Jakubowski 221,920
Portable bath close M. J. Dexter 222,026
Pressure generator, hydrocarbon, H. H. Eames... 222,027
Printing machine, chromatic J. McNaught 222,069
Pump, A. W. Woodward 32,116
Pumping system, atmospheric, W. P. Barclay.... 221,903
Ratchet wrench, J. Woolford 221,989
Refrigerator and water cooler, combined, M. E. Titman 221,983
Rein holding device, A. Warth 222,106
Rowlock, T. Dowling 221,914
Sad iron, G. Petit 221,935
Sash fastener, R. Lee 221,967
Sash holder, Leguay & Vallotton 221,966
Sample box, F. F. Atkinson 221,934
Saw machine, drag, W. N Kyle 222,057
Sawing machine, drag, Thompson & Gray 222,102
Sawing trees, machine for, N. A. Daniels 221,912
Scarf shield, C. E. Foster 221,915
Screw driver, C. S. Wells 221,986
Screw, jack, R. Fjellman 222,028
Screw machines, extractor for metal, H. S Lansdell 222,059
Sewing machine button hole attachment, J. F. Snediker 222,089
Shoe, F. S. Stark 222,091
Shoe horn, M. F. Coon 222,020
Show case, H. G. Derr, Jr 221,913
Slate, M. F. Sullivan 221,947
Sled, J. H. Dennis 222,024
Sleigh, bob G. Hermance 222,044
Snow plow and brush, combined, P. Graff 222,036
Soldering machine, G. Browne 222,005
Spoons, making plated, Fowler & Holmes (r) 8,979
Spring clasp for braid and ribbon packages, H. Wolcott 222,115
Stamp canceler, J. A. McClelland 222,067
Staples, apparatus for inserting, bending, and clinching metallic, J. Shellenberger 221,979
Stave cutting machine, W. Sisson 222,085
Steam and water gauge, T. Holland 221,919
Steamer, feed, W. Collings 222,016
Sugar, etc., centrifugal apparatus for forcing volatile or corrosive liquids through or from, O. H. Krause 221,923, 221,924
Sulphocyanides, apparatus for making, Tcherniac & Gunzburg 222,100
Target, surveyor's, S. Haslett 221,916
Telephone, T. A. Edison 221,957
Thill coupling, W. M. Curry 222,021
Ticket box, Sergeant & Porter 221,943
Tiles for roofs and pavements, illuminating, J. Jacobs 222,053
Tile machine attachment, P. Ozmann 221,934
Time lock, S. Shaw 222,084
Tobacco chopper, E. Hain 222,039
Tobacco, manufacture of plug, P. J. Sorg 222,090
Tomb, McMinn & Filbey 221,969
Toy money box, C. B. Bailey 221,998
Toy money box, L. Kyser 222,058
Trace carrier, A. F. Hill 222,046
Trees for winter protection, machine for preparing the tops of, S. H., N. F., & L. Murray 221,972
Truss, G. Gleim 221,960
Tuyere, J. F. Hause 222,041
Umbrella frame, J. Miniere 222,071
Vacuum brake pipe coupling, T. W. Welsh 221,987
Vacuum engine, B. Goldmann 221,961
Vapor burner, E. F. Rogers 221,937
Valve, slide, E. S. Chapell 221,956
Valve, steam engine slide, E. S. Chapell 221,955
Vehicle spring, J. Krehbiel 221,925
Velocipede, P. Denham 222,022
Velocipede, H. Hassenpflug 221,917
Vessels, air port for, T. D. Wilson 222,111
Water closet valve mechanism, W. M. & J. Smeaton 222,088
Weather strip, W. St. Charles 222,095
Weed turner, J. D. Cates 222,011
Wells, clamp for elevating tubing in oil, G. W. Fair 221,958
Windwheel, H. B. Myers 222,072
Windows, portable decorative balcony for, Brument & Goldberg 222,006
Wood, grinding, S. M. Allen 221,993
Wool press, Willis & Funkhouser 222,110
Yoke and bow, ox, M. Cantoni 222,110

DESIGNS.

Coffin plates, E. H. & J. H. Eldridge 11,526
Heating stoves, E. Bussey 11,525
Ladies' and children's hoods, S. M. Hodge 11,527
Trunk fixtures, C. A. Taylor 11,523, 11,534

English Patents Issued to Americans.

From November 18 to November 25, inclusive.

Curtain roller, H. L. Judd, Brooklyn, N. Y.
Fountain pen, A. T. Cross, Providence, R. I.
Money received, apparatus for preventing fraud in, G. Beadle, Syracuse, N. Y.
Steam engine, W. F. Goodwin, Stelton, N. J.
Sulphate of lime, manufacture of, Z. C. Warren, New York city.
Tramways, A. S. Halladie, San Francisco, Cal.