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.

NEW BOOKS AND PUBLICATIONS.

BOLETIN DE LA SOCIEDAD DE GEOGRAFICA Y ESTADISTICA DE LA REPUBLICA MEXICANA. Mexico, 1880.

The latest installment, consisting of parts 4, 5, and 6, vol. v., of this excellent periodical, published by the Mexican Geographical and Statistical Society, has just reached us, and its contents well sustain the high character possessed by the preceding numbers. Among the principal papers worthy of note in this issue are: Report on the Results of an Exploration of the Metalliferous Regions of the Sierra Mohajada, by Santiago Ramirez; A Hydrographic Study, by Pio Bustamente y Rocha; The Ores of the Sierra Queretaro, by J. M. Reyes; and a General Resume of the Mortality in the City of Mexico during the year 1879, by M. Flores Heras. In addition to these and several other original papers, there are numerous translations from foreign scientific works of subjects coming within the scope of the society's investigations, and forming altogether a collection of considerable scientific interest.

INDIA RUBBER, AND "VULCANIZED RUBBER FABRICS ADAPTED TO MECHANICAL PURPOSES."

This is the title of a handsome book just issued by the New York Belting and Packing Company. It gives thorough details of the manufacture, as carried on at the works of the Company at Newtown, Conn., and is beautifully illustrated. It is only intended for distribution among their customers, but those who use rubber belting, hose, packing, springs, etc., will undoubtedly find here much that is peculiarly interesting, and that will enable them "to care more understandingly for the preservation and prolonged wear of rubber goods," as well as to "discriminate more closely in their purchases, and avoid such products as are of imperfect or unskillful manufacture, or made with injuriously adulterating compounds." The book also contains a full description of their manufacture of vulcanite emery wheels, and the improvements they have made in this direction, whereby their emery wheels are in demand for the best class of work abroad as well as at home.

THE "GAS ENGINEER'S" DIARY AND TEXT BOOK FOR 1881. Birmingham, England: John Wright & Co.

The second annual edition of this work, prepared for the subscribers of the *Gas Engineer*. In addition to matter of special value to the gas manufacturers of England, the volume contains a series of original articles on gas manufacture and apparatus, and several tables of use to gas engineers everywhere

DIE MATERIELLEN VERHALTNISSE UND VORTHEILE FUR EINWANDERER IM STAATE KENTUCKY. Frankfort: Kentucky Geological Survey and Bureau of Immigration.

A pamphlet for free distribution among Germans, describing the resources of Kentucky and the opportunities the State offers for colonization; together with a number of photographs of scenery in sections available for immigrants seeking cheap lands.

U. S. COMMISSION OF FISH AND FISHERIES. PART VI. REPORT OF THE COMMISSIONER FOR 1878. Washington: Government Printing Office. 1880.

A fat volume, giving, in addition to the Commissioners' report of the year's operations of the Fish Commission and a statement of the importance of the work it has undertaken, nearly a thousand pages of matter relating to fish, fish culture, and kindred subjects. These reports are becoming a library in themselves, and one whose significance and value are very imperfectly apprehended by the public generally.

NAVIES OF THE WORLD. By Lieut. W. Very, U. S. N. New York: John Wiley & Sons. 8vo, pp. 451.

Lieutenant Very has undertaken to describe concisely the plans, armament, and armor of the naval vessels of twenty of the principal nations, and to give the latest developments in ordnance, torpedoes, and naval architecture. His point of view is that of the naval officer rather than that of the engineer or ship builder, though he does not neglect the architectural developments of the past decade or two. An interesting chapter is devoted to the principal naval engagements since 1860.

THE SILK GOODS OF AMERICA. By Wm. C. Wyckoff. New York: Published under the auspices of the Silk Association of America. $3.

The second edition of Mr. Wyckoff's account of recent improvements and advances of silk manufacture in the United States. The new part comprises the Eighth Annual Report of the Silk Association, summarizing the progress of the year 1879, which, as our readers already know, was extremely encouraging. The directory of manufacturers and dealers in silk covers 38 octavo pages, indicating a rapid extension of the silk industry.

FIVE LITTLE SOUTHERNERS. By Mary W. Porter. Boston: D. Lothrop & Co.

A children's story of child life on a sugar plantation, with a tragic conclusion in a hurricane on the Gulf.

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. H. asks (1) for the process of coating or plating small polished steel articles with tin (or a composition similar to it), by dipping the articles into the melted metal and have a good smooth, bright surface when taken out. A. *a*. Boiling water, 12½ lb.; ammonia alum, 17¼ oz.; add protochloride of tin, 1 oz. Dip the articles in hot potash solution, then rinse in clean water, dip in dilute sulphuric acid, and suspend in the tin solution for a few minutes until bright. *b*. Bitartrate of potassa, 10½ oz.; water, 17 oz.; protochloride of tin three-fourths oz. Immerse in this the cleaned articles in contact with a piece of zinc until tinned. *c*. Pyrophosphate of soda, 11 oz.: water, 17½ oz.; protochloride of tin, 4½ oz. Dissolve. Connect the cleansed articles with a wire from the zinc pole of a battery and immerse in the solution, the vessel containing which should be lined with pure sheet tin connected by means of a wire with the copper or carbon plate of the battery. In Wegler's process the bath consists of stannic chloride, 1; water, 10. The articles are pickled in dilute sulphuric acid, scoured with fine sand or scratch-brushed, rinsed with clean water, loosely armed with zinc wire or ribbon, and immersed for ten or fifteen minutes at ordinary temperature. Rinsing and scratch-brushing follows, after which whiting is used for finishing. 2. Will the same process do as well to coat or plate polished brass articles, and give a bright, smooth surface? If not what different process will be necessary? A. Yes.

(2) E. J. C. asks: 1. Will a steam gauge fixed upon a boiler during the hydrostatic test show the pressure within the boiler the same as it will show the pressure of steam? A. Yes. 2. I have a model oscillating engine, 1 inch by 2 inch cylinder. The valve faces are 1¼ inch by 2¼ inches. How can I lubricate these faces while the engine is running? A. With a proper lubricator cup attached to the steam supply pipe or steam chest. 3. What should be the weight of a fly wheel for the above engine, running with 15 lb. of steam and driving the belt from a 2-inch wheel on the shaft? A. 12 or 14 lb.

(3) C. P. asks: 1. At what temperature will a bar of soft steel, say half-inch in diameter, sustain the greatest weight? A. We know of no experiment to determine this point, but if steel behaves in the same manner as wrought iron, its greatest tensile strength is between 325° and 400°. 2. Are car wheels more liable to break in very cold weather, because the wheels are affected by the cold, or because the road bed is frozen, and consequently is not elastic? A. Yes from both causes. 3. Will a steel spring break quicker at a temperature 40° below zero, than at 40° above zero? A. Yes, especially if there be any sudden movement or jar. 4. Will a railroad sustain more weight at 40° below zero than at 40° above zero. A. No. 5. At what degree of temperature will a chain stand the greatest strain? A. From 325° to 400° Fah. 6. Is the power of cohesion in wrought iron the strongest at a very low temperature? A. No. 7. Is the power of cohesion in gray iron the strongest at a very low temperature? A. No.

(4) J. E. F. asks if the lumber for a boat bottom below the water line should be green or dry. A. All lumber used in the construction of a boat should be dry or seasoned.

(5) D. J. L. asks: 1. Is it safe to blow off steam with 60 lb. pressure and two gauges of water while the engine is running? If it is safe to do this, how low should I allow the water to go? I have blown off steam at 60 lb. on Saturday, and on Sunday at noon it will have water to the bottom of the glass. How can I remedy it? A. It is safe, but when the steam is blown off the water should be above the usual height to allow for evaporation over Sunday, and have ample supply for raising steam on Monday morning. 2. The polished parts of my engine become rusty quite frequently from water dropping on it. What can I get to keep it bright without using emery? A. Use pumice stone and oil. 3. I have a glass tube on the water gauge which has iron rust burnt into it, what can I get to clean it? A. Try vinegar or dilute sulphuric acid.

(6) C. H. F. asks: 1. Do the compressed air motors of to-day generate their own pressure while in motion, or do they have to be charged before leaving a certain place and stop to get charged again when the first is exhausted? A. They are charged at the stations. 2. Is there in existence, to your knowledge, any device whereby a greater head can be put on at a water power without increasing the natural head? That is, a greater head with the same dam, amount of water, and same mill machinery. A. No. 3. What does the term "perpetual motion" mean, or apply to? Does it needs be some machine that will not wear out and run perpetually, or one that will run perpetually if replaced when worn out by friction? A. A machine that will run without extraneous aid until its parts are worn out. 4. What is the reward, and by whom offered, for perpetual motion? A. The laws of force are now so well understood that any one acquainted with the rudiments of the subject would never think of offering a prize for perpetual motion.

(7) G. G. writes: Suppose I order two 3-inch governors from the manufacturer, one to run 100 revolutions and the other 170 revolutions per minute, what will be the difference in the construction of the two governors? A. With many governors there would be no difference, as means are generally provided for adjustment to the speed required.

(8) G. H. W. asks: Will opening the windows of a stamp mill diminish the noise in the mill? A. We think not.

(9) F. T. D. L. writes: I want to get a light boiler for an engine the cylinder of which is 1½ inch bore by 3 inches deep, to run at 300 revolutions per minute, with a pressure of 50 lb., but of enough strength to stand 100 lb. It is for the purpose of running a small boat. Could it be heated by naphtha lamps? I would like to know what size the smallest and lightest boiler I could use would be. A. You should have a vertical tubular boiler with 1½ to 2 square feet heating surface. Such boilers are not on sale; they are only made to order.

(10) A. M. P. writes: In making a strength test of brick, will a column have greater pressure in an upright position than in a horizontal one, provided the whole weight is thrown on the brick? A. There will be no difference, if the weight of the column itself be taken into account.

(11) W. G. A. asks: Does water in a boiler get hotter than 212°, that is, if the boiler has 120 or 150 lb. of steam, does the water attain a greater heat than boiling point to generate steam to that pressure? A. Yes, the temperature rises with the pressure of the steam. It may be heated to very high temperatures, providing the containing vessel is strong enough to withstand the pressure.

(12) C. F. H. asks: 1. How can I make a gallon of silver plating solution? A. Dissolve 5¼ oz. pure nitrate of silver, and 8 oz. pure cyanide of potassium in 1 gallon of soft water. 2. How can I make a gallon of nickel plating solution? A. Dissolve three-quarter lb. of the double sulphate of nickel and ammonia in a gallon of soft water. 3. How many quart gravity cells will it require to plate medals of about an inch and a half to two inches in diameter? How large should the positive pole be in relation to the negative pole or the thing to be plated in the solutions? A. See nickel plating, page 153, vol. xliii., and page 81, vol. xliv., SCIENTIFIC AMERICAN.

(13) E. W. K. asks: What process if any will take fly specks from bronze? A. Lavender oil, 1 drachm; alcohol, 1 oz.; water, 1½ oz. Use a soft sponge, and proceed as quickly as possible, with little rubbing.

(14) J. B. S. asks for a formula for making permanent black dye for woolen goods, something that will not rub off. This latter trouble is what I am anxious to obviate. Several formulas that I have do not relieve this trouble. A. You will find practical formulæ and directions for black dye in Nos. 53, 54, 55, 74, 75, 76, and 169, SCIENTIFIC AMERICAN SUPPLEMENT. See Hints to Correspondents.

(15) G. W. C. asks: Which gives the most heat, the dry or green wood of same quality and quantity? A. Dry wood.

(16) O. B. S. inquires as to the best method of mending broken ivory. A. Moisten thoroughly a small quantity of very finely powdered quicklime (good) with white of egg to form a paste. Use at once, clamp the parts, and do not disturb for 24 hours. Do not use an excess of the cement.

(17) O. E. W. asks: 1. How can I make a galvanic battery with copper and zinc plates, each 2x2 inches, strong enough so that I can feel the current? What kind of acid shall I use? A. It would require several hundred such elements, joined copper of one to

zinc of next, and so on, and an interrupted current to produce the statical effects required. See "Galvanic Batteries," in SUPPLEMENTS, Nos. 157, 158 and 159. Also "How to Make Induction Coils," SUPPLEMENT, No. 160.

2. How can a cracked lamp be mended so the oil will not leak through? A. Clean the glass thoroughly with strong hot solution of sal soda, warm, and apply over the parts inside and out the following: Resin, 3 parts; caustic soda, 1; water, 5; boil together until completely saponified, then mix with half its weight of plaster of Paris. 3. What kind of wax is it that engravers use to at the metals that are to be engraved upon by nitric acid? A. White wax, 2 oz.; black and Burgundy pitch, of each, ½ oz.; melt together; add by degrees powdered asphaltum, 2 oz., and boil until a drop taken out on a plate will, when cold, break by being bent double two or three times between the fingers. It must then be poured into warm water and made into small balls for use. 4. Is copper better for a boiler, 6 inches diameter and 12 inches long, than iron? A. Yes. 5. Is the pressure in the cylinder the same as in the boiler? A. No; it is always less, and how much less depends on the length and size of the steam pipes and the manner in which they are protected.

(18) I. K. E. asks: Can waterglass in small quantities be prepared for experiments without expensive apparatus? A. Fine quartz sand, 2 parts; carbonate of soda, 3½; reduce to fine powders, mix, and heat to a very bright red in a crucible capable of holding four times as much. As soon as the mixture is in a state of calm fusion pour out on an iron plate to cool. For use dissolve in hot water.

(19) H. G. E. asks: Cannot eggs, butter, etc., be kept for a considerable period by having them in a vacuum? Could a brick vault be cemented so as to be air tight, and capable of sustaining exterior atmospheric pressure? Would an air pump be the best way of exhausting the air? A. It is not practical; they would doubtless remain unchanged in a perfect vacuum, but that is unattainable by any ordinary means. Such a vault could be constructed; the pressure from without would be equal to about 15 lb. on each square inch.

(20) C. G. W. writes: I am led to believe that the cultivation of and gathering of such sumac as grows naturally in this sandy country would be a profitable industry. The stag horn sumac (*Rhus typhina*) grows here in abundance, other varieties to some extent. A. The best sumac of commerce is the leaves of the *Rhus coriaria*, cultivated in Sicily. It closely resembles the *R. typhina*, or stag's horn sumac, which has proved, when properly handled, to be nearly if not quite as valuable. See article on sumac, on page 199, vol. XXXVI., SCIENTIFIC AMERICAN.

(21) C. D. A. writes: 1. I have heard good engineers say that the friction of a valve depended entirely upon the size of the ports, and if there were no ports in the seat, a valve might be held against it, and when the steam was admitted, if the support was removed the valve would drop down; is this true? A. It would drop down. 2. I always supposed that the size of the valve determined the amount of friction. A. The friction depends upon the size of the valve, deducting so much of the ports as may have steam within, and the pressure upon the unbalanced surface of the valve.

(22) S. B. G. asks: Does a large wheel have any advantage in power over a small one in overcoming the friction on the axle, the axle and load being the same, and running on a smooth level surface? A. Yes.

(23) H. C. M. writes: I notice in vol. xliv., No. 24, page 378, of SCIENTIFIC AMERICAN, article 8, a formula for making oxygen gas for inhalation. Can you tell me whether it is the same as is used by physicians in Philadelphia? A. Probably. 2. Can water be surcharged with it, and if so, how? A. By passing the gas through cold water under pressure the quantity of oxygen it normally contains may be slightly increased. On exposure to the atmosphere or heat the oxygen thus taken up will soon escape again. 3. If not, how can it be used other than in the manner given in the paper referred to? A. We know of no other way of using it. There is no liquid solvent for oxygen that will take up enough of the gas to be of practical service in the way you propose.

(24) W. H. asks: 1. Of what kind of silk are balloons made? A. Good common undyed silk will answer. 2. What kind of oil are they prepared with? A. Usually a mixture of boiled oil and wax, thinned with turpentine. 3. How are the seams made air tight? A. The seams are "felled," waxed, and varnished inside and out. 4. Will gas keep its lifting power for one week, or longer? A. Yes, if kept in a perfectly air-tight vessel. In an oiled silk balloon envelope as usually constructed, no.

(25) J. B. B. writes: 1. A claims that a hollow shaft equal in diameter to a solid one has more strength in driving machinery than the solid shaft. B claims that the solid shaft, equal in diameter to the hollow one, is the strongest. Which is right? A. If of the same diameter, the solid shaft is the strongest; if of the same weight, the hollow shaft is the strongest. 2. What steam pressure is considered in getting the nominal horse power of a steam engine? A. The average pressure in the cylinder. 3. Is it not advisable to give a slide valve as small a stroke as possible, provided you get sufficient port opening? A. Yes.

(26) D. B. M. writes: I have a copper boiler, 36 inches long, 12 inches in diameter, ¼ in thickness, no flues. What would be the highest pressure to run with safety? A. Without knowing more of its construction we could not say. 2. Would a two horse power engine, with the above boiler, afford sufficient power to run one of Edison's generators to supply one of his lamps? A. Your boiler will not supply a two horse power engine, it is not equal to one horse power except it be driven very hard. 3. What would such a generator lamp, etc., probably cost? A. They are not in the market. You should write the inventor in regard to them.

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

M. F. M.—No. 1. Tremolite—calcium-magnesium silicate. No. 2. Blue glass. No. 3. Calcium aluminum silicate. No. 4. The habitation of some insect—the material is chiefly lime carbonate. No. 5. Marcasite—FeS_2—with a coating of iron oxide. No. 6. Magnetite and hematite. No. 7. Argentiferous (silver bearing) galena. No. 8. Chiefly lead oxide. No. 9. Iron, alumina, and silica, with possibly a trace of silver.—E. S. B.—The gravel contains no precious metals—only mica and pyrites.

COMMUNICATIONS RECEIVED.

On a Mysterious Boiler Explosion. By W. A. D.
On Ripening Melons Underground. By I. T. B.
On the Wax Myrtles. By J. P. S.
How to Mount very Small Lenses. By C. S. M.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

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

February 8, 1881,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1866, 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. We also furnish copies of patents granted prior to 1866; but at increased cost, as the specifications not being printed, must be copied by hand.

Air compressor, J. F. Allen 237,359, 237,360
Air medicating apparatus, A. Bell 237,468
Amber, making articles from waste, A. R. Davis 237,497
Ammunition packing box, E. G. Parkhurst 237,406
Animal trap wheel, E. B. Ripley 237,601
Axles, machine for machining, F. D. Bliss 237,364
Barb holding device, T. W. Eaton 237,375
Basin attachment, wash, G. F. Schaffer 237,609
Bath tub, folding, G. Damen 237,494
Bed bottom, I. L. Landis 237,552
Belt lock or fastener, A. Loehner 237,399
Billiard cues, fastening tips upon, G. Zittel 237,656
Boot and shoe, O. E. Lewis 237,396
Boot and shoe, S. Newcomb 237,581
Boot and shoe heel, Stevens & Chisholm 237,626
Boot and shoe heel, M. Wise 237,651
Boot and shoe soles, frictional attachment for, G. W. Hewitt 237,529
Boot and shoe upper, H. G. Thompson 237,638
Bolt, C. Zube 237,657
Bolts and nuts, machine for threading, H. B. Burin 237,479
Brick machine, W. E. Tallcot 237,636
Bridge, arch, S. Bissell 237,471
Brush bridle, H. D. Musselman 237,579
Brush, stencil, T. T. Lotherington 237,562
Buckle, W. D. Ewart 237,506
Buffing wheel, A. Leavett 237,395
Building, fireproof, J. Gilbert 237,382
Bull wheel for artesian wells, M. B. McManus (r) 9,559
Buoy, signal, F. Barr 237,361
Button, separable, G. Van der Burgh 237,644
Calendering machine, cloth, R. J. Walker 237,421
Can stopper, W. H. Rodden 237,446
Canal boat, A. Albertson 237,482
Car coupling, J. C. Mathews 237,568
Car coupling, W. V. Perry 237,588
Car coupling, E. Weidling 237,648
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Car heater and ventilator, G. Laube 237,555
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Car wheel, P. H. Lindsey 237,398
Cars, atmospheric compressor for street, I. P. Wendell 237,424
Carpet lining, C. H. Bradley 237,474
Carriage, W. Ruby 237,411
Carriage spring, H. B. Osborn 237,443
Carriage top, shifting, J. H. Fairbanks 237,507
Cartridge crimping machine, H. S. Burns 237,480
Carving fork, Haddan & Smith 237,521
Casting car wheels, French & Robertson 237,511
Casting metals, mould for, C. Sneider 237,634
Casting mould boards, mould for, G. K. Smith 237,619
Cement and lime, manufacture of hydraulic, Dimelow & Peadro 237,500
Cement, bituminous, E. J. De Smedt 237,662
Centrifugal machine, G. A. Hagemann 237,523
Chain, detachable drive, J. L. Pope ..... 237,591 to 237,593
Chain, drive, J. C. Coonley 237,489, 237,490
Chain, drive, J. M. Dodge 237,499
Chair seat and back, G. Hunzinger 237,535
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Churn, S. B. Rathbun 237,598
Cigar bundling machine, J. J. Kruse 237,391
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Clock striking mechanism, A. E. Hotchkiss 237,532
Clothes drier, revolving, T. Pritchard 237,407
Clutch and brake, friction, D. H. Merritt 237,570
Collar pad, harness, J. L. Richards 237,445
Copy holder, E. P. Newman 237,582
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Corset, E. L. Smith 237,618
Cotton chopper, R. I. Draughon 237,502
Cotton gin, J. Du Bois 237,433
Coupling for earth augers and rock drills, J. H. Sutfin 237,629
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Elevator, J. M. Dodge 237,501
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Fanning mill, H. Keller 237,438
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Feeding and watering stock in cars, device for, A. D. Tingley 237,641
Feeding rack, W. T. Finch 237,535
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Fence post, H. Laird 237,393
Fence stretcher, wire, Salisbury & Stevens 237,412
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Grain drill gearing, J. King 237,390
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Grain separator, A. S. Phelps, Jr. 237,589
Grain separator, I. Sherck 237,453
Grinding mill, G. & A. Raymond 237,599
Grinding wheels, machinery for automatically delivering sand to, H. C. Luther 237,563
Gun, rocket, N. E. Rice 237,444
Hame fastener, L. E. Jones 237,665
Handles for cutlery from vulcanized fiber, manufacture of, J. B. H. Leonard 237,440
Harness, breeching lifter for, S. F. Smith 237,414
Harness fastening, J. S. Maddox 237,565
Harrow, T. Rogers (r) 9,561
Harvester, H. N. Johnston 237,539
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Hatter's iron, F. C. Taylor 237,637
Hay rake, horse, J. La Dow 237,553
Heel breasting machine, A. K. Washburn 237,646
Hides for tanning, preparing, J. S. Swan 237,630
Hinge, gate, N. B. Sebring 237,451
Hinge, spring, F. W. Brocksieper 237,476
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Knitting machine, C. E. Kelley 237,546
Lamp, fountain, C. Stockmann 237,627
Lamp, street, E. Boesch (r) 9,556
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Life raft, H. Miller 237,574
Loom, L. J. Knowles 237,549
Loom, G. L. Pallatt 237,585
Lubricant, H. Hurty 237,437
Lubricator, H. Howe 237,534
Matches, apparatus for sulphurizing or paraffining friction, N. Butler 237,368
Mattress frame or bed bottom, F. A. Palmer 237,586
Meters, connection to, A. Mackey 237,564
Middlings purifiers, sieve for, J. A. Raney 237,597
Milk cooler, A. McCallum 237,403
Milk cooler, G. C. Shaler 237,452
Mitering machine, J. M. Rhodes 237,409
Mitten, Haight & Strossman 237,524
Moulding metals, flask for, C. Sneider 237,635
Mouldings, process of and apparatus for ornamenting, C. C. Stuart 237,628
Nailing machine, J. H. Foster 237,380
Net for horses, fly, J. F. Smith 237,622
Nut lock, E. J. Brooks 237,659
Oatmeal machine, G. H. Cormack (r) 9,558
Oil cup, S. G. Cabell 237,660
Oil cup for saws, F. Rousseau 237,604
Organ bellows, Fogelberg & Graves 237,378
Oven, baking, Aff & Jordans 237,461
Packing case, H. E. Clinton 237,486
Packing for steam and other joints, J. Kirkman 237,548
Packing, metallic piston, J. H. Brown 237,477
Pail, dinner, Ludlum & Peck 237,401
Pantaloons protector, B. C. Wilson 237,427
Paper box, Adams & Miller 237,358
Paper cartridge machine, G. P. Salisbury 237,605
Paper floor covering, D. H. Morrison 237,578
Paper weight and calendar, combined, G. A. Ogle 237,584
Pegging jack and bench, T. B. Ellis 237,434
Pen, fountain, W. W. Stewart 237,454
Photographic head rest, W. S. Laighton 237,392
Photographic negatives, producing impressions in line or stipple from, F. E. Ives 237,664
Pianofortes, stringing, A. K. Hebard 237,528
Piano lock, G. B. Cowles 237,491
Planter, corn, J. C. Van Dyke 237,420
Planters, fertilizer attachment for seed, H. Wright 237,428
Plow, Swenson, Lindquist, & Hedlund 237,631
Potato digger, L. V. Rouse 237,410
Preserving fruit juices, Schaumberg & Dillman 237,449
Press, C. L. Ingalls 237,537
Pressure regulating valve, R. H. Soule 237,624
Printing, apparatus for and method of chromatic, G. Schwarzwald 237,612
Printing machine, plate, H. Lee 237,558
Printing machine sheet delivery apparatus, W. Scott 237,413
Pulp, dry ground, H. B. Meech 237,569
Pump bucket and valve, S. A. Saum 237,607
Pump piston, W. Burlingham 237,450
Punch, metal, S. H. Jenkins 237,439
Puzzle, geometrical, E. Anthony 237,464
Radiator, indirect, T. H. Brooks 237,429
Railway, elevated, M. E. Walton 237,422
Railway switches, operating, R. P. Garsed 237,381
Railway track drilling machine, A. Loehner 237,400
Railway tracks, apparatus for laying, N. Kimball 237,388
Railway train marker, C. W. White 237,459
Razor, J. Deasey 237,498
Reclining folding chair, F. Hunger 237,385
Rein holder, G. W. Miller 237,573
Safes and vaults, electrical envelope for, H. C. Roome 237,603
Safety pins, manufacture of, J. P. Courtney 237,661
Salt, manufacture of, N. B. Rice 237,600
Saw, circular, G. F. Simonds *et al* 237,617
Saw jointer, circular, A. S. Pierson 237,590
Saw mill log carriages, brake for, F. Tuxworth 237,457
Sawing and routing machine, S. M. Bragg 237,475
Scarf ring, F. A. Sundberg 237,415
Scoop, S. H. Kerfoot 237,387
Sewer and stench trap, C. Halstead 237,383
Sewing machine, G. F. Newell 237,442
Sewing machine feeding mechanism, G. F. Newell 237,666
Shed, cattle, M. Thorp 237,639
Sheet metal articles, dies for forming flat, A. Scherb 237,610
Shirt bosom, S. K. Devereux (r) 9,554
Shutter worker, J. C. Landes 237,551
Sifter, H. A. Trench 237,419
Soldering machine, can, W. A. Wicks 237,650
Stair rod fastener, M. L. Githens 237,514
Stamp, hand, H. P. Smith 237,620
Starching machine, R. Brenner 237,366
Station indicator, automatic railway, J. H. Whitelegge 237,425
Steam generator, D. Renshaw 237,408
Steam pipes, boilers, etc., covering for, W. M. Bitler 237,363
Steering apparatus, steam, J. W. Watson 237,423
Stench traps, mercury seal for, J. Bennor 237,362
Still, oil, M. Livingston 237,560
Stock clearance indicator, J. C. Uhler 237,643
Stone, wood, etc., wheel or tool for cutting, sawing, or grinding, H. Blackburn 237,472
Stove back, W. Schenck 237,450
Stove shelf, Hasselhoff & Mayne 237,526
Stoves, attachment for burning crude oil in, L. C. Snell 237,623
Straw cutter, W. Barrett 237,466
Straw cutter, S. Luther 237,402
Swing, R. S. B. Thornton 237,640
Syringe, vaginal, F. Wilhelft 237,426
Tablet, writing, G. L. Garrigues 237,513
Telegraph, chemical, C. A. Randall 237,595
Telephone, G. W. Foster 237,379
Telephone lines, switch board for, E. T. Frost 237,512
Telephone switch, H. R. Miller 237,577
Telephone, transmitting, E. A. Schoettel 237,633
Telephonic transmitter, C. A. Randall 237,596
Terret, head, H. A. Perkins 237,587
Thill coupling, A. French 237,510
Thrashing machine, peanut, J. P. K. Daughtrey 237,496
Ticket, admission, F. H. Cyrenius 237,493
Ticket reel and receptacle, C. S. Locke 237,561
Tobacco, apparatus for sweating and coloring, C. F. & B. A. Meyer 237,405
Toy, optical, G. E. King 237,389
Toywheel, J. M. Jones 237,543
Truck, stove, H. G. O. Burrows 237,481
Turn table, A. J. Delavigne 237,373
Type distributing machine, D. Reynolds (r) 9,560
Umbrella and parasol, Bissland & Williams 237,470
Umbrella and sun shade, H. B. Gray 237,518
Umbrella and water cooler stand, J. F. Conway 237,488
Valve, steam, G. J. Roberts 237,602
Vaseline, refining, R. A. Chesebrough 237,484
Vehicle spring, E. Spaulding 237,625
Vehicle spring, J. Tilton 237,456
Wagon bolsters, adjustable standard for, J. Grier 237,519
Wall paper manufacturer's use, hanging up and carrying off machine for, J. Waldron 237,645
Washing machine, R. G. Baldwin 237,465
Washing machine, B. R. Trull 237,642
Washing machine, J. E. Watkins 237,458
Washing machine, B. Wright 237,653
Watch key, stem winding, E. C. Fitch 237,377
Water cooler, T. W. McKeever 237,404
Water elevator, windmill, J. M. Hasting 237,527
Weather strip, J. E. Gowen 237,516
Wells, method of and apparatus for sinking oil and other, L. Smith 237,621
Wheat scouring apparatus, A. Buhl 237,478
Windlass, E. & G. N. Waterbury (r) 9,555
Windmill, H. H., C. H., & C. Beckman 237,467
Windmill, Chamberlain, Signor & Straw 237,483
Window, colored glass, L. C. Tiffany 237,417, 237,418
Wire springs, machine for forming, G. W. Lewthwaite 237,397
Wood, producing designs upon, S. K. Devereux (r) 9,553
Wood working clamp, A. M. Colt 237,431
Wrench, C. L. & H. F. Praeger 237,594
Wringer and bench, I. R. Laux 237,556
Wringing machine, J. Kinleyside 237,547

DESIGNS.

Carpet, J. Neil 12,162
Hair ornament, A. Progel 12,163
Oil cloth, C. T. & V. E. Meyer ..... 12,150 to 12,161
Steam engine, C. M. Farrar 12,149

TRADE MARKS.

Bitters, A. Dryfoos 8,157
Cigars, A. Estlow 8,158
Medicinal preparation, Orthozoic Chemical Association 8159
Oily compounds for coating surfaces as a paint or lubricant, J. Dixon Crucible Company 8,161
Paper of all kinds, writing, Z. Crane, Jr., & Brother 8,156
Washing compounds, A. Zink 8,160

English Patents Issued to Americans.

From February 4 to February 8, 1881, inclusive.

Barrel hoops, machine for nailing, E. Cole, B'klyn, N. Y.
Buoy, signal, F. Barr, New York city.
Engine, hot air, A. S. Lyman, New York city.
Furnace for burning gas, A. L. Holley, Brooklyn, N. Y.
Hatter's irons, F. C. Taylor, New York city.
Ice, manufacture of, T. L. Rankin *et al.*, New York city.
Loom, F. O. Tucker, Hartford, Conn.
Moulding hollow articles, W. B. Carpenter, Newark, N. J.
Nailing machine, J. H. Foster, Chicago, Ill.
Necktie, Fisk, Clark & Flagg, New York city.
Pipe joint, W. Painter, Baltimore, Md.
Razor machinery, J. D. Frary, Bridgeport, Conn.
Separating solid from liquid matter, P. Cassamajor, Brooklyn, N. Y.
Steel, manufacture of, J. Conant, M.D., Prairie du Chien, Wis.
Steam boiler, D. Renshaw, Cohasset, Mass.
Transporting money, etc., J. C. White *et al.*, N. Y. city.