Business and Personal.

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

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

Presses & Dies. Ferracute Mach. Co., Bridgeton, N. J.

6 Spindle Turret Drill Presses. A.D. Quint, Hartford, Ct.

Best baling presses. Ryther Mfg. Co., Watertown, N.Y.

G. D. Hiscox, 361 Broadway, N.Y., Consulting Engineer.

Universal and Centrifugal Grinding Machines. Pedrick & Ayer. Philadelphia, Pa.

Skilled workmen and best materials are the basis for the deserved popularity of Jessop's steel.

Glass grinding and polishing machinery wanted. Apply Tacony Iron and Metal Co., Tacony, Pa.

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

Tools for sheet metal goods, presses, lathes, dies, etc. Empire Machine and Tool Co., New Brunswick, N. J.

Stow flexible shaft. Invented and manufactured by Stow Mfg. Co., Binghamton, N. Y. See adv., page 254.

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

Centrifugal Pumps. Capacity, 100 to 40,000 gals. per minute. All sizes in stock. Irvin Van Wie, Syracuse, N.Y.

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

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

For best hoisting engine. J. S. Mundy, Newark, N. J.

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

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

Fine castings in brass, bronze, composition (gun metal), German silver. Unequaled facilities. Jas. J. McKenna & Bro., 424 and 426 East 23d St., New York.

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

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

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

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

Notes & Queries

HINTS TO CORRESPONDENTS.

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

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

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

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

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

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(4581) W. P. C. asks (1) what the Harden hand grenade for extinguishing fires are made of. A. Hand grenades for extinguishing fires are made by filling thin spherical glass bottles with a solution of calcium chloride, salammoniac or borax. 2. A good insulating material that I can mould out for insulating storage battery plates. A. Use gutta percha. 3. Are there any two acids mixed together that will cause an explosion? A. Yes. 4. Will sulphuric acid set fire to wood? A. Sulphuric acid will char wood by extracting the elements of water. 5. Will the spray from the storage batteries set fire to wood? A. We do not think it would set fire to wood.

(4582) O. S. asks: What is the chemical agency of ammonium chloride in the microphone battery? A. The reaction is supposed to be as follows:

$$2\,NH_4Cl + 2MnO_2 + Zn = ZnCl_2 + 2NH_3 + H_2O + Mn_2O_3$$

The ammonium chloride acts on the metallic zinc, forming zinc chloride and liberating ammonia.

NEW BOOKS AND PUBLICATIONS.

THE STANDARD ELECTRICAL DICTIONARY. A popular dictionary of words and terms used in the practice of electric engineering. By T. O'Conor Sloane, A.M., E.M., Ph.D. New York: N. W. Henley & Co. 1892. 12mo. Pp. 624. Cloth. Price $3.

In the Standard Electrical Dictionary we have an important addition to the working library of the amateur and professional electrician. The definitions are illustrated whenever necessary by well executed illustrations, which number in all over three hundred. The work has a very complete index, which renders the use of cross references unnecessary. The author has evidently done his work in a very thorough manner. Take Electricity for example. Here the author has modestly given no definition of his own, but he does not hesitate to give the opinions of seventeen of the best authorities, including many of the foremost electricians of the world. Many words are given which, owing to the rapid strides of electrical science, are here defined for the first time. There is a clearness in the definitions which recommends the book particularly to the beginner, while the advanced electrician will find such subjects as the theory of dimensions and the dimensions of electrical units fully treated. The work is an invaluable addition to even the smallest of electrical libraries.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

October 25, 1892,

AND EACH BEARING THAT DATE.

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

Air cooler, return, H. B. Roelker ... 484,979
Air or gas meter, F. E. Youngs ... 485,075, 485,076
Alarm. See Burglar alarm
Alcohol from liquor casks, apparatus for and method of recovering waste, M. Hickey ... 484,963
Animal trap, M. Johnston ... 484,799
Antifriction clasp, W. L. Black ... 484,947
Baby tender and crib, combined, A. Baird ... 485,081
Bag. See Nursery bag.
Baker's and confectioner's depositing apparatus, R. Megson ... 484,937
Baling press, C. E. Whitman ... 485,072
Baling press feeder, Kruse & Shipley ... 485,045
Batteries, finishing grids for secondary, A. F. Madden ... 485,128
Batteries, standard cell for electric, H. S. Carhart ... 485,089
Battery. See Secondary battery.
Bearing, machinery, J. D. Brown ... 484,963
Bearing, roller, S. B. Bartlett ... 485,083
Bed bottom, L. Hinkle ... 484,912
Beer, treating, A. Kreusler ... 485,012
Belt, link, D. S. Stewart ... 484,827
Berry picker, C. C. Read ... 485,057
Bicycle, Dey & Griswold ... 485,094
Bicycle, A. H. Kempe ... 484,857
Bicycle brake, R. C. Fay ... 484,953
Bicycle support, J. J. Muller ... 484,941
Bill holder, S. F. Woody ... 484,904
Bin. See Flour bin.
Bit. See Bridle bit.
Blind, inside window, J. W. T. Gilliam ... 484,957
Block. See Ceiling block. Differential block.
Board. See Game board.
Boiler, J. Caball ... 485,087, 485,088
Boiler flue protector, steam, H. H. Nieman ... 485,112
Boiler setting, M. F. Eaton ... 484,878
Boiler tube cutter, J. W. Fleming ... 484,852
Boilers, expanding device for use in making wash, Anderson & Huntington ... 485,078
Book-back, folding, W. H. Sugg ... 485,068
Book, duplicating check, J. Oldfield ... 485,132
Bottle closure, C. Ollendorff ... 485,052
Bottle, nursing, O. K. Newell ... 484,811
Bottle stopper, J. De Mars ... 485,093
Bottle stopper, B. F. Sanborn ... 485,139
Box. See Core box. Egg box. Hat box. Letter box.
Box strap, metal, S. C. Cary ... 485,150
Brake. See Bicycle brake. Car brake.
Brake handle, Fosburgh & Milligan ... 484,954
Brake shoes, art of and apparatus for making, C. T. Schoen ... 484,886
Brick and tile machine, J. J. Kulage ... 484,897
Brick press, J. J. Kulage ... 484,896
Bridges, expansion bearing for, G. S. Morison ... 484,971
Bridle bit, L. F. Brown ... 484,994
Buckets, automatic latch opener for, C. P. Dole ... 484,782
Buckle, G. La Chapelle ... 485,104
Bureau, N. H. Clark ... 484,948
Burglar alarm, F. A. Goelze ... 485,101
Butter from milk, separating, C. G. P. De Laval ... 484,916
Butter package, C. L. Kneeland ... 485,011
Button, H. M. Nester ... 485,111
Button, A. E. Newcomb ... 484,810
Button cutting machines, etc., tool holder for, F. E. Beckwith, Jr. ... 485,147
Button fastening, E. A. Giles ... 484,853
Button machine, A. Phelps ... 484,976
Button setting machine, A. G. Wilkins ... 484,835
Cable crossing, H. A. Benedict ... 484,772
Calculating machine, F. C. Osborn ... 484,814
Calipers, inside, R. C. Nugent ... 484,813
Can. See Paper can. Shipping can.
Can, C. C. Lockstaedt ... 484,936
Cape and cap, combined, A. T. Aldrich ... 484,945
Car brake, G. R. Elliott ... 484,783
Car brake, F. I. Rego ... 485,135
Car brakes, slack adjuster for, W. H. Marshall, 484,859, 484,860
Car coupling, W. B. Clark ... 484,997
Car coupling, Johnson & Olander ... 485,042
Car coupling, W. Miggett ... 484,939
Car coupling, H. & B. Oakes ... 484,900
Car coupling, F. T. Russell ... 485,061
Car coupling, A. Schroeder ... 485,062
Car door, S. W. Gross ... 485,007
Car driving mechanism, C. W. Hunt ... 484,914
Car fender or guard, W. W. Baxter ... 484,989
Car heating and ventilating system, J. A. Healy ... 485,036
Car seal, A. P. Travis ... 485,070
Car slack adjuster, W. H. Marshall ... 484,858
Car, sleeping, S. M. Charles ... 485,151
Carbonating liquids, art of and apparatus for, C. A. & J. Schneible ... 484,901
Carburetor, J. Clingman ... 484,949
Card, playing, J. W. Hyatt ... 484,798
Carding engine, W. P. Canning ... 484,928
Carding engine flats, protector for the ends of the clothing of, W. P. Canning ... 484,846
Carriages, lock for the wheels of children's, J. A. Birkbolz ... 484,873
Carrier. See Egg carrier. Hose pipe carrier. Thrashing machine straw carrier.
Cartridge crimping machine, M. A. Twitchell ... 484,868
Cash indicator and recorder, G. R. Burt ... 485,086
Cash register and indicator, E. H. Murdock ... 484,917
Cash register and indicator, J. J. Webster ... 484,887
Ceiling block, J. J. Green ... 484,911
Chain making machine, F. F. Ellis ... 484,909
Chocolate, etc., apparatus for automatically compressing, P. Guerin ... 484,790
Cigarette machine, V. H. Bazerque ... 485,146
Cistern cleaning device, E. C. Davis ... 485,092
Clamp. See Rubber dam clamp.
Clasp. See Anti-friction clasp.
Clothes drier, F. P. Hendricks ... 484,931
Coin-controlled machinery, W. H. Dutton ... 484,908
Condenser and feed water heater, C. Grohman ... 485,031
Condenser and purifier, steam, R. W. Dugan ... 485,004
Converter, W. A. Baldwin ... 484,770
Cooler. See Air cooler. Liquid cooler.
Core box, M. A. Mills ... 484,940
Corn husking machine, S. E. Morral *et al.* ... 484,808
Cotton gin, roller, Montague & Pross ... 485,015
Coupling. See Car coupling. Whiffletree coupling. Wire coupling.
Cover for kettles, etc., J. Doty ... 485,095
Cover, kettle, J. Shilling, Jr. ... 484,824
Crane, S. S. Babbitt ... 484,870
Crib, folding, J. Perry ... 484,975
Cultivator, W. S. Miller ... 485,108
Cultivator, Perkins & Cronenberg ... 484,815
Cultivator shovel, S. M. Graumlick ... 484,789
Current generators, regulation of alternating, G. Pfannkuche ... 485,054
Curry comb, A. C. Decker ... 484,848, 484,849
Cut-out, automatic, C. E. Sanford ... 484,865
Cutter. See Boiler tube cutter. Meat cutter.
Cycle wheel, R. C. Fay ... 484,952
Damper, W. H. Packham ... 485,053
Decanting bottles, apparatus for, F. Moog ... 485,050
Dental instrument, C. W. Jones ... 485,110
Differential block, H. W. Rusgrove ... 485,115
Digger. See Potato digger.
Diving dress and helmet, A. E. Stove ... 484,885
Door spring and check, J. Wolf ... 484,838
Draught equalizer, C. S. Ruef ... 485,138
Draught equalizer, S. H. Tinsman ... 485,144
Drawing maps and plots of ground, apparatus for, A. Bolding ... 484,905
Drier. See Clothes drier. Garbage drier.
Drying apparatus, H. W. Rappleye ... 484,821
Egg box, D. Neefus, Jr. ... 484,863
Egg carrier and holder, C. W. Costellow ... 484,876
Electric converter, L. Gutmann ... 484,959
Electric generator, magneto, S. Eversbed ... 484,785
Electric search light, L. Hills ... 484,964
Electrical switch, G. Binswanger ... 485,028
Electrolytic process and apparatus, H. Blackman ... 484,990
Elevator, Hanson & Bergman ... 485,034
Engine. See Rotary engine. Traction engine.
Evaporating apparatus, O. B. Stillman ... 484,831
Evaporator. See Fruit evaporator.
Excavator, H. P. Bennett ... 485,084
Exercising machine, E. Leamy ... 485,047
Feed trough, I. S. Swetland ... 485,022
Feeding salt to animals, device for, T. B. Stephens ... 485,142
Fence, H. J. Beam ... 484,872
Fender. See Car fender.
File and perforating appliance, combined portable bill and letter, J. W. Grantland ... 485,102
Files, means for and method of designating document, G. H. Ball ... 485,025
Filter, W. M. Deutsch ... 484,781
Filter, faucet, G. F. Aishton ... 485,024
Finger ring, L. J. Heintz ... 484,793
Finger rings, machine for marking or stamping, W. H. Peckham ... 484,918
Firearm lock, L. Jonson ... 485,043
Fireplace, gas log, F. E. Backus ... 485,079
Flour bin and sifter, Davis & Harwell ... 484,780
Fly frame stop motion device, W. P. Canning ... 484,776
Fly frames, bottom cone lifting device for, W. P. Canning ... 484,845
Folding machine, S. C. McKinney ... 485,130
Forceps and tractor, combined, E. J. Howe ... 485,039
Forks, apparatus for cleaning, F. Lehmann ... 485,048
Fruit cutting machine, J. Burns ... 484,985
Fruit evaporator, W. C. Gilham ... 484,910
Game apparatus, E. Dungey ... 484,950
Game board, I. L. Conkling ... 485,029
Garbage drier and burner, F. Cain ... 484,774
Garment supporter catch, J. M. Rabitte ... 484,819
Gas generating apparatus, C. W. Isbell ... 485,009
Gas machine, L. J. Phelps ... 485,134
Gate. See Swinging gate.
Generator. See Electric generator. Steam generator.
Glassware, ornamental pressed, J. Haley ... 485,032
Glove and garment fastener, F. E. Hall ... 484,792
Glove fastener, A. G. Mead ... 484,807
Gold and other metals from their ores, separating, G. J. Atkins ... 484,869
Grain binder, E. M. Kellogg ... 485,157
Grater, nutmeg, H. G. Gilbert ... 484,880
Grinding mill, G. Schock ... 484,884
Grinding pan, A. J. Taylor ... 485,069
Grip device for machinery, intermittent, T. J. Reamy ... 485,058
Hammer, power, J. Canning ... 484,775
Handle. See Brake handle.
Hanger. See Pipe hanger.
Harness machine, Steinbach & Shafer ... 485,065
Harrow, W. Sobey ... 485,020
Harrow and pulverizer blade, R. L. Lukens ... 484,969
Harvester discharge mechanism, Stroud & Corey ... 484,923
Hat box, H. J. Newman ... 484,812
Hat rack, A. L. Van Benschoten ... 484,886
Heater. See Portable safety heater. Steam heater.
Heel blank beveling machine, F. E. Wilder ... 484,833
Hinge, spring, J. Wolf ... 484,839
Hoisting device, self-locking, O. Hillerscheid ... 484,932
Holder. See Bill holder. Label holder. Penholder. Sash holder. Ticket holder.
Hook. See Snap hook.
Horseblanket, E. Chamberlain ... 484,996
Horse boot, C. A. Rabn ... 484,820
Horseshoe nails, machine for making, D. F. Williams ... 484,836
Hose elevating apparatus, A. O. Muhlstein ... 485,129
Hose pipe carrier, J. M. Harper ... 484,961
Hymn indicator, J. H. Buchanan ... 485,122
Ice cutting machine, W. J. Pine ... 485,114
Ice manufacturing apparatus, J. Buckner ... 485,149
Incrustation preventer, W. H. Wilson ... 484,837
Indicator. See Cash indicator. Hymn indicator.
Inhaler, M. S. Woodward ... 484,944
Ink well, W. E. Lewis ... 484,803
Insect trap, W. Amos ... 485,077
Insulator, C. T. Lee ... 485,106
Insulator for electric railway conductors, C. T. Lee ... 485,105
Intrenching tool, M. A. Luther ... 484,806
Invalid's adjustable back-rest, J. Parker ... 484,974
Iron from ore, separating, H. H. Eames ... 484,877
Ironing board cover, M. S. Everett ... 484,951
Ironing machine, L. H. Watson ... 484,925
Jars or vessels, self-fastening rim for, H. Cone ... 484,779
Kettle, steam jacketed, S. H. Emmens ... 484,784
Kneading machine, dough, L. Durand ... 485,096
Knife for cutting the rope used in boring artesian and oil wells, W. A. Lloyd ... 484,804
Knitting machine needle, C. B. M. Sprowles ... 485,021
Knitting machine, warp, G. Buhlmann ... 484,844
Knob attachment, W. A. G. Ashley ... 485,145
Knob attachment Doebler & Bryant ... 485,154
Knob attachment, F. H. Richards ... 485,137
Label holder, E. E. Smith ... 484,902
Lace fastener, shoe, B. F. Lynch ... 484,899
Lamp, incandescent, F. S. Smith ... 484,825
Lamp, self-extinguishing hydrocarbon, S. A. Johnson ... 485,041
Lantern, magic, E. I. S. Hart ... 484,854
Lantern, signal, J. Wall ... 485,071
Leak stopper, W. F. Beart ... 485,121
Letter box, house door, J. H. Wolfsheimer ... 484,985
Light. See Electric search light.
Liquid cooler, H. C. Gardner ... 484,955
Liquids with gases, apparatus for treating, G. Lunge ... 485,126
Locomotive feed apparatus, I. H. Raynor ... 485,056
Log loader, E. J. Fulgbum ... 484,788
Loom shedding mechanism, G. W. Stafford ... 484,922
Mash stirrer, G. Schock ... 484,883
Match heading composition, J. Klein ... 485,103
Measuring device, liquid, W. H. Beecher ... 485,026
Meat cutter, Woodruff & Snow ... 484,987, 484,988
Metal strips, apparatus for hardening, Logan & Stevens ... 484,968
Meter. See Air or gas meter.
Mill. See Grinding mill. Rolling mill. Windmill.
Mirror, portable, W. Q. Prewitt ... 484,818
Miter cutting machine, D. H. Brenner ... 484,874
Mixer. See Paint mixer.
Moulding machine presser foot or bar, F. L. Creighton ... 485,153
Mosquito canopy, A. T. Vernon ... 485,117
Multiple switchboard systems, test circuit for, C. E. Scribner ... 484,867
Net making machine, W. J. Hooper ... 484,893
Nickel, treating minerals containing, J. De Coppet ... 484,875
Nursery bag, M. J. Forshew ... 485,098
Nut lock, E. Jobanson ... 484,894
Nut lock, I. Wolfe ... 485,120
Ore separator and amalgamator, F. J. Hoyt ... 484,933
Ore treating apparatus, H. B. Meech ... 484,861
Organ, cabinet, M. Clark ... 484,929
Padlock, E. A. Judd ... 484,895
Paint mixer, P. Faust ... 484,851
Paint pigment from ores, producing, Smith & Ludwig ... 485,063
Pan. See Grinding pan.
Paper bag machines, etc., mechanism for delivering bags from, A. C. Getten ... 485,006
Paper can, A. T. Cwerdinski ... 485,158
Paper, machine for the manufacture of lace, B. Kar fiol ... 484,966
Paper pulp digester, Curtis & Jones ... 484,999, 485,000
Paper weight and calendar, combined, A. D. Palmer ... 485,133
Penholder, perforated, F. M. Libby ... 484,967
Picker. See Berry picker.
Pin. See Tent pin.
Pin fastening, T. Fahrner ... 485,005
Pipe elbow, O. H. Lawrence ... 485,124
Pipe hanger, M. J. Hanna ... 485,033
Pipes and pipe fittings, joint or coupling for, C. R. Schmidt ... 485,116
Planter, corn, O. Boll ... 484,991
Plastic materials, machine for shaping and moulding, O. R. Chase ... 484,777
Plow attachment, C. B. Thornton ... 484,943
Portable safety heater, J. House ... 485,008
Post driver, J. McLandsborough ... 485,051
Potassium carbonate, making, P. Romer ... 484,921
Potato digger, A. A. Pratt ... 484,817
Potato digger, S. N. Washburn ... 485,118
Press. See Baling press. Brick press.
Printer's quoin, A. Camerun ... 484,907
Printers' rules and leads, machine for cutting, F. Wesel ... 484,984
Projectile, J. J. McIntyre ... 484,862
Pulley, split, C. C. Lockstaedt ... 484,935
Pulp producing apparatus, J. B. Carter ... 485,090
Pump, J. P. Lahm ... 484,898
Punch, J. M. Fairfield ... 484,891
Puzzle, C. H. Rickert ... 484,882
Rack. See Hat rack.
Radiator, W. Scott ... 485,018
Rail fastening, T. W. Fay ... 485,097
Railway cross tie, W. M. Hewitt ... 484,855
Railway fish plate, set screw, and nut lock therefor, J. P. McGuire ... 484,809
Railway grip mechanism, cable, J. H. Robertson ... 484,920
Railway point and signal apparatus, interlocking, F. A. Atkinson ... 484,840
Railway system, electric, J. H. Pendleton ... 484,919
Railway track sanding apparatus, A. A. Whipple ... 484,926
Railways, apparatus for carrying ships, etc., upon, W. R. Knipple ... 485,044
Railways, closed conduit for electric, B. F. Sutton ... 484,924
Refrigerating apparatus, D. L. Holden ... 484,913
Refrigerating compound, W. C. Trussell ... 484,983
Register. See Cash register.
Ring. See Finger ring.
Rolling mill, H. Aiken ... 484,767
Rolling mill guide device, H. Aiken ... 484,768
Rolling mill plant, E. L. Clark (r) ... 11,280
Roofing compound, S. Herbert ... 484,794
Rotary engine, F. M. Bailey ... 484,769
Rubber dam clamp, N. Kuns ... 484,800
Saddle, barness, P. Ballentyne ... 484,771
Saddle, barness, S. S. Kurtz ... 484,801
Sash holder, J. B. Okey ... 485,131
Saw gin, B. F. Browne ... 484,906
Scraper, wheeled, P. M. Broadfoot ... 485,085
Screen. See Window screen.
Secondary battery, W. Main ... 485,013
Separator. See Ore separator.
Sewage purifying apparatus, E. E. Scruby ... 484,823
Sewing machine, boot or shoe, Gooding & Keith ... 484,958
Sewing machine quilting attachment, J. C. Galloway ... 485,100
Sewing machine take-up, Snitzer & Kuehn ... 485,019
Sewing machine thread unwinding device, M. B. Reigh ... 485,136
Shades to rollers, attaching window, E. F. Hartshorn ... 484,962
Shearing and punching machine, combined, G. Van Wagenen ... 484,832
Shipping can, reinforced, F. Westerbeck ... 485,119
Ships, construction of, A. P. Bliven ... 484,888
Show stand, F. M. Morrow ... 485,109
Shutter worker, Nickerson & Fleet ... 484,972
Sifter, flour, L. Scruggs ... 484,980
Slate shaving machine, H. & E. Kurtz ... 484,802
Smelting or reducing plant, J. Rourke ... 484,942
Snap hook, F. J. Herrick ... 485,037
Soap, J. Niese ... 485,113
Sodawater apparatus, W. H. Collins ... 484,889
Soldering, electric, E. E. Ries ... 485,017
Speaking tube, L. Strouse ... 484,982
Spring. See Door spring.
Stable, feed, D. Haifley ... 484,791
Stand. See Show stand. Wash stand.
Steam generator or evaporator, G. W. Baird ... 484,946
Steam heater, T. Fearon ... 484,787
Stockings, knitted, L. N. D. Williams ... 485,073
Stone or body, spectrum-colored, J. Jacobson ... 484,934
Stopper. See Bottle stopper. Leak stopper.
Stove, cooking, J. Marce ... 485,049
Strap. See Box strap.
Surgical instruments, etc., sterilizer for, E. Boeckmann ... 484,927
Suspenders, E. Davis ... 485,123
Swinging gate, C. M. Clary ... 484,847
Switch. See Electrical switch.
Syringe, vaginal, T. H. Maddux ... 485,107
Table, J. R. Jordan ... 484,905
Tag making machine, A. C. North ... 484,973
Tea kettle, J. Naber, Jr. ... 485,016
Telephone support, G. V. Benjamin ... 485,027
Telephonic transmitter, A. T. Collier ... 484,778
Tent pin, A. S. Comstock ... 484,998
Thermal circuit changer and protective appliance, H. A. Rhodes ... 484,822
Thill support, T. B. Woodward ... 485,023
Thrashing machine straw carrier, J. H. Fulton ... 485,096
Ticket holder, A. P. Dewey ... 485,002
Tie for bags, boxes, etc., D. G. Stone ... 485,067
Tie plate, W. Goldie ... 485,030
Tin from tin plate waste, separating, H. C. W. Harmsen ... 485,035
Tire, cycle, Fane & Lavender ... 484,786
Tire, vehicle wheel, L. K. McClymonds ... 485,110
Tobacco, hand of leaf, G. Falk ... 484,930
Tongue support, W. B. Johnson ... 484,856
Tool, J. Boatner ... 485,148
Top, gyroscopic, J. J. Hardy ... 484,960
Torpedo net, W. W. Winship ... 485,074
Torpedo placer, Peifer, Jr., & Johnston ... 484,864
Toy, S. F. Estell ... 484,850
Toy cannon, C. W. Lucius ... 484,805
Traction engine, D. S. Stewart ... 484,828 to 484,830
Trap. See Animal trap. Insect trap.
Trolley pole catcher, M. M. Wood ... 484,986
Trough. See Feed trough.
Trousers, pattern for draughting, A. F. Mead ... 485,014
Tube. See Speaking tube.
Type finishing machine, T. M. Kenney ... 484,915
Umbrella, F. A. Burnam ... 484,773
Valve and joint, C. S. Bavier ... 484,843
Valve, engine slide, J. D. Stark ... 484,903
Valve, globe, W. J. Quinn ... 485,055
Valve levers, stop for throttle, G. E. Messer ... 484,938
Valve, steam-actuated, T. G. Laney ... 485,046
Vaporizer, G. D. Lynch ... 485,127
Vehicle, C. Comstock ... 485,091
Vehicle starter, J. W. Lee ... 485,125
Vending machine, coin-controlled, G. L. Slater ... 485,140
Vent for liquid receptacles, F. W. Polle ... 484,816
Ventilation, system of house, F. P. Smith ... 485,141
Ventilator, G. H. Ennis ... 484,879
Ventilator, C. Redpath ... 485,059
Violin bow frog, J. A. Houlihan ... 485,038
Wagon brake lever, G. P. Riester ... 485,060
Waist, Z. Demarest ... 485,001
Warmer, body, G. D. Baily ... 485,080
Wash stand, G. H. Gere ... 484,956
Wash stand, A. Janzon ... 485,040
Washing machine, J. H. Bates ... 484,871
Washing machine, D. Gardner ... 484,892
Washing machine, J. C. Thomas ... 485,143
Watch balances and hair springs, mechanism for timing and adjusting, G. E. Hunter ... 484,797
Watch balances and hair springs, system for adjusting to temperature, G. E. Hunter ... 484,796
Water closet flush valve, E. Herdegen ... 485,155
Water closet tank siphon, Wilkins & Blesch ... 484,834
Wells, sand trap for artesian, B. F. Smith ... 485,064
Wheel. See Cycle wheel.
Wheel rim trimming machine, R. Hoopes ... 485,156
Wheel scraper, T. L. Aveling ... 484,841
Whiffletree coupling, B. D. Druen ... 485,003
Wick raising device, H. L. Smith ... 484,981
Windmill, E. J. Barber ... 485,082
Windmill, S. M. Hopkins ... 484,795
Windmill, B. T. Stauber ... 484,826
Window screen, J. Rich ... 484,978
Wire, barbed, J. D. Curtis ... 484,890
Wire coupling, W. E. Banta ... 484,842
Wire netting machines, detector stop motion for, E. S. Bond ... 484,992
Wire stretcher, L. W. Stokely ... 485,066
Wire stretcher and splicer, J. F. Price ... 484,851
Woven fabric, elastic, M. Picot ... 484,977
Wrench, S. Cook ... 485,152
Wringer gear guard, Momburg & Dallmann ... 484,970

DESIGNS.

Banner, J. M. Joy ... 21,927
Bowl, sugar, H. Berry ... 21,921, 21,922
Box cover, S. D. Lux ... 21,923
Carriage body, C. H. Palmer, Jr. ... 21,935
Curtain pole bracket, C. W. Smith ... 21,930 to 21,932
Curtain roller bracket, M. J. Matthews ... 21,929
Finger ring, J. H. Fink ... 21,926
Glove, J. Kayser ... 21,918
Handle for spoons, etc., A. H. Ullrich ... 21,919
Match box, S. Zinn ... 21,924
Perfumery holder, J. Markell ... 21,925
Potato digger fork, H. O. Putnam ... 21,934
Spoon, E. M. Black ... 21,920
Tablecloth, F. S. Pinkus ... 21,928
Valve for basins and bath tubs, W. H. Graham ... 21,933
Wall paper, C. Booze ... 21,908 to 21,917

TRADE MARKS.

Cigarettes, National Cigarette and Tobacco Company ... 21,894
Cigars, C. Daehn ... 21,893
Cigars, Hollenden Hotel Company ... 21,896
Cigars, Silver State Cigar Company ... 21,890
Electro-curative apparatus, Electrolibration Company ... 21,892
Italian cloths, mohair serges, and similar goods, J. W. Goddard & Sons ... 21,889
Oil for bicycles, lubricating, A. Cook's Sons ... 21,891
Painter's smalt, W. C. Estes ... 21,887
Pianos, F. G. Smith ... 21,895
Pins, straight, Plume & Atwood Manufacturing Company ... 21,888
Pipes, earthen sanitary, H. Knowles ... 21,898
Sewing machines, New York Sewing Machine and Manufacturing Company ... 21,897
Spoons, forks, knife handles, and the like, metal, F. C. Lamy ... 21,899

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 25 cents. In ordering please state the name and number of the patent desired, and remit to Munn & Co., 361 Broadway, New York.

Canadian patents may now be obtained by the inventors for any of the inventions named in the foregoing list, provided they are simple, at a cost of $40 each. If complicated the cost will be a little more. For full instructions address Munn & Co., 361 Broadway, New York. Other foreign patents may also be obtained.

© 1892 SCIENTIFIC AMERICAN, INC.