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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 This is for our information and not for publication.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. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. 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.

(7512) J. H., Jr., asks how to produce hydrogen and oxygen from water by an electric current, also which is the cheapest way to produce hydrogen and oxygen. A. The decomposition of water by the electric current is fully explained in Sloane's "Electrical Toy Making," price \$1 by mail. There is a cut of the apparatus; so you can easily repeat the experiment. The cheapest mode of producing hydrogen is by the action of hydrochloric or sulphuric acid on zinc. The cheapest way to make oxygen is by heating manganese dioxide and potassium chlorate in a retort. These processes are fully described in Remsen's "Chemistry."

(7513) W. J. L. asks: 1. What fluid expands and contracts most by heat and cold? Have been of the opinion that mercury does, as it is used mostly for thermometers. A. There are few, if any, substances, liquid at ordinary temperatures, which expand and contract so little by heat as does mercury. We do not know what liquid expands most; but ether stands very near the head of the list in that respect, expanding more than eight times as much as mercury. Mercury is used in thermometers because of its high boiling point (610° Fah.) and low freezing point (39° Fah. below zero). 2. Also kindly inform me if it will expand and contract equally as well if inclosed in brass, iron, or other metals instead of glass. A. Mercury expands just the same in one dish as in another. Its expansion could not be seen except in a transparent dish. Mercury cannot be kept in brass, copper, lead, zinc, tin and others, since it combines with and dissolves them. It can be kept in an iron vessel.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted OCTOBER 18, 1898, AND EACH BEARING THAT DATE.

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

Table listing inventions with names and dates. Includes Agricultural boiler, Air brake, Axle cutter, Baking pan, Band cutter, Barrel cleaner, Barrel, knockdown, Bearing ball, Bearing mechanism, Bearing roller, Bearing, thrust, Bearing, vehicle, Bearings, separator for ball, Beater machine for opening textile materials, Beer kegs, Air supply and vent device for, Bell, bicycle, Bell, bicycle, Bicycle, C. S. Beebe, Bicycle brake, Bicycle brake, Bicycle cyclometer attachment, Bicycle drive and brake mechanism, Bicycle driving mechanism, Bicycle governor, Bicycle lamp and parcel holder, Bicycle pedal toe clip, Bicycle propelling mechanism.



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Table listing various mechanical and industrial inventions with names and dates. Includes Bicycle saddle, Bicycle saddle, pneumatic, Bicycle stand, Bicycle support, Bicycles, etc., lamp bracket and brake for, J. K. Van Brunt, Bicycles, etc., saddle for, A. J. Leimbarg, Billiard cushion, M. Bensinger, Binder, temporary, P. Faifer, Blast furnace, J. W. Nesmith, Boat detaching device, B. Lobee, Bolt fastening, expansion, J. Dean, Bonnet or hat, R. A. Bliss, Bootjack, J. Anderson, Boring and turning mill, G. W. Moreton, Bottle, non-releasable, P. J. Scharbach, Bottle stopper, U. L. Rife, Bottle stopper, E. J. Schindehutte, Box fastener, J. P. Robertson, Brick cleaning machine, A. Krause, Bridges, safety gate for draw, P. Bonus, Bridle bit, C. H. Shepard, Bristle dragging machine, A. S. Miles, Brominating apparatus, A. De Figanieri, Broom handle coupling, Thorp & Normart, Broom head, J. J. Eck, Brush cutting machine, M. Maxon, Button, separable, J. E. Hill, Buttonhole opener, S. F. Hardy, Cable stopper, R. Simot, Cake cutting machine, P. D. Harton, Can opener, R. W. Clarke, Candy, dish composed of, Mugrauer & Totzauer, Car coupling, P. Brown, Car coupling, J. H. Whitfield, Car coupling, W. D. Widders, Car door, O. L. Reeves, Car door, grain, C. J. Jeppesen, Car door, grain, S. L. Trueblood, Car, dumping, C. P. Truesdell, Car, electric self loading street cleaning, A. J. Reynolds, Car fender, street, G. A. Parmenter, Car step, extension, M. Maxon, Car ventilator and air supplying device, J. C. Fleming, Car wheel, self oiling, S. Watt, Cars, flexible uncoupling means for railway, G. Groobey, Carbirds and metals or alloys, simultaneously producing, H. Aschermann, Card punching machine, W. Cochran, Cards, machine for operating on, D. E. Hunter, Carding machine feeding machine, T. R. Marsden, Cash register, J. P. O'Neal, Catalytic material, etc., W. H. Porter, Cell door locking and indicating mechanism, J. H. Van Dorn et al, Chain cover and gear case, revolving, W. E. Gilbert, Chair, H. B. Bangs, Chair iron, C. C. & F. Trapp, Chairs, ventilated auxiliary seat for, D. H. Van Devanter, Checkrein holder, C. M. Hinsdale, Chimney top and ventilator, R. Blum, Chimney top draught regulator, B. B. Lewis, Churn, W. S. Knox, Cistern cleaner, G. H. Lynds, Claw bar, Z. Wiggs, Cleaning device, J. R. Dever, Clothes hanger or press, E. P. McConnell, Clothes hat, and display rack, rotary, J. F. Finan, Clothes rack, adjustable bracket, A. F. Casey, Clutch, S. M. Cutter, Clutch sprocket, Bird & Carroll, Coat holder, C. Benesh, Coffee pot, T. S. Hubing, Coin freed machine, M. Hommel, Convertible chair, E. L. Thompson, Copying press, G. F. Ballou, Copying press, A. B. Dick, Coupling, See Car coupling. Pipe flange coupling, Crane, J. W. Guernsey, Crank and shaft, combination, P. L. Hussey, Crate, E. S. Shellhouse, Crutch tip, O. J. Mason, Cultivator, planter, and fertilizer distributor, Curtain fixture, G. H. Forsyth, Cuspidor, S. Smyth, Cutlery handle, J. N. Stanley, Cutter, See Axle cutter. Band cutter. Rotary cutter, Cutting machine, rotary, D. S. Clark, Dental chair best rest, A. W. Browne, Dental engine, A. E. Macdonald, Dental fountain cuspidor, W. N. Avery, Desk, combination, G. W. Crocker, Jr., Desulphurizing apparatus, A. De Figanieri, Digger, See Potato digger, Dilator, thermal, J. R. Hamilton, Discharge openings of receptacles, closing device for, L. Hirt, Display device, sample, M. Steinthal, Door fastener, C. M. Perrier, Doors, corner joint for screen, Ayres & Eibel.

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(Continued on page 286)



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