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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 This is for our information and not for publication.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.

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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.

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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.

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