

Business and Personal.

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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 This is for our information and not for publication.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.

(7681) H. J. T. C. M. W. and others who desire information in regard to the extermination of dandelions and other weeds in lawns. We have referred this matter to the Department of Agriculture, and the following answer is given by Lyster H. Dewey, Assistant of the Division of Botany, Department of Agriculture. A. Where perennial weeds, such as dandelion, lance-leaved plantain, and yellow dock, are scattered through lawns, probably the most economical method for destroying them is repeated spudding, that is, cutting them off about two inches below the surface of the ground with a spud. Spuds may be obtained from hardware dealers, or a cheap and efficient spud may be made by mounting a one inch chisel in a hoe handle. Another method for destroying weeds of this character is to treat them with crude carbolic or sulphuric acid, the acid being applied with a machine oil can with a spout about 2 1/2 inches long so that the operator does not have to stoop to place the acid in the middle of the rosette of leaves. About 5 drops of crude sulphuric acid or a half a teaspoonful of crude carbolic acid will be sufficient to kill a dandelion or plantain. Where the soil is not alkaline the dose can probably be made smaller than this. For annual plants such as peppergrass, speedwell, chickweed, and shepherd's purse, there is no satisfactory remedy except pulling them up or hoeing them out, putting in new seed or sod. Care should be taken to prevent annual weeds from going to seed in and around lawns. In all cases where weeds are removed by any method, efforts should be made to encourage the growth of grass so as to prevent the further growth of weeds. The land should be kept enriched and seeds sown in all bare places. Extreme care should be exercised to have the lawn grass seed free from weed seeds. It is generally best to sow only one kind of lawn grass, as the mixed lawn grass seeds are much more likely to contain weed seeds. Furthermore a lawn composed entirely of one kind of grass makes a much prettier sward than one composed of several kinds.

(7682) F. J. H. writes: I understand that the atomic particles of a gas tend to get away from each other. What bearing has this on the definition and universality of the law of gravitation? A. Your conception that "atomic particles try to get away from each other" is somewhat at fault. They have no inherent tendency to do so. The tendency is an impressed tendency, and heat is the cause of the tendency. The hypothesis is that the particles of a gas are in constant motion and are colliding with each other, after which they rebound and move away in another line till they strike a second particle or the wall of the containing vessel, etc., ad infn. Take away all heat, and this motion would cease. No connection between this and gravitation has been shown.

(7683) M. N. W. asks: In telephonic communication is it the machine and not the actual voice that is heard? Or is it not the voice itself that is heard through the medium of the machine? A. In telephonic communication, the sound waves produced by the voice of the speaker cause the diaphragm of the transmitter to vibrate. These vibrations have the same period as the waves of the voice. The vibrations of the diaphragm cause the electric current through the line to vary in the same periods. The variation of the electric current sets the diaphragm of the receiver into vibration, and this vibration is received by the ear of the listener as sound. The voice is not transmitted. A current of electricity is transmitted through the line. A voice could not be heard from Chicago to New York. It is, however, very wonderful that the vibrations of the diaphragm of the receiver reproduce the qualities of the voice of the person speaking so perfectly that the person can be recognized by the reproduced tones.

NEW BOOKS ETC.

WRIGHT'S AUSTRALASIAN, INDIA, CHINESE, JAPAN TRADE DIRECTORY AND GAZETTEER, INCLUDING CANADA, SOUTHERN AND CENTRAL AMERICA, MEXICO, WEST INDIES AND SOUTH AFRICA. Fifth Edition. New York: George Wright, 121 William Street, 1899. Pp. 3579. 8vo. Price \$10.

A business directory is always an important book of reference, and the volume before us, in many respects, the most remarkable business directory of any we have seen. Some idea of the enormous size of the book, and the labor necessary in compiling it, may be gained from the fact that it contains 3579 pages. The various sections are printed on different colored paper, rendering a search for any desired country easy. The trades are classified under each city and town, and it will be found to have a great advantage over even local directories. The book is one which will prove very useful to all who are in any way engaged in buying and selling in foreign countries. It is a most admirable book and one which we can confidently recommend.

NOTICE SUR LE PROCÉDÉ DE M. CHARLES JANET POUR SE RENDRE INSUBMERSIBLE EN MER. Beauvais. Author's Edition. 1898.

ETUDES SUR LES FOURMIS, LES GUÊPES ET LES ABELLES. Note 13. Sur le Lasius Mixtus, l'Antenophorus Uhlmanni, etc. Limoges. 1897.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending JUNE 30, 1899. AND EACH BEARING THAT DATE.

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

Table listing inventions with patent numbers and names of inventors. Includes items like Acid chromate of lead, Air and gas engine, Air brake safety joint, Alarm, Amalgam washing chamber, etc.

Advertisements.

ORDINARY RATES. Inside Page, each insertion, - 75 cents a line Back Page, each insertion, - \$1.00 a line For some classes of Advertisements, Special and Higher rates are required. The above are charges per agate line—about eight words per line. This notice shows the width of the line, and is set in agate type. Engravings may head advertisements at the same rate per agate line, by measurement, as the letter press. Advertisements must be received at Publication Office as early as Thursday morning to appear in the following week's issue.

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Table listing inventions with patent numbers and names of inventors. Includes items like Bed bottom spring machine, Bed removing machine, Beet pulp drier, Bicycle, Bicycle fastener, Bicycle handle bar, Bicycle propelling mechanism, Bicycle propulsion, Bicycle saddle support, Bicycle wheel, Binder, order blank, Blackboard, Boiler, Bolster, Boot or shoe files, Bottle, non-refillable, Bottling rack, Box, See Hutter box, Card receiving box, File box, Folding box, Box or package, D. P. Sherman, Bracket, See Shade roller bracket, Brick and making same, fire, A. C. Ponton, Briquets, apparatus for making, F. J. Muller, Brush, J. J. Howe, Brush, electric hair, A. H. Burnard, Bucket, dumping, J. F. O'Rourke, Buckle, bump band, J. W. Kirkman, Bugzy Jack, C. D. Bowls, Ruggy top, A. Tesch, Burglar alarm, C. Johnson, Hydrocarbon burner, Burner, See Gas burner, Hydrocarbon burner, Butter box, export, Hart & Bradwell, Button or fastener, C. H. Goodwin, Calendar, perpetual, E. 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La Fountain, Jr, Clothes wringer, H. U. Ackerman, Clove or nutty resainers, recleaning attachment for, F. Bender, Clutch, Allen & Moreau, Clutch couplings, device for uncoupling, T. H. Hatton, Cock having igniting tube, gas, J. F. C. Jurgens, Cog in mortise wheels, tool for marking, J. N. Grove, Coin controlled holding and locking device, W. T. Summers, Collodion, making caustic, A. Camnitzer, Comb cutting machine, G. S. Walker, Compound engine, W. H. Johnson, Controller, T. Von Zweigbergk, Conveyor or elevator, endless, G. C. Getchell, Copper by means of electrolysis, producing basic phosphate of, C. Luckow, Copy holder, J. H. McBride, Cornstalk cutter, three row, Wilson Ven, Coupling, See Car coupling, Thill coupling, Two-way pivotal coupling, Crate, collapsible poultry, J. A. Stauffer, Cultivator, F. Gross, Cupboard catch, E. B. Mallory, Currycomb, C. Heany, Cutter, See Cornstalk cutter, Strapping engine, Cycle handle bar, A. W. Waters, Dam or revetment, G. S. 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