

geometrical definitions, even those which have been accepted by generations of geometers, are often weak, if not absolutely incorrect.

TREATISE ON PATENT ESTATE. By Thos. B. Hall. Cleveland: Ingham, Clarke & Co. 1888. Pp. 240. Price \$3.

Although many manuals of patent law have lately been issued, yet in the little work before us a somewhat different treatment is accorded the subject than that which is usually given in manuals.

TURNING LATHES. Edited by James Lukin, B.A. London: E. & F. N. Spon. 1888. Pp. vi, 160. Price \$1.

This book is an illustrated treatise on lathe work, designed for use in technical schools. The minuteness and practical nature of the directions given, however, make it of value to amateur turners.

The Cosmopolitan Magazine of New York City in its May issue introduced a decided novelty in the way of illustration, consisting of four pages of beautifully colored pictures in embellishment of Moncure D. Conway's rather recondite article on "The Pedigree of the Devil."

Ferns and Wild Flowers of the Rocky Mountain Region, pressed and well mounted for preservation, are now being furnished by Mr. P. J. Atkinson, of Colorado Springs, Col. They are bound in books varying in size from 3 1/4 by 4 1/4 inches to the standard botanical size of 11 1/2 by 16 1/2 inches.

Any of the above books may be purchased through this office. Send for new catalogue just published. Address MUNN & Co., 361 Broadway, New York.

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 This is for our information, and not for publication.

(1) F. J. R. writes: I am making an induction coil 3 x 1 1/4 inches, and would like to know what sizes of wire I should use, also whether a bundle of iron wires is very much better than a solid iron core?

(2) O. K. writes: I have constructed a simple electric motor, as described in SCIENTIFIC AMERICAN, March 17, 1888, and connected it with an Edison light circuit, and it melts the brushes.

(3) J. C. H.—Surface tension or the attraction of cohesion is the principal reason why mercury does not distribute itself all along the tubes when thermometers are laid horizontally.

(4) W. McD. writes: In reference to the construction of the simple electric motor, could not insulated wire be substituted for the shellac-covered wire

used in armature? A. Cotton-covered magnet wire is recommended in the article referred to. The shellac insures a more perfect insulation, and at the same time serves to cement the different layers of wire together.

(5) C. A. L. asks how to make and put up a mechanical telephone good for a distance of a quarter of a mile. A. For an acoustic telephone use small twisted wire cable picture cord.

(6) J. C. writes: I am making an induction coil on the general principles of one described in SUPPLEMENT, No. 569. Primary coil is finished, and works very well, but I would like to have a little information.

(7) Ph. L. S. asks: How is soluble Prussian blue prepared? A. Add a solution of ferrous sulphate to a solution of potassium ferrocyanide, and expose the precipitate to the air till it becomes blue, and wash it till all the soluble salts are washed away.

(8) W. M. M. asks the best kind of paint to use on a tin roof, something that will stop leaks as well as preserve the tin.

(9) C. R. M. asks a good cement for leather belting. A. Take of common glue and isinglass equal parts, soaked for ten hours in just enough water to cover them.

(11) G. A. D. writes: In the West a great deal of grain is bound with twine made from manilla. Has there ever been any effort made to manufacture binder twine from flax, and what success has it had?

(12) C. E. L. asks: What will drive out large black ants from a pantry? A. Red pepper, sulphur, kerosene, carbolic acid, and similar substances are efficacious in driving ants away.

(13) O. R. R. writes: 1. There is a notion prevalent in this vicinity that, in order to have good well water, the well must be open so as to expose the water to the air, and also that some way of raising the water which agitates it is to be preferred.

(14) F. G. asks how to drill by hand a one-half or three-fourths inch hole through a plate of glass one-fourth of an inch thick, for a Wimshurst electrical influence machine.

(15) G. E. T. asks: Can you give general proportions for increasing the capacity of the dynamo machine described in SUPPLEMENT to 24 or 32 16 candle power lamps?

(16) G. W. G. asks: What will destroy roaches or drive them away? A. Use fresh borax and Persian insect powder continuously until the pests are exterminated.

(17) W. C. T. asks if common putty, such as used to put in window glasses, could be used to make the porous cup of a galvanic battery.

(18) N. P. K. asks how to polish black marble. A. The process embraces five stages, beginning with the use of coarse materials and finishing with dry rags.

(19) C. S. asks: What will stick celluloid to paper, wood, glass, etc.? A. Try the following: Gum shellac 1 ounce, camphor 1 ounce, alcohol 4 ounces. Dissolve and filter.

(20) C. S. W. asks a recipe for making compressed yeast, also called German yeast. A. It is obtained by straining the common yeast in breweries and distilleries, until a moist mass is obtained, which is then placed in hair bags, and the rest of the water pressed out until the mass is nearly dry.

(21) J. H. N. asks how to make a varnish of bleached shellac to be used in the place of the common shellac dissolved in alcohol.

(22) R. C. asks (1) the proper name to apply to a person who makes insects a study. A. Entomologist. 2. A recipe for an effective insect powder.

(23) A. H. T. asks: 1. What chemical action takes place when milk sours, and why? A. The milk sugar which it contains decomposes into lactic acid. This process is known as lactic fermentation.

(24) N. A. E. asks how to make rose perfume or rose water. A. Dissolve attar of roses, 6 drachms avoirdupois, in strongest alcohol hot, 1 imperial pint; throw the solution into a 12 gallon carboy, and add 10 gallons pure distilled water at 180°-185° Fah.

(25) L. L. U. asks: How much coal will it take to melt 3,000 pounds of light scrap iron in a cupola 20 inches diameter? A. From 700 to 1,000 pounds anthracite.

(26) A. F. M. desires a receipt for taking the rust off drawing instruments without injuring them. A. Mix 10 parts of tin putty, 8 of prepared buck's horn, and 25 of spirits of wine, to a paste.

TO INVENTORS. An experience of forty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequalled facilities for procuring patents everywhere.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted June 12, 1888, AND EACH BEARING THAT DATE.

Table listing various inventions and their patent numbers, including items like 'Adding and writing machine, A. C. Ludlum', 'Adjustable joint, G. C. Sweet', 'Air compressor, W. T. Forster', etc.