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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 This is for our information and not for publication.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.

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Minerals sent for examination should be distinctly marked or labeled.

(6625) R. M. J. says: Can you give the formula for a cement for cloth? A. Use thin sheet gutta percha, which can be purchased of the manufacturers, especially for tailors' use. Place a piece of the tissue between the layers of cloth to be cemented and press with a hot iron. This causes the cloth to firmly adhere on account of the melting of the gutta percha.

(6626) E. E. R.—The compound leaf sent by Mr. E. E. Roberts, of Winthrop Harbor, Illinois, is that of the Kentucky coffee tree (Gymnocladus canadensis). It is a slender tree with rather large bipinnate leaves, not uncommon in the West and South and closely related to the uncommon honey locust. The generic name refers to the stout branches destitute of spray or thorns. It belongs to the pulse family and the pod is woody, pulpy within, with from 6 to 8 large compressed bony seeds.

(6627) C. W. S. asks: 1. In gasoline engines is gasoline vaporized or atomized when injected into the cylinder ready to be fired? A. Gasoline vaporizes at ordinary temperatures with a moderate evaporating surface with a pressure of from one to two inches of water, which is sufficient to cause the vapor to flow through a pipe to the cylinder, where it is drawn in with the proper proportion of air by the movement of the piston. 2. Is compressed air used to atomize the gasoline, if that is the form it is injected into the cylinder? A. The gasoline is not atomized by compression. This method is not reliable. 3. What test gasoline is generally used? A Gasoline of 0·65 to 0·70 specific gravity (water 1) is used. 4. For 10 hours' work, one horse power actual, how much gasoline is used and its cost per gallon? A. About one pint of gasoline per brake horse power per hour, at a cost of about 15 cents per gallon. 5. What quantity of gasoline is generally forced into the firing chamber at one time for a one horse power? A. One part gasoline vapor to 10 parts air is the best proportion, drawn in by the piston to the extent of from ¼ to ⅛ of the stroke. 6. How or by what principle is the inflamed gasoline prevented from passing from piston chamber back into the supply pipe? A. By a sliding port valve which controls the inlet and exhaust. 7. In building a motor to propel a carriage, what would be the weight of two cylinders of two horse power each? This is to include only the piston rod, etc., and frame of sufficient strength to support them. A. The gasoline motor must have a fly wheel and for 2 horse power should weigh 300 pounds. 8. Would four metal wheels the size of ordinary carriage wheels and constructed similar to bicycle wheels, only of slightly heavier material, be sufficient to sustain combined weight of frame, cylinders, and four to six adults? A. Wheels should be heavier than ordinary carriage wheels. A complete motor carriage for six persons would weigh 1400 pounds. 9. Are pneumatic tires of sufficient strength to withstand such a pressure? A. Pneumatic tires will not stand the pressure. Solid rubber tires are used. 10. What would be the approximate cost of such a motor, also of frame and such wheels as described? A. The cost of such carriages as made is about $1,200. The motive power would cost about $400. 11 Would the cylinders become heated to such an extent when vehicle was in motion as to require cooling, and what is the general method of reducing this increased temperature? A. The cylinder requires a water jacket and a self-circulating water-cooling tank arranged on the carriage. See illustrated description of automobile carriages in SCIENTIFIC AMERICAN SUPPLEMENT, No. 979, and SCIENTIFIC AMERICAN, July 20, 1895.

(6628) E. W. C. asks how to etch on steel for tool marking. A. For etching brands and marks on polished steel surfaces, such as saws, knife blades, and tools, where there are many pieces to be done alike, procure a rubber stamp with the required design made so that the letters and figure that are to be bitten by the acid shall be depressed in the stamp. Have a plain border around the design, large enough to allow a little border of common putty to be laid around the edge of the stamped design to receive the acid. For ink, use resin, lard oil, turpentine and lampblack. To ¼ pound of resin put 1 teaspoonful lard oil; melt, and stir in a tablespoonful of lampblack; thoroughly mix, and add enough turpentine to make it of the consistency of printer's ink when cold. Use this on the stamp in the same manner as when stamping with ink. When the plate is stamped, place a little border of common putty around and on the edge of the stamped ground. Then pour within the border enough acid mixture to cover the figure, and let it stand a few moments, according to the depth required, then pour the acid off. Rinse the surface with clean water; take off the putty border, and clean off the ink with turpentine. Use care not to spill the acid over the polished part of the article. For the acid, 1 part nitric acid, 1 part hydrochloric acid, to 10 parts water by measure. If the effervescence seems too active, add more water.

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Bedstead, O. E. A. Wiessner ... 24,711
Bottle, J. Proeger ... 24,695
Bowl for tea sets, C. C. Wientge ... 24,696
Broom ferrule, A. Walrath ... 24,705
Card mount, F. E. Hastings ... 24,693
Carpet, A. Bunel ... 24,719, 24,720
Carpet, N. S. Stewart ... 24,716 to 24,718
Coin receptacle, G. & W. Benze ... 24,694
Display stand, J. D. Goddard ... 24,702
Game board, T. H. B. Pierce ... 24,701
Glass vessel, H. T. Broden ... 24,697, 24,698
Handle tube, G. H. Dippo ... 24,704
Heater, Cullen & Grimes ... 24,712
Hinge, F. E. Ranney ... 24,707
Printed fabric, C. M. Porter ... 24,715
Ring, C. Knapp ... 24,690
Sash lock, A. A. Shields ... 24,706
Sewing machine frame, J. F. Hardy ... 24,710
Stove, H. G. Hagey ... 24,713
Toothpick, F. McChesney ... 24,691
Tops, flier for aerial, Cain & Skinner ... 24,692
Towel rack case, G. M. & W. A. Proctor ... 24,708
Trimming, F. Hassenpflug ... 24,714
Trunk corner iron, J. M. Schwerin ... 24,703
Type, font of printing, Rosenow & Schmobl ... 24,699
Type, font of printing, J. West ... 24,700
Watch dial, J. O. Jacot ... 24,689

TRADE MARKS.

Ale, Anheuser-Busch Brewing Association ... 27,088
Bibles, National Publishing Company ... 27,083
Canned goods, Sprague, Warner & Company ... 27,099
Cigars, tobacco, and certain named groceries, Alkire Grocer Company ... 27,087
Flour, wheat, Lambert & Smith ... 27,100
Furnaces and furnishings therefor, Brightman Furnace Company ... 27,103
Hardware, machines, and miscellaneous goods, Marshall-Wells Hardware Company ... 27,102
Knives, razors, scissors, and all kinds of cutlery and edge tools, Needham, Veall & Tyzack ... 27,101
Matches, Continental Match Company ... 27,086
Medicines, certain named, Mothers Salve Company ... 27,092
Mouth washes, and dentifrice, Oakley Soap and Perfumery Company ... 27,095
Ointments, pills, plasters, and specifics for all ailments, H. D. Brandreth ... 27,096
Pants, and men's vests, boys' woolen knee, I. Scheinman ... 27,084
Paste for removing spots and stains, A. Falk ... 27,089
Raspberries, J. T. Thompson ... 27,098
Refrigerants, chemical, Freezol Company ... 27,090
Remedies for blood, liver, stomach, skin, and lung diseases, W. S. Rice ... 27,091
Remedies for internal and external use, E. R. Reynolds ... 27,094
Remedy for alcoholism and nervous diseases, R. L. Van Devanter ... 27,093
Remedy for corns, J. D. Goddard ... 27,097
Shoes, leather, Gregory, Shaw & Company ... 27,085

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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