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JULY, 1897. (No. 141.)

TABLE OF CONTENTS.

- No. 1. Perspective elevation, in colors, and floor plans of a Colonial residence at Overbrook, Pa. A unique design. Mr. Thomas P. Lonsdale, architect, Philadelphia, Pa.
No. 2. Colonial house at Richmond Hill, N. Y., recently erected at a cost of \$4,200. Perspective view and floor plans. An attractive and pleasing design. Architects, Messrs. Haugaard Brothers, Richmond Hill, N. Y.

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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 This is for our information and not for publication.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.

(7179) W. D. M. says: Is shellac considered a good bicycle wood rim cement? If so, how is it prepared for that purpose? Also, how should it be applied? A. Cement for Tires.
1. Shellac..... 2 oz. av.
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Red lead..... 90 gr.

(7180) G. R. S. says: Will you kindly inform me through your Notes and Queries of a cleaner and polish for tan shoes that will not injure the leather? A. We have published directions for making preparations for cleaning and polishing shoes, in our SUPPLEMENT, Nos. 1063, 1073, 1078, ten cents each.

(7181) J. C. McK. writes: I have been constructing an induction coil along the following lines and would be pleased to have your opinion as to the spark we might reasonably expect from the same. Length of coil inside heads will be a little over 13 inches. Three sections of 4 inches each. Size of coil when finished, 7 inches. Size of core, 1 1/4 inch. Wire on primary, No. 16, two layers. Wire on secondary, No. 38, 100 layers approximately. Winding, 116 to inch. No. 200 thread (cotton) between, making it a solid mass. Amount of wire on secondary, 5 pounds. Insulation between layers is two thicknesses of finely paraffined paper. The winding is very nearly perfect. We have one pound of wire on now, and a 10,000 ohm magnet, will not ring through it, although some current passes. As No. 38 wire has a resistance of a little over 10,000 ohms to the pound, the insulating must be very near perfect.

ton covered in two layers of primary, but additional current can be used to overcome your larger resistance. In doing so more heat will of course be developed, and the coil cannot be run as long at a time. With an odd number of sections in secondary, one end of the wire will come out on inside of spool. An even number of spools should have been used. The larger the number of sections, the less the risk of breaking down the insulation between the turns of secondary, because there is less difference of potential between adjacent parts of the coil.

(7182) R. E. R. writes: I have made the caustic potash battery you describe in "Experimental Science." I used a cast iron kettle for the cell after heating the water. I added the potash (1/2 pound), which was in stick form, and after this was thoroughly dissolved I put in a pound of black oxide. The sheet zinc is three feet long and six inches wide, rolled in spiral shape. The inside of kettle seemed to corrode to a considerable thickness. Can you account for it? Would not a copper pall be a good substitute for the kettle? A. The cell with oxide of copper in an iron dish, and a solution of caustic potash or soda, must have a thin layer of heavy petroleum oil on the top of the liquid to prevent the action of the carbonic acid of the air upon the potash or soda. You do not mention using this. In the action of the cell a dark brown or nearly black mud is formed from the black oxide. This may be what you have thought to be the corrosion of the kettle. If the kettle corrodes, it will be seen by the formation of holes or pits in the iron. This should not take place. The zinc of this battery, for best effect, should be amalgamated. This is difficult with ordinary sheet zinc; probably impossible with so large a piece as you use. This battery is properly to be used on closed circuit; that is, it should be left with current flowing through a large resistance when you are not at work with it.

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INDEX OF INVENTIONS

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JULY 20, 1897,

AND EACH BEARING THAT DATE.

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

- Acetanillid, manufacturing, F. W. A. Frerichs... 586,551
Adjustable spring, J. Wichmann... 586,645
Air car, A. Brodbeck... 586,589

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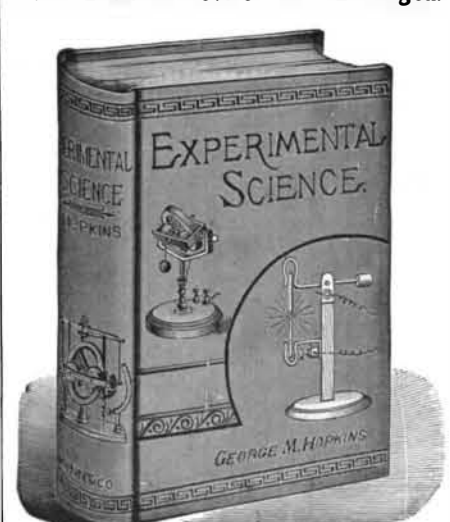
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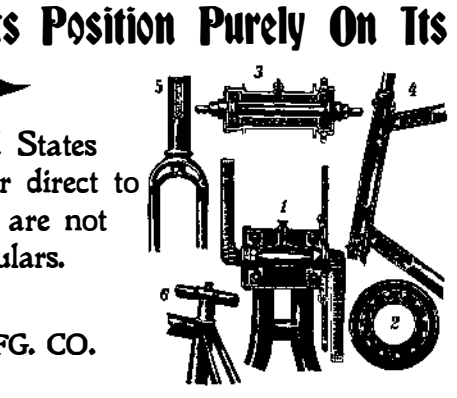
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