

since it gives the latest practical information on that subject.

THE OLD SOUTH OF NEWBURYPORT. Edited by Rev. H. C. Hovey. Boston: Damrell & Upham. Pp. 223.

We acknowledge with pleasure the receipt of a neatly printed and illustrated little volume entitled "The Old South of Newburyport." The book puts into lasting form the addresses of the different speakers at the one hundred and fiftieth anniversary of the founding of this historic edifice.

SCIENTIFIC AMERICAN BUILDING EDITION

AUGUST, 1897. (No. 142.)

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- No. 1. Two perspective elevations (one in colors) and floor plans of a cottage at Binghamton, N. Y., recently erected at a cost of \$3,500 complete. Mr. Alfred Bartoo, architect, Binghamton, N. Y. An attractive design in the English style.
No. 2. A cottage at Scranton, Pa., recently erected for Mr. E. Healy, at a cost of \$7,000 complete. Perspective elevation and floor plans. A modern design well treated. Mr. Edward H. Davis, architect, Scranton, Pa.
No. 3. A residence at Prohibition Park, S. I., recently erected for Mr. J. W. Hoban, at a cost of \$3,300 complete. Excellent design of modern American style, with Colonial treatment and detail. Mr. John Winans, architect and builder, Prohibition Park, S. I. Two perspective elevations and floor plans.
No. 4. A suburban school house at Overbrook, Pa., designed to resemble a private residence instead of a public building. An exceedingly attractive design. Mr. William L. Price, architect, Philadelphia, Pa. Two perspective elevations and floor plans.
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No. 6. Cottage at Clinton Township, N. J., recently erected for the Protective Building and Loan Association, at a cost of \$1,500 complete. Two perspective elevations and floor plans. Messrs. Hobbs Brothers, architects, Newark, N. J. A neat design.
No. 7. A residence at Larchmont, N. Y., recently erected for Miss Flint. Two perspective elevations and floor plans. The design presents a good, modern, sensible house of pleasing appearance, treated with Colonial detail. Messrs. G. E. Harney and W. S. Purdy, architects, New York.
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No. 12. Washington Monument, Philadelphia. Presented to the city by the State Society of the Cincinnati and unveiled by President McKinley. One of the most important and imposing monuments ever erected in the United States. Cost \$250,000. Designed by Mr. Rudolph Siemering, the German sculptor.
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Notes & Queries

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References to former articles or answers should give date of paper and page or number of question.
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(7185) L. F. writes: I am about to build a compound permanent magnet (built up of plates of sheet steel) 2 inches thick, 1 1/2 inches wide and 3 inches long, and would like to know what kind of steel would be the best for the purpose, the best way to magnetize it, and the best way to age it? Some fellow workmen (of the Chicago Edison Company) of mine and myself are in an argument over these questions and would like to have you settle the same. A. The best tool steel is usually taken for magnets. Its fine and uniform grain adapts it for this use. Magnetize the separate bars before they are finally fastened together and keep them carefully with their poles in the same direction, so that when assembled the parts shall all have their poles similarly directed. A coil of wire and an electric current will magnetize the bars most strongly. The coil should only be large enough to allow the bar to slip easily through it. The coil may have several layers, as the magnetizing power depends on the number of ampere turns, and the current used must of course be such as the coil will carry. The common method is to put the bar into the coil till the center of the coil is at the middle of the bar. Turn on the current, and move the bar to and fro in the coil, stopping finally at the center. Then turn the current off. A large bar would need to be treated longer than a small one. To make the magnetism as permanent as possible, this rule should be followed: Make the magnets glass hard, then place in steam at the boiling point of water, 212°, for 20 to 30 hours, or longer for very massive magnets. Then magnetize as fully as possible, and heat again for five or more hours in steam. Much information regarding permanent magnets is to be found in S. P. Thompson's "Electromagnet," chapter 16, pages 381, 411.

(7186) P. W. C. asks: What material is best suited for making the brushes of a Wimshurst machine? Have heard that tinsel was good, but I don't know what sort of tinsel to use. A. For the brushes of a Wimshurst machine tinsel is the best material, since it is softer than fine brass wire and will not cut away the tin foil disks so rapidly. Get the best tinsel cord used for military embroidery. It will be well to test it with an electric current to find if it is made of metal. Some tinsel cord does not contain metal enough to conduct electricity. It is made of tinsel paper, and would be worthless for your purpose.

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