

storage and shipment to market. It would be well if every one who has it in mind to start, or has the opportunity to care for, an orchard, or a less number of valuable trees, would first master the subject as it is set forth in this book.

**THE CIVIL SERVICE GUIDE.** By L. M. Bryan. New York: Dick & Fitzgerald. Pp. 112. Price \$1.

A manual for applicants for government positions under the United States civil service examinations is here presented in revised form. It contains rules, specimen examination questions, requirements of applicants, salaries, etc., with full instructions for applicants for positions in all branches of the classified civil service of the United States, including the government printing department, the post office, custom house, and internal revenue service, as well as the departmental business and the non-classified consular service. It cannot fail to be useful to intending applicants for positions.

The Superior Drill Company of Springfield, O., make of a neatly bound pocket memorandum book, with celluloid title and calendar, an appropriate advertisement of their business.

# SCIENTIFIC AMERICAN BUILDING EDITION

AUGUST, 1897.—(No. 142.)  
TABLE OF CONTENTS.

- 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.
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- 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.
- No. 5. Residence at Larchmont, N. Y., recently erected for Mr. Henry A. Van Liew. Pleasing design, with many excellent features. Two perspective elevations and floor plans; also a view of stable, with ground plan. Mr. H. C. Stone, architect, New York City.
- 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.
- No. 8. Residence at Prince's Bay, Staten Island, recently erected for A. W. Browne, at an approximate cost of \$3,000. A rustic design of much artistic merit. Perspective elevation and floor plan. Mr. F. W. Beall, architect, New York City.
- No. 9. Cottage at Forest Hill, N. J., recently completed for Mr. Charles W. Clayton, at a cost of \$3,800 complete. An attractive design. Perspective elevation and floor plan. Mr. H. Galloway Teneyck, architect, Newark, N. J.
- No. 10. Residence at Evanston, Ill., recently erected for Mr. C. B. Congdon. A substantial and dignified design. Two perspective elevations and floor plans. Messrs. A. M. F. Colton & Son, architects, Chicago, Ill.
- No. 11. A pulpit of the Cathedral of Treves. Half page engraving.
- 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.
- No. 13. Miscellaneous Contents: Palais Royal to be demolished.—Largest hotel on earth.—A quick piece of work.—Drawing materials, surveyors' instruments, etc.—Statue of Mercury at the Nashville Exposition, illustrated.—Compo-board.—Improved heater and furnaces, illustrated.—Stair builders' goods.—Architects' and builders' directory.

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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. 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.

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(1788) G. R. B. writes: As I intend to make the small eight light dynamo described in SCIENTIFIC AMERICAN SUPPLEMENT, No. 600, but wish to use it as a regular shunt wound machine, could you kindly let me know what gage wire I should use on the fields and armature, and about how much? I should like to get the same voltage and amperage; perhaps greater amperage, if possible. I should like to put one length of wire on the fields, instead of in sections. A. Use No. 16 American wire gage in the armature, with 10 turns in each coil, making a total of 480 conductors in the armature. Same sized frame as original. Use No. 20 A. W. gage in the field. On each field wind 1,200 turns, making a total of 2,400 turns. This gives about one ampere more than the original design. A field regulator or outside resistance should be used containing about 10 ohms.

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## INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

AUGUST 10, 1897,

AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

- Acid and making it, naphthylenediamin-sulfo, Rosenberg & Krecke, 587,757
- Acid, apparatus for producing carbonic, G. Treaner, 586,037
- Acid, obtaining oxalic, G. F. Zacher, 587,777
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- Armature, S. H. Short, 587,871
- Armature for dynamo electric machines, S. H. Short, 587,785
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- Ax. J. B. Latimer, 588,072
- Axle for vehicles, antifricition, S. W. Taylor, 588,032
- Bag, See Bicycle tool bag. Hot water bag.
- Bag holder, J. Littlejohn, 588,073

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Table listing various mechanical and industrial items with their corresponding page numbers or prices. Includes items like Basket making machine, Bearing, Bed, Belting, Belt, Bicycle, and various tools and machinery.

(Continued on page 126)



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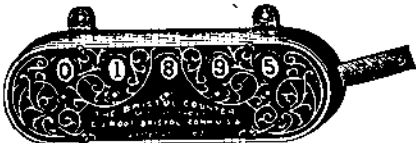
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