high standing. The present work, which is sure of a large sale, is intended to supplement "Steam Heating Problems," which was published in 1888. The new volume includes a description of some of the best expositions of heating and ventilating design as applied to modern structures of the most extensive kind, as well as a description of various problems arising in this department of building engineering. The book is profusely illustrated with large scale plans and details of some of the best known installations in the United States, and includes work done in the ordinary residence up to the largest and most expensive plant for heating public buildings and churches. The work can be especially commended for the excellence of these plans, which seem to leave nothing to be desired. It is to be regretted, however, that an index was not provided, for even the very full table of contents does not take the place of an index, with which all scientific and technical books should be provided.

PHYSIOLOGY. By A. Macalister, LL.D., M.D. London: Society for Promoting Christian Knowledge. 1895. Pp. 123. 18mo. 59 illustrations. Price 40 cents.

This book belongs to the "Manuals of Elementary Science" series. The author has endeavored to present in a simple and concise form some of the elementary principles of the physiology of man. As the space at disposal is small, the author has selected such portions of the subject as are calculated to be of use to the general reader who is desirous to possess an intelligent appreciation of the nature of the parts of the body and their several functions.

HOW TO STUDY STRANGERS BY TEMPERAMENT, FACE AND HEAD. By Nelson Sizer. New York: Fowler & Wells Company. 1895. Pp. 380. 8vo. 300 illustrations. Price $1.50 in cloth, paper 70 cents.

The author of this work has for more than half a century been engaged in the study of human character, and as the result of such long and varied experience has produced a book the object of which is to teach one how to read the character of the stranger or the friend. It is eminently practical in its teachings, simple and pointed in its language. The three leading features of the book are: I. The Analysis and Illustration of the Human Temperaments. II. Child Culture. III. Character Studies.

REPORT OF THE BOARD OF LIBRARY COMMISSIONERS OF NEW HAMPSHIRE. December 1, 1894. Concord, N. H. 1894. Pp. 77, 8vo.

SCIENTIFIC AMERICAN

BUILDING EDITION.

DECEMBER, 1895.—(No. 122.)

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1. Elegant plate in colors showing a residence in the Colonial style recently erected at East Orange, N. J., at a cost complete of $14,000. Three perspective elevations and floor plans, also an interior view. An excellent design well treated. S. W. Whittemore, architect, East Orange, N. J.
2. A Colonial house at Madison, N. J. Perspective elevation and floor plans. Cost complete $5,500. Architects, Messrs. Child & De Goll, New York City.
3. A Colonial dwelling at Montclair, N. J. Two perspective elevations and floor plans. Architect, W. E. Bloodgood, New York City. A unique design.
4. Two perspective elevations and floor plans of a house recently erected at Brick Church, N. J., at a cost of $2,700 complete. A pleasing design. Architect, Mr. F. R. Hassman, Orange, N. J.
5. View of the new City Hall, Philadelphia, which has been erected at a cost of over $20,000,000. The building is of white marble and covers four and a half acres. Is absolutely fireproof. The height of this building is 547 feet 3½ inches, being, with two exceptions, the highest building on the earth. The exceptions being the Washington Monument and the Eiffel Tower. The next highest building on earth is the Cologne Cathedral, which is 510 feet.
6. View of the facade of the magnificent new Boston Public Library, Boston. Architects, Messrs. McKim, Mead & White, New York City.
7. Residence at Bensonhurst-by-the-Sea, L. I. Two perspective elevations and floor plans. Cost complete, $8,500. Architect, S. S. Covert, New York City.
8. Perspective elevations and floor plans of a cottage at Oakwood, S. I., recently erected at a cost of $2,800 complete. An attractive design.
9. Miscellaneous Contents: Testing house pipes and drains.—A combination bathtub and washstand, illustrated.—The permanence of modern dwellings and public works.—An improved steam and hot water heater, illustrated.—Moving a large factory.—How to fix paper on drawing boards.—A quick water heater, illustrated.—Improved toilet room fixtures, illustrated.—A single track parlor door hanger, illustrated.—An improved furnace grate, illustrated.—Cements in mason work.—An improved furnace, illustrated.—A regenerative gas heater, illustrated.—Improved woodworking machinery, illustrated.

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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.

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(6671) W. B. McP. asks: 1. Is there any foundation for the theory of getting better health by sleeping with the head to the north? If so, why? A. It is doubtful if any particular benefit is derived from sleeping with the head to the north. Yet it has been asserted by nervous people that a difference was noticeable in their temper and composure with changes of sleeping position in regard to the magnetic polarity of the earth. 2. Where can I get the glass tubes, retorts and other implements necessary for a few simple experiments in chemistry? Is there any firm that manufactures them that issues a catalogue? A. Address Eimer & Amend, Third Avenue and Eighteenth Street, New York, for catalogue of chemical furniture and supplies.

(6672) W. F. C. writes: When steam boilers are full of water, is it possible to raise the temperature and pressure to a dangerous degree? If not, the water jackets surrounding gas engine cylinders might be filled in a similar way and the necessity of maintaining a continuous circulation of cold water avoided. A. There is danger in heating a closed boiler full of water. The expansion of the water would rupture the boiler if there were no safety valve. It is a common practice to use an iron open tank filled with water and connected with the water jacket of a gas or gasoline engine in such way that a continuous circulation of water through the cylinder jacket takes place, the large surface of the iron tank being sufficient for keeping the water cool.

(6673) J. W. says: I want to know what is the best way to keep the windows in a store from sweating and spoiling the goods. A. To keep frost, etc., off plate glass windows, keep the inside air dry, or inner sash tight, so that the air in window inclosure will be cold, and ventilated from the outside. A partial remedy is to have ventilating openings in the top of the window casing. A thin coat of pure glycerine applied to both sides of the glass will prevent any moisture forming thereon, and will stay until it collects so much dust that it cannot be seen through. Surveyors can use it to advantage on their instruments in foggy weather. In fact, it can be used anywhere to prevent moisture from forming on anything, and locomotive engineers will find it particularly useful in preventing the accumulation of steam as well as frost on their windows during the cold weather.

(6674) N. B. W. ask: 1. What is the best proportion of air and gasoline vapor for a gasoline engine? A. 25 to 40 volumes, according to the composition of the gasoline. 2. At what temperature will it explode? A. At a full red heat, say 2000° Fah. 3. Describe Tesla's electric motor. A. See our SUPPLEMENT, Nos. 692, 944, 1025.

(6675) H. A. W. asks how to make French mustard. A. The following is M. Lenormand's recipe: Flour of mustard, 2 lb.; fresh parsley, chervil, celery and tarragon, of each ½ oz; garlic, 1 clove (or head); 12 salt anchovies (all well chopped); grind well together, add salt, 1 oz.; grape juice or sugar to sweeten, and sufficient water to form the mass into a thin paste by trituration in a mortar. When put into pots a red hot iron is momentarily thrust into the contents of each, and a little wine vinegar added.

(6676) H. J. T. asks how to make gelatine capsules. A. Dissolve in a water bath 10 parts of gelatine, 2½ parts of sugar, 1¼ parts of gum arabic in 10 parts of water. Take iron pins, the lower ends of which are pear-shaped and slightly oiled, dip in this solution when it is lukewarm. When the gelatine films are congealed, detach them, and place in holes of the same size in wooden forms, to dry. The capsules are filled with the desired medicine and closed with a drop of the same solution.

TO INVENTORS.

An experience of nearly fifty 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 unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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Shaft, dumbwaiter or elevator, H. A. Winkopp.. 550,810
Shafting hanger, horizontal, J. J. Busenbenz.... 550,589
Shelf, swinging or hanging, J. Kunkel.... 550,830
Ship, J. Bluemel.... 550,580

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