

data given in some engineers' pocket-books and other books are largely from tests of small sticks, and it is shown that values for strength of timber frequently cited are far higher than may be obtained with full-size structural timbers.

The results disclose the interesting fact that sticks having knots and cross grain are generally less stiff than clear sticks, a fact that suggests that when very strong sticks and defective sticks are placed side by side in a structure, the result is that the weaker stick takes less than its share of load and the stronger and stiffer stick takes more.

The results of the tests are accompanied by reproductions of photographs showing the appearance of the timbers and by carefully prepared descriptions. The results are analysed and discussed in a manner which makes clear their significance. The bulletin will be of interest to all users of large-size timber pieces.

International Language and Science, 90 pages, 6 x 9, cloth; translated by F. G. Donnan, professor at the University of Liverpool, published by Constable & Company, Limited, 10 Orange Street, Leicester Square, London, W.C.

Written by scientific and literary men living in five different countries, this publication is intended to explain the present state of the question of an international auxiliary language, in favor of which many able arguments are set forth. The translator says that internationalization of thought is the motto of the twentieth century, the device on the banner of progress; and that this question of the final solution by the methods of science is one of the greatest of scientific problems.

In the first chapter, the author points out that all who are occupied with the reading or writing of scientific literature must have felt the want of a common scientific language and regretted the great loss of time and trouble caused by the multiplicity of languages employed in scientific literature. After recognizing the fact that a knowledge of German, French and English is no longer sufficient, the reader is convinced that the need for a common scientific language is great.

Able discussions are contributed on the necessary linguistic principles for the construction of such a language; on the application of logic to the problem; on the relationship of the international language to science; on the question of nomenclature; and on the subjects of reading, writing and speaking.

The observations are based upon seven years of careful investigation, and the translator expresses the hope that English-speaking men of science will not judge the question before a quiet and dispassionate examination.

The volume would add to the value of any engineer's book-shelf.—W.M.

Joint Outlet Sewer Report, by Alexander Potter, C.E., New York City. Size 6 x 9, pages 110.

This report embodies all the matter that appeared in the edition of 1905, and contains considerable new matter. Among this new matter is a synopsis of the Joint Sewer Laws, under which the Joint Trunk Sewer was constructed and is being maintained. This was written by Mr. Adrian Riker, Counsel for the Joint Meeting since its inception. It is of interest to note that the Passaic Valley Trunk Sewer Commission, which has been commanding a great deal of attention during the last few years, has formulated its laws after the laws governing the Joint Trunk Sewer. This is interesting because agitation for the Passaic Valley Sewer was started a number of years before the Joint Trunk Sewer was even thought of, and the fact that the sewer which forms the subject of the report which I am sending you, has been in successful operation for the last five years, is a tribute to the wisdom and zeal of those public-spirited men who gave their time and attention to the consummation of this important enterprise.

Another important matter dealt with in this report is that of sewer leakage, the experience of five years of maintenance clearly indicating that in a reasonably well constructed sewer the element of leakage is a progressively diminishing factor. Continuous gaugings of the flow in the sewer at numerous points give abundant testimony as to the truth of this assertion.

Another matter dealt with in the report is a discussion in connection with odors arising from sewers where house traps have been inserted between the sewer and the house vents throughout districts where it has been necessary to close up the perforations in the manhole covers.

The report contains full information as to costs and apportionments of costs. It is also fully illustrated with details of construction and photographs showing the progress of the work, and also contains a map of the district sewered, upon which is delineated the system of main trunk sewers and the laterals connected therewith.

The plan of apportioning the cost of the sewer was suggested by the writer and was based upon the capacity which it was assumed each municipality required, and the length of sewer necessary to serve each of the municipalities; or, in other words, the apportionment of cost was based upon the assumption of each town designing its own sewer outlet to a common point and each municipality sharing the cost of such joint sewers as could be used by it in the ratio of their respective capacities in the portions utilized by them. The maintenance, on the other hand, has been apportioned equally between all users, on the basis that, being a gravity system, the town contributing the largest volume to the sewer required no greater service than the town contributing a lesser amount. The experience of the last five years indicate that the flow from the larger towns requires less attention and maintenance than the flow from the smaller towns.

There are other facts in connection with this report which might be of interest to you and your readers.

The men most active in bringing this project to a successful completion were Mr. Francis Speir, Jr.; Adrian Riker, Esq.; and the writer, and it is interesting to note that these three have retained their identity with the Joint Trunk Sewer from its inception to the present time in the respective capacities of Chairman of the Joint Meeting, Counsel and Chief Engineer.

"Hydraulic Elevators," by Wm. Baxter, Jr., published by McGraw-Hill Book Company, 6½ x 10, 320 pp., \$2.50.

Attempting as he does to cover only one type of elevator, the hydraulic, the author has been able to go somewhat fully into the details of design, construction, and management of these. The book, on the whole, is intended rather as a help to the engineer in charge of the elevator already installed in a building rather than as a guide for those intending to install one, as little space is devoted to the comparison or criticism of the standard types. With the above-noted exception the author has gone very thoroughly over the ground. The diagrams of the assembled machinery are almost complete enough to be used as erection plans, and in addition to this sections are shown of each of the numerous valves and controls. Considerable space is devoted to the explanation of these diagrams, about half the book being taken up with the "kinetics" of the elevator's rather intricate mechanism. The author first deals with the most elementary principles of elevator design and traces the development of the hydraulic elevator from its primitive water-balanced "bucket in a well" type of the modern high-pressure, electrically-controlled one. The plunger type being so different in design is dealt with