

that was not based upon a large number of tests carried out under similar conditions so as to obtain an average that could be relied on. The immensity of the task may be understood when it is stated that 88,000 saturations and fire tests with complete attending records have been made of different thicknesses of 19 different varieties of wood and 46 chemical formulæ, requiring the constant application of the inventor and his assistants and running through a period of over six years.

One remaining question and a very important one is what effect has the fire-proofing treatment upon the structural strength of the wood. When the older methods of saturation whereby the wood was steamed and then subjected to pressure for long periods was the only one available, it was recognized that a compression of the cellular structure of the exterior layers of the wood took place so that the wood was distinctly weakened and the results for tensile strength and bending and breaking tests were accepted as necessarily lower than for the same wood untreated. With the superior method of impregnation now adopted, however, no such allowance is necessary and the treated wood is in no way inferior in strength to the untreated. Professors Mason and Bliss, of the University of New York, have made a large number of physical tests upon the wood treated by the Ferrell process and have established this important fact very fully. The whole matter however of the fire-resistant properties of wood treated by different processes together with physical tests upon the same is now under investigation by a Commission appointed by the 'Bureau of Building Construction of the City of New York' and I have no doubt that its report when published will throw much additional light upon this most important subject.

SAMUEL P. SADTLER.

PHILADELPHIA, July, 1902.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

TWENTIETH ANNUAL REPORT OF THE COMMITTEE ON INDEXING CHEMICAL LITERATURE.

THE Committee on Indexing Chemical Literature, appointed by your body in 1882, respectfully presents to the Chemical Section its Twentieth Annual Report, covering the ten months ending June 1, 1902.

WORKS PUBLISHED.

*A Bibliography of the Analytical Chemistry of Manganese, 1785-1900.* By HENRY P. TALBOT and JOHN W. BROWN. City of Washington, published by the Smithsonian Institution. 1902. 8vo. Pp. viii + 124. Smithsonian Miscellaneous Collections, Vol. XLI. (Number 1313.)

*Index to the Literature of the Spectroscope (1887-1900, both dates inclusive)* [continuation of the previous index by the same author published in 1888]. By ALFRED TUCKERMAN. Washington City, published by the Smithsonian Institution. 1902. 8vo. Pp. iii + 373. Smithsonian Miscellaneous Collections, Vol. XLI. (Number 1312.)

*Chemical Societies of the Nineteenth Century.* By HENRY CARRINGTON BOLTON. City of Washington, published by the Smithsonian Institution. 1902. 8vo. Pp. 15. Smithsonian Miscellaneous Collections, Vol. XLI. (Number 1314.)

This contains a list of the serials published by the societies, fifty-six in number, statistics of membership for 1900, etc.

*On a System of Indexing Chemical Literature,* adopted by the Classification Division of the U. S. Patent Office, by EDWIN A. HILL. *J. Am. Chem. Soc.*, XXII., No. 8; also *Chem. News*, Vol. 84, 202 et seq. Oct.-Nov., 1901.

*A Bibliography of Photography.* By Miss ADELAIDE M. CHASE, was begun in the February number of the *Photo Era*, published at Boston. It is confined to literature in English and does not include articles in photographic and chemical journals.