

everything is sacrificed to output, the blast pressures are higher than in this country, where they seldom exceed from 8 to 9 lb. per square inch, but the above figures are certainly higher than the highest we had associated with American practice. They throw light, however, on the performance of an American blast furnace erected in Middlesbrough some years ago which was worked by American engineers, and which blew so much iron ore out of the top of the furnace that it was put, and has remained, on the low pressures that are found to be suitable in English practice.

A few pages later we are informed that the temperature of the cementation furnace in the production of blister steel—a process in which the iron is never melted—is about 3000° F. This corresponds to 1650° C., which is nearly 150° C. above the melting point of iron. The author makes several unsuccessful attempts to spell the name "Siemens," the inventor of the open-hearth furnace. Sometimes he calls him Sieman; at others Siemans. On the whole, it is as well that he does not introduce metallurgical theory.

Chapters on equipment and fuel are followed by four others dealing with the various operations involved in hand forging. These are succeeded by two on welding and one on brazing. The remainder of the book is given up to the manufacture and treatment of the various kinds of tool steels, together with short chapters on art iron-work and calculations. At the end of each chapter are appended questions for review, of which the following is a fair specimen:—"What is carbon steel? What is air-hardening steel? What is high-speed steel? Tell how each differs. Tell how to harden and temper tools made from high-speed steel. Describe the working of high-speed steel in the forge fire. Describe the annealing of high-speed steel. Describe the grinding of high-speed steel." The chapter containing the information from which the foregoing questions are to be answered is less than four pages in length.

The author states that the methods described in his book have been "thoroughly tried out during ten years of experience in teaching and supervising manual training." His book therefore should contain much that is of value to those who are interested in such methods. We think, however—largely no doubt owing to the way in which it has been written—that it will appeal more to American than English readers, and chiefly because elementary education in this country, in spite of its shortcomings, is better than in America.

H. C. H. C.

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OUR BOOKSHELF.

A Plea for an Orderly Almanac. By A. Philip. Pp. 62. (Brechtin: Advertiser Office, D. H. Edwards, 1915.) Price 1s. net.

THE author indicates some minor changes that might be carried out without altering the existing calendar. He points out the inconveniences that arise from the present plan of arranging fixtures for (say) the "third Wednesday of the month." Such fixtures do not come in a regular order; the second Tuesday may either precede or follow the second Wednesday. This system offers little facility for adjusting dates so as to fit each other with a minimum of clashing.

The remedy proposed is to take the "trimestre," or three-monthly period, as our unit instead of the month. Each trimestre must contain twelve complete weeks from Sunday to Saturday, with odd days at the beginning, end, or both. If fixtures are arranged for definite days of these twelve weeks, their relative order is invariable, and the list can be prepared, once for all, so as to secure the maximum convenience. It is suggested that the trimestres should be: (i) March, April, May (92 days); (ii) June, July, August (92 days); (iii) September, October, November (91 days); (iv) December, January, February (90 or 91 days). These practically coincide with the four seasons, and the placing of the leap day at the end reduces its inconvenience to a minimum. In fact, the device of counting from March 1 is not new to astronomers, some tables having been drawn up on these lines.

The author points out a decided convenience that would result from beginning our national financial year on March 1, instead of April 1. It would avoid the anomaly that the financial year may contain two, one, or no Easters. The effect of these variations on the national income is quite appreciable, and has been pointed out in the House of Commons. He gives some suggestions for adapting wages, weekly insurance payments, and old age pensions to his scheme, and appends tables showing the incidence of his twelve-week periods up to the end of 1919.

A. C. D. CROMMELIN.

Flora of the Presidency of Madras. By J. S. Gamble. Part i. *Ranunculaceae to Aquifoliaceae.* Pp. 200. (London: West, Newman and Co. and Adlard and Son, 1915.) Price 8s. net.

In the review of Prof. Fyson's "Flora of the Nilgiri and Pulney Hill-tops" in NATURE for February 3, an account is given of the general scheme for local Indian floras. The "Flora of the Presidency of Madras" has now to be added to their number, the first part having been published at the end of January.

The "Flora" is being prepared by Mr. J. S. Gamble, late of the Indian Forest Department, well known for his book on Indian timbers, and is a model of what such a local flora should be. This