Bridge Company, and is now a professor in Sibley College, Cornell University, His experience, therefore, leads us to expect that his volume will contain much matter of service to structural draughtsmen, and that the treatment will be suitable for students. The early demand for a second edition is evidence that the author has been successful in his treatment, and this is confirmed by inspection of the text. The book does not pretend to deal with the mechanics of materials —the student is referred to other books for this —and the reader who has studied materials will find his knowledge drawn upon throughout the book in application to a large number of structures. Sufficient is given at every step to enable the student to understand which particular theory is being applied. There are practical examples, fully worked out, of every class of structure discussed, and the formulæ used in practice are explained clearly. A large number of exercises to be worked by students is included.

Although the methods of design are American, the British student and designer of structures will profit considerably by going through this volume. We have read chapters xvii. and xviii. with particular interest; these deal respectively with retaining walls and with bins for holding grain and coal; the latter chapter is exceptionally complete, and, as is usual throughout the book, contains typical examples worked out.

Rambles in the Vaudese Alps. By F. S. Salisbury. Pp. x+154. (London: J. M. Dent and Sons, Ltd., 1916.) Price *2s. 6d.* net.

MR. SALISBURY'S book gives a pleasant account of a summer holiday in 1908, spent at Gryon in unambitious excursions among the limestone Alps of the western Oberland. The fine views of such mountains as the Diablerets and the Grand Muveran, in the immediate neighbourhood, and the magnificent gable-end of the Dent du Midi on the other side of the Rhone, as they rise above slopes of green pasture and dark pine-wood, make this an unusually attractive district.

The author writes, not for geologists or botanists, but for lovers of mountain scenery and mountain flowers. As, however, he did not reach Gryon until the beginning of August, he was too late for the blossoms which, some five or six weeks earlier, make the meadows, from three to five thousand feet above sea-level, a carpet of many colours. These, in that month, have given place to less graceful kinds, such as the yellow and purple gentian, the white hellebore (*Veratrum album*), and the monkshood. But his visits to the summits and passes, some three thousand feet above the level of Gryon, were rewarded by such lovers of the mountain air as the *Dryas octopetala* and the alpine aster, the little blue gentians, and even the edelweiss. Some photographs of the flowers, by Mr. Somerville Hastings, add to the interest of the book, and it is one which the tourist who loves to linger rather than to hurry, and desires to learn a little about the plant world of the Alps, will find a useful and attractive companion.

LETTERS TO THE EDITOR.

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Zeppelin Notes.

As one who happened to be in a region which came in for attention from Zeppelin bombs, I have jotted down some of the points of more immediate interest which stand out from an experience in which everything was rather blurred:—

The bombs could be heard approaching as they rushed through the air. The whistling noise—a little like the tearing of calico or the noise made by a gigantic rocket—became a crescendo shriek of terrific intensity just before the bomb struck the ground and the explosion occurred. In the present instance I estimated the height of the Zeppelin as about 4000 ft., and, neglecting air resistance, this would give the bombs a final velocity of about 500 ft. per second. The actual speed was probably less than this, and is considerably less than the velocity of sound (1100 ft. per sec.), which accounts for the fact that the bombs can be heard before their arrival.

Standing as I was at about 200 yards from where one of the bombs fell, the noise of the actual explosion did not appear to be very loud. The reason is probably to be sought in the almost complete numbing of one's senses. All one could do was to stand stock-still and wait for the next bomb. The feeling was much the same as if one had been given a hard blow between the eyes with a bolster or some relatively soft object. I heard a piece of bomb "zip" past me, and afterwards found it embedded in a balk of timber about two yards from where I was standing. A huge cloud of black smoke arose into the air, reminding one of the photographs of Jack Johnson shells bursting.

The results of an explosive bomb show curious freakishness, especially in enclosed spaces. Evidently "pockets" of high pressure result in various directions, and the destruction is confined to the direction of these pockets. Considerable damage may be caused apparently by the air rushing in to restore the pressure after a high-pressure wave has passed forward. For example, one bomb fell near a small outhouse. The doors were blown bodily inwards—mostly owing to the hinges and frames breaking loose—yet the surrounding wall of the house was "started" outwards. One pane of glass in a window-frame disappeared, while an adjacent pane similarly situated was undamaged. The lid of a kettle was deftly blown off by the air wave going down the spout, the kettle being undamaged.

The bombs fell in soft marshy ground, and the effects of the explosion were very local. Apart from flying missiles, the danger zone did not appear to exceed 25 yards or so. Windows, about 15 yards away, on the side of an outhouse remote from the explosion were quite intact.

Pieces of one of the explosive bombs perforated some steel plates standing vertically about 10 yards away. The edges of the holes were rounded, and showed undoubted signs of fusion, due no doubt to the speed of the shearing. In one instance a piece of the phosphor-bronze casing of the bomb penetrated a steel plate more than 1 in. thick.

The holes caused in the soft clayey ground by the explosive bombs were approximately conical, some 10 ft. across, and about 4 ft. deep.

The incendiary bombs could be heard coming with