the peculiar formation known as “ the Hottentot-apron,” hyper­trophy of the nymphae (Tablier). No satisfactory explanation of these malformations has been offered. Steatopygia would seem to have been a characteristic of a race which once extended from the Gulf of Aden to the Cape of Good Hope, of which stock Bushmen and pygmies are remnants. The discovery in the caves of the south of France of figures in ivory presenting a remarkable development of the thighs, and even the peculiar prolongation of the nymphae, has been used to support the theory that a steatopygous race once existed in Europe. What seems certain is that steatopygia in both sexes was fairly wide­spread among the early races of man. While the Bushmen and Hottentots afford the most noticeable examples of its develop­ment, it is by no means rare in other parts of Africa, and occurs even more frequently among Bastaards of the male sex than among Hottentot women.

**STEDMAN, EDMUND CLARENCE** (1833-1908), American poet and critic, was born at Hartford, Connecticut, on the 8th of October 1833. He studied two years at Yale; became a journalist in New York, especially on the staffs of the *Tribune* and *World,* which latter paper he served as field correspondent during the first years of the Civil War; and was a banker in Wall Street from 1869 to 1900. His first book, *Poems, Lyrical and Idyllic,* appeared in i860, followed by successive volumes of similar character, and by collected editions of his verse in 1873, 1884 and 1897. His longer poems are *Alice of Monmouth: an Idyl of the Great War* (1864); *The Blameless Prince* (1869), an allegory of good deeds, supposed to have been remotely suggested by the life of Prince Albert; and an elaborate commemorative ode on Hawthorne, read before the Harvard Phi Beta Kappa Society in 1877. An idyllic atmosphere is the prevalent character­istic of his longer pieces, while the lyric tone is never absent from his songs, ballads and poems of reflection or fancy. As an editor he put forth a volume of *Cameos* from Landor (with T. B. Aldrich, 1874); a large *Library of* (selections from) *American Literature* (with Ellen Μ. Hutchinson, 11 vols., 1888-1890); a *Victorian Anthology* (1895); and an *American Anthology, 1787- 1899* (1900); the two last-named volumes being ancillary to a detailed and comprehensive critical study in prose of the whole body of English poetry from 1837, and of American poetry of the 19th century. This study appeared in separate chapters in *Scribner's Monthly* now the *Century Magazine,* and was reissued, with enlargements, in the volumes entitled *Victorian Poets* (1875; continued to the Jubilee year in the edition of 1887) and *Poets of America* (1885), the two works forming the most symmetrical body of literary criticism yet published in the United States. Their value is increased by the treatise on *The Nature and Elements of Poetry* (Boston,. 1892)—a work of great critical insight as well as technical knowledge. He died in New York on the 18th of January 1908.

. See Laura Stedman and G. Μ. Gould, *The Life and Letters of Edmund Clarence Stedman* (2 vols., N. Y., 1910).

**STEEL, FLORA ANNIE** (1847- ), English writer, was

born on the 2nd of April 1847, the daughter of George Webster. In 1867 she married an Indian civilian, and for the next twenty- two years lived in India, chiefly in the Punjab, with which most of her books are connected; her interest in the education of women, as an inspectress of schools, gave her a special insight into native life and character. Some of her best work is con­tained in two collections of short stories: *From the Five Rivers* (1893) and *Tales from the Punjab* (1894); while her most ambitious effort was her novel, *On the face of the Waters* (1896), describing incidents of the Indian Mutiny. She also wrote a popular history of India. Later works are *In the Permanent Way* (1897), *Voices in the Night* (1900), *The Hosts of the Lord* (1900), *In the Guardianship of God* (1903), *A Sovereign Remedy* (1906).

**STEEL CONSTRUCTION.** The use of steel construction in the erection of large buildings is the natural consequence of the conditions imposed upon owners of property lying within sections of large cities, and the result of the introduction of new materials and devices. Apart from the aesthetic considerations to which has been due the construction of spires, towers, domes, high roofs, &c., the form and height of buildings have always been largely controlled by a practical consideration of their value for personal use or rental. The cost of buildings of the same class and finish is in direct proportion to their cubic contents, and each cubic foot constructed is commercially unprofitable which does not do its part in paying interest on the capital invested. Until the latter half of the 19th century, these considerations practically limited the height of buildings on city streets to five or six storeys. The manufacture of the wrought-iron “ I ” beam in 1855 made cheaper fire-proof con­struction possible, and, with the introduction of passenger lifts (see Elevators; Lifts or Hoists) about ten years later, led to the erection of buildings to be used as hotels, flats, offices, factories, and for other commercial purposes, containing many more storeys than had formerly been found profitable. The practical limit of height was reached when the sectional area of the masonry of the piers of the exterior walls in the lower storey had to be made so great, in order to support safely the weight of the dead load of the walls and floors and the accidental load imposed upon the latter in use, as to affect seriously the value of the lower storeys on account of the loss of light and floor space. This limit was found to be about ten storeys. Various devices were successively made to reduce the size of the exterior piers. In 1881 the walls of a very large courtyard were constructed by building a braced cage of iron and filling the panels with masonry, a system of construction which had been used in the early part of the century for a tall shot-tower erected in the city of New York. Subsequently several buildings were erected in which the entire weight of the floors and roofs was carried by a system of metal columns placed against the inner surface of the exterior walls. the walls thus supported no load but their own weight, and were tied to the inner cage formed by the wall columns, interior columns, girders, and floors by anchors arranged to provide for the shrinkage of masonry in drying out which always occurs to a greater or less extent. By the use of this form of construction buildings were carried to the height of eighteen or nineteen storeys.

Iron or steel as a substitute for wood for constructive purposes was long thought to be fire-proof or fire-resisting because it is incombustible, and for this reason it has not only replaced wood in many features of building construction but is also used as a substitute for masonry. In time, however, it was realized that iron by itself is not fire-proof, but requires to be protected by means of fire-resisting coverings; but as soon as satisfactory forms of these were invented their development progressed hand in hand with that of iron and steel forms and combinations.

Buildings in steel are either of "skeleton" or “ cage ” con­struction. These terms may be defined as follows: In “ skeleton ” construction the columns and girders are built without proper or adequate inter-connexion and would not be able to carry the required weights without the support afforded by the walls; or, as in more recent construction, the walls are self-supporting and the other portions of the building are carried on by the skeleton steelwork, “ Cage" construction consists of a com­plete and well-connected framework of iron or steel capable of carrying not only the floors but the walls, roof, and every other part of the building, and efficiently constructed with wind bracing to secure its independent safety under all condi­tions of loading and exposure, all loads being transmitted to the ground through columns at predetermined points. In America under this system the walls can be built independently from any level (see fig. 4), but in England the requirements of the building acts as to the thickness of walls prevents the general use of this form of construction.

Skeleton construction is defined by the Chicago building ordinance as follows:—

“ The term 'skeleton construction; shall apply to all buildings wherein all external and internal loads and strains are transmitted from the top of the building to the foundations by a skeleton or framework of metal. In such metal framework the beams and girders shall be riveted to each other at their respective junction points. If pillars made of rolled iron or steel are used, their different parts shall be riveted to each other and the beams and girders