er's Addition. All that portion of the city and county south and west of the charter line of 1851, has been laid out in quarter-sections by the Surveyor-General of the United States. We may here add that the city charter line of 1851 embraced the north-east quarter of the present City and County, and formed a square of somewhat more than three miles.

Geological Features.

The principal rock formations of the vicinity of San Francisco are finely grained, compact sandstone, associated with shales; together with erupted trappean rocks and serpentine, all probably of recent origin. The sandstone underlies the city, and is exposed along the shores of the bay, forming the principal promontories and points. On entering the bay from the Pacific, the rock is first seen at Point Lobos. The continued action of the ocean-swell has worn the rocks into rugged cliffs, and excavated caverns and arches. Many large masses are detached from the cliffs, and lie scattered about in the surf. These isolated island-rocks are the places of resort for sea birds and the "huge sea-lion"—(*Phoca Otaria Jubata*). However, the best section of the same formation may be seen from Pacific Street, where Telegraph Hill has been excavated. There the stratification is very distinct, and the alternation of thick beds of argillaceous sandstone, with shales and slate, is visible. Up to the present time they have been found singularly devoid of fossils, not one shell having been met with in them. The covering of soil, which appears to have been derived from the decomposition of the strata, is found to be a good material for making bricks, and it is extensively used in that manufacture. This fact shows that the rocks contain a large per centage of alumina, and the presence of oxyd of iron is indicated by the rusted color of the weathered rock, as well as by the deep red tinge of the burned bricks. The formation, next in importance to the sandstone, in point of extent and development, is the serpentinoid rock. It forms a high and prominent ridge, midway between the shores of the bay and the ocean, abutting upon Golden Gate, and forming Fort Point. The width of the ridge is about a mile and a half; but its extension, southward, is not accurately known. In that direction it is partly obscured by sand, but forms a knob at the Orphan Asylum, near the Mission. The dark-colored portions of the rock were used for the construction of that excellent institution; but there is nothing to recommend it as a building-stone, except (in this instance) its presence on the spot, as it is not calculated to resist the action of the weather. Along the shores of the Mission Bay, there are extensive flats of swampy land, of alluvial origin. The surface consists of a very thick turf, which, cut out and dried in the sun, is suitable for fuel. On the hills around the city, there is a slight formation of alluvial drift, limited in extent, and occupying the lower parts of the principal depressions. In boring through the earth on the site of the Custom House, several beds of sand, clay and gravel, were found to succeed in regular order for a depth of 60 to 80 feet. This locality is below tide-level, and it is between these accumulations of drift or alluvium and the rocks, that sheets of water, or water-bearing strata are found, and are reached by artesian borings in various parts of the city. Perhaps no point on the Pacific coast presents more favorable opportunities for studying the phenomena of sand-dunes than the peninsula of San Francisco. On the Pacific side there is an extensive beach, reaching for miles, north and south, and a long distance inland. A wide area is thus