

business men, toward the close of last year, united in such representations, assurances, and other more substantial inducements, to the managers and proprietors of the Cornell Watch Co., then of Chicago, Ill., as decided those gentlemen to remove their immense establishment, with all its vast equipment of complicated and expensive machinery, from the great metropolis of the lakes, to that of the Pacific Coast. Accordingly, having rented the large east wing of the immense building, known as Kimball's Carriage Factory, on the west side of Fourth Street, between Harrison and Bryant, they successfully transported thither their complete machinery and there established the first watch factory, not only of San Francisco, but of Western North America. A quarter of a century ago, few, if any, watches were wholly manufactured in the United States, nor did the whole country then contain anything at all approaching the dimensions or dignity of a watch factory proper. And neither in this country nor in any other had any one attempted the application of machinery to the manufacture of any except a few of the very simplest parts of a watch. Within that period, however, that mechanical genius of inventive industry which sets the American baby to contriving improvements upon his own cradle, even before he is fairly out of it, having improved or remodeled every known machine of the heavier description, and invented hundreds of new ones, begun to turn its attention to the making of watches, and especially to the construction of the machines necessary to manufacture them more accurately, uniformly, and rapidly. The usual result speedily followed. Besides the numberless factories of lesser note, the country has now seven large and celebrated establishments for the manufacture of machine-made watches. These are the Waltham Co. at Waltham, Massachusetts; the Howard Watch Co., Boston, Massachusetts; the New York Co., Springfield, Massachusetts; the United States Co., Marion, N. J.; the Springfield Watch Co., Springfield, Illinois; the National Watch Co., Elgin, Illinois; and the Cornell Watch Co. (late of Chicago, Illinois) now of this city. With the machinery now in operation the factory occupies nearly one half of the building, and employs about one hundred hands, of whom one fourth are females. As soon as the remaining machinery arrives and the factory commences working to its full capacity it will occupy the whole building, give constant employment to four hundred operatives and turn out from seventy-five to one hundred watches a day, ranging in prices from ten, twenty to three hundred dollars each. As is well known the ingenious, accurate, and delicate machinery now employed in the manufacture of American watches produces even the minutest parts of their complicated machinery with an exactness, perfection, and uniformity far surpassing the finest work of the largest experienced and most successful human hand. But besides this, mathematical accuracy and uniform proportion, the machines have reduced the number of pieces or parts to less than one fifth. The old standard English fusee watch, made almost wholly by hand, had over seven hundred and fifty separate and different parts; the modern American machine-made watch has less than one hundred and fifty. In the old-fashioned hand-made watch no part of any one watch had exactly the same size and shape of the corresponding part in another; hence, in case of accident or necessary repair, no substitution or exchange of part for part could be made without perceptibly affecting the rate of the watch. In the modern American watch, as made by the Cornell Co., with the possible exception of a few of the jeweled portions and pivots specially fitted to each watch, any one of the scores of separate pieces taken from one watch fits with perfect accuracy in the corresponding place in any other of the same grade. Thus, in the event of accident, any piece lost, broken, or worn, can always be duplicated at the factory on receipt of the name of the part, and the number or kind of watch. Among the very great, if not the decisive, advantages which California presents for the establishment of a mechanical enterprise, especially one involving as much iron and steel, is the very great and almost constant dryness of the atmosphere. This alone will prove a very considerable element in the superior ease and consequently greater profit with which watches can be made in San Francisco. The Cornell Co. may reasonably expect not only to retain a large portion of its former custom east of the Rocky Mountains, but almost certainly, at no distant day, to supply the entire Pacific Coast market. Beyond this it may confidently count upon extending its trade to Mexico, Central and South America, Japan, China, and even India. As the pioneer in this valuable and important branch of mechanical enterprise we cordially welcome the Cornell Watch Co., and join with the city and the State in wishing it that annually-increasing success which shall at once equal its own desert and our confident anticipations.

**WIRE AND WIRE ROPE.**—Of these the city has two factories. The first, more exclusively devoted to the making of wire, is the Pacific Wire Works, at No. 437 Brannan Street. It makes wires for ropes, springs, brooms, bottles, etc., of material imported from England. Employing about twenty men, it finished and delivered, in 1874, nearly one hundred thousand pounds of wire, worth \$150,000. Started less than four years since, it already commands most of the home trade. The Wire-rope Factory at North Beach thus far remains the only one upon the coast. Remodeled, enlarged, and refitted during the year, it has now a capacity of nearly two thousand tons a year. These ropes are used for extra heavy hoisting in deep mines, for the standing rigging of large ships, for traction on steep-grade street-car routes, as already noted, and in the patent Elevated Wire Tramway—if such a phrase admits of such an application. Some of these larger and longer ropes weigh from eight to nine tons. Besides these the establishment has successfully accomplished the manufacture of an aggregate length of upward of fifty miles of submarine telegraph cable for various lines in the vicinity of Puget Sound and