to take private property without the owner's consent to any but a public object, and that the legislature of Missouri had no constitutional power to authorize a city to issue its bonds by way of donation to a private manufacturing company.

CONTRACTS WITH PUBLIC OFFICIALS.—ASSIGNMENT.—An action was brought in the Court of Claims some time ago by the St. Paul & Duluth Railroad Company, as successor of the Lake Superior & Mississippi Railroad Company, to recover certain sums alleged to be due for transportation of the mails, under a contract made by the latter company with the Postmaster-general. The company was defeated in the Court of Claims, and brought the case on appeal to the Supreme Court of the United States. The latter court has just rendered a decision affirming the decision of the Court of Claims, and holding that the appellant did not, by virtue of its acquirement through mortgage foreclosure and sale of the property of the Lake Superior & Mississippi Company, become assignee of the contract between that company and the United States; that it could claim nothing as such; and that, furthermore, its claim falls within the prohibition of section 3,477 of the Revised Statutes, which forbids transfers and assignments of claims against the United States.—*Bradstreet's.*

What Starch is made from.

Besides the cereals and the potatoes there are an immense number of plants which, either from their roots, stems, or seed, under cultivation would produce starch more profitably than the potato, that supplies so largely the starch of commerce. The number of these in general use for this purpose are probably not more than a dozen, whose products are mainly used as food; the West India arrow-root is a familiar example. This plant, the *maranta arundinacia*, contains 25 per cent. of starch, which is obtained by grinding and rasping the root and washing the pulp. Bermuda arrow-root has the reputation of being the best and purest in the market; but the product of St. Vincent is its superior in all respects. The production of arrow-root has greatly decreased of late in the West Indies, owing to the stimulus given to the growing there of early vegetables for the market. In these islands, the Bahamas, and Florida, a species of *simia*, the so-called *conti* root furnishes a starch very similar to the above, which is styled Florida arrow-root. Another variety of starch is obtained from several species of *canne*; one of these, the *canne edulis*, has been introduced into Australia and become quite profitable.

Among the large number of starch producing plants in South America that are used at home, the *manihot utillissima*, known as the cassava root, furnishes manica for exportation. There is a bitter species, largely cultivated, often attaining the length of three feet and weighing thirty pounds, the milky juice of which is removed by pressure, and the poisonous principle by heat. The starch is heated in a moist state and forms the irregular hard lumps, the tapioca of commerce. Under cultivation the manihot has developed as many varieties as the potato. In Venezuela and Brazil this is baked into thin cakes and largely eaten, giving rise to large numbers of manufactories of the crude starch. Another poisonous South American root furnishes a starch called *jacatupi*, used medicinally. The African arrow-roots are from a variety of sources, chiefly from cassava; the *maranta* has been introduced at Cape Colony. In 1840 the *maranta* was introduced into Madras; since then the same plant and cassava have been brought to Ceylon, and they have become very prolific and valuable foods in these tropical lands and have become subjects of exportation.

The so-called East India arrow-root comes from a native tumeric, *curcuma angustifolia.* A wild ginger plant, rich in starch, abounds in inexhaustible quantities, and could with little trouble furnish a large amount of good food. Many other sources of starch, both roots and palms are found in these countries.

The true sago palm is one of the most abundant sources of the nutritious starches. There are two species so used, the *sagus konigii* and *sagus laevis.* These abound in the Malay Archipelago and in the neighboring islands as far north as the Philippines. The yield is immense; three trees furnish as much nourishment as an acre of wheat and six times as much as an acre of potatoes. It is said that ten days' labor will supply a man with sago cake—the principle native food—sufficient for a year's subsistence; a single tree contains from 25 to 30 bushels of pith, which will yield from six to eight hundred weight of fine starch. More than 20,000 tons of sago pith are annually converted into commercial sago by the Chinese of Singapore, the pearl sago is prepared in large quantities by the Chinese of Malacca, from whence 250,000 hundred weight are annually exported to England.

The manufacture of tapioca is also largely carried on at Singapore and Penang, 75,000 and 10,000 hundred weight being sent respectively from these places annually to England. Japan sago is made from the pith of a fern palm. Another starch-yielding plant is extensively cultivated in the East, called in the South Sea slands *pia*, from the *tacca pinnatifidu.* The tubers resemble the potato, and the product is of very fine quality, especially adapted to invalids.

On the Pacific Islands are many starch producing plants, of which the *tarro* is the most noted, producing thirteen varieties in Tahita. Among this class of plants, destined yet to a higher position among the world's products, are yams, bread-fruit and bananas. The last are rivals of the sago palm in supplying the maximum of nutriment with the minimum of labor. The yield is forty-four times that of the potato; the percentage of starch is greater, and the plant is richer in other elements of nutrition, so that the meal, made by drying and grinding the pulp, resembles wheat flour in food value. It is not expensive to prepare, is easily digested, and is largely used in British Guania for children and invalids.—*The Southern Miller.*

Uses of Electricity.

It is difficult to realize that the telephone dates only from our centennial year. The first conversation over a wire occurred October 9, 1876. Little was then thought of it, scarcely more than of that wonderful but now forgotten toy, the phonograph. The notice of an astonished man of science from England first gave the far-speaker wide publicity, and then within a half-dozen years it leaped into use in 89 American cities Since then it has made great progress, which we have not seen exactly reported. Its use is growing in every civilized nation, and the distance over which it is affective is lengthening, until sanguine inventors believe that voice can soon be heard beneath an ocean, as indeed it has been one-third across our continent. The use of the telephone may grow as surprisingly as did the telegraph, but at most its field is, if not exactly limited, at least well defined.

With storage batteries, however, the case is different. The uses of "power" are illimitable and innumerable, and when, about 1881, it was declared that a fireless motor could be carried in a chest, great things were hoped and promised. Great things, too, have been done. An omnibus has been driven through the streets of Paris conveying its own power. A Yarrow launch has been driven six hours at a high speed. A tricycle weighing only 400 pounds all told has been propelled at the speed of a cab. The balloon which, it was declared the other day, had solved the mystery of steerage in an "air way" so to speak, was moved by "accumulated" electricity. Torpedoes have been driven and guided by these boxes of force. These things are wonderful in themselves, and more wonderful in their promise. Yet the "storage" or "accumulation" of electric energy is not a success, because it is too costly. Engines are cheap and last indefinitely. Storage batteries are costly and will wear out quickly. So long as this continues no storage battery can compare, under ordinary circumstances, with an extra engine full of steam and banked fire ready for use. The trouble is not one of principle; it is merely a question of cost and detail, and may be solved at any time. When that comes the wonders of electricity will be indefinitely increased. The transmission of power by electricity has been comparatively little studied in America, although the problem has been reported as measurably solved by M. Duprez, in France. The French Institute examined his invention in 1883—too recently, it will be observed to expect as yet any practical results—and reported that he delivered one-half the original power at a distance of 38 miles. The waste is great. Yet, when it is considered how great is the economy and convenience of substituting one central source of power for many less ones, the percentage of loss is endurable. The problem is double—to transmit power in sufficiently large quantities for a factory and over considerable distances. There is little difficulty in transmitting small amounts of power for considerable distances or considerable power for short distances. It is a question of conductors, and M. Duprez, according to the Institute, "vastly exceeded everything pr