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EXTENSION OF PATENTS---FOR WHOSE BENEFIT THEY ARE GRANTED.

There seems to be an impression among inventors that, since the law of March 4, 1861, went into force the previous law in respect to extending patents for seven years was abrogated. This is not so in regard to cases which were patented under the old law. Any patent which was granted prior to March 4, 1861, may be extended for seven years on proper application to the Patent Office, provided the patentee has not already been amply remunerated for his invention and proves to the satisfaction of the Commissioner that he has used proper diligence in attempting to realize gains from his patent. The patentees of 1848 and 1849 should lose no time in making out a statement of their profits and losses in consequence of their pattents, and in seeing counsel in regard to an extension, if they wish the term of these expiring patents continued for another seven years.

It is often the case that the extended term of a patent produces to the patentee a ten-fold profit over the amount realized during the first fourteen years of its existence. The assignees of a patent cannot obtain this extension; it must be done at the instance of the inventor, for whose sole benefit it is granted.

For full particulars concerning extension, address

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BEET-ROOT CULTIVATION AND SUGAR.

A number of our Western agricultural periodicals have lately advocated the cultivation of the sugar beet for the purpose of manufacturing sugar from it. In Ohio a number of prominent agriculturists have interested themselves in this subject, and it is stated that considerable quantities of the seed have been obtained from France and will be planted this season. The soil and climate of Ohio are stated to be so favorable to its growth, that Prof. F. A. Mott, of Columbus, has experimentally demonstrated that 6,000 lbs. of sugar and 600 gallons of sirup may be obtained from a single acre of beets. A cotemporary stated, a few weeks since, that this gentleman would have ten acres of beets under cultivation this season, and that he was preparing machinery to carry out the manufacture of sugar upon a somewhat extended scale. The present high price of sugar is acting as a stimulant to encourage the beet culture in the fertile regions of the West; and no doubt the great success of the manufacture of beet-root sugar in France also exercises an influence upon such intelligent men as those who constitute the leading members of the State Boards of Agriculture. Some facts in relation to the rise and progress of the beet-root culture and sugar manufacture in Europe will be of interest to all.

So far as we have been able to learn beet-root sugar was first made in 1799, by a chemist in Berlin, Prussia, and ten years afterward, in 1809, it was introduced into France during a time of great scarcity of cane sugar on account of the blockade of the French ports by British cruisers. Napoleon gave it encouragement, and it has ever since been growing in importance. In 1830 the product of beet-root sugar in France was 22,134,162 lbs., in 1840 it had increased to four times that amount. For several years it was protected by heavy duties against colonial cane sugar, but the French colonies having petitioned against such partial taxation, the beet-root was put upon an equal footing with colonial sugar in 1847. Instead of operating against the manufacture of beet-root sugar, its production continued to increase. Improvements in the selection of seeds, in the culture of the plant and in the modes of making the sugar, have enabled the manufacturers of beet-root sugar in France to contend successfully with the manufacturers of cane sugar in the West Indies. M. de Lavergne, a writer on agricultural subjects says respecting it:—"To the farmer of Northern France beet-root sugar has really been the finest agricultural conquest of our age."

We believe that the sugar beet may be profitably cultivated in many sections of our country. The saccharine matter of the root yields the juice of the sugar, and the pulp and leaves form good food for cattle. In France no crop produces so much on the same area of land or is so profitable. The value of the yield ranges from $400 to $600 of gross return per hectare—equal to two acres and a quarter. An analysis of fresh beet root at Geissen, Germany, by MM. Horsford and Krocker, gave the following results:—

Albuminous matter	2·04
Sugar	12·26
Cellulose and nitrogenous substances	2·56
Mineral substances	0·89
Water	82·25
	100·00

The species called the Silesian beet is most highly prized by the sugar manufacturers. It is the chief kind cultivated in France because it yields a large quantity of sugar and its juice is not so liable to putrefaction as that of some other kinds of beets. In European Russia the beet is cultivated up to the 56° of north latitude, and it may therefore be grown with success in all our Middle and Northern States, in sections where the soil is suitable. Neither a heavy compact nor a light sandy soil is suitable for the beet, but a soil between these two extremes. After manuring it the universal practice is to take off two and sometimes three crops before the beet is planted. In good seasons an acre of land will yield 35,000 lbs. In the early stages of its growth the beet requires a great amount of moisture. The plants come to maturity earlier when they are first developed under glass shades like tomatoes, then transplanted during warm and moist days in the field. The rows are set two feet apart and the plants fifteen inches. They are kept free from weeds and worked with the hoe like beets in our gardens, or in fields with the cultivator and the hoe. The sugar in beets attains to its maximum quantity before the root is quite ripe.

In all likelihood several failures will attend our first attempts to cultivate the beet and make the sugar, but success will assuredly follow perseverance.

GOOD INVENTIONS LOST TO THE COUNTRY---IMPORTANCE OF ENCOURAGING INVENTORS---WHAT CONGRESS SHOULD DO.

We believe that our country is being deprived, at present, of the benefits of some very important improvements, for want of a proper board of military and naval officers instituted to test their merits. There are but few inventors who have the means or appliances for testing on a large scale inventions relating to artillery and ships of war. On the other hand, government does possess such appliances, and under the charge of a board of competent officers practical experiments to determine the value of most new inventions, could be conducted at a very moderate expenditure. Several inventors who have gone to Washington, to present to government improvements that appeared to possess great merit, have been told to return home, make experiments upon a large scale, communicate the results, and then the subject would receive official consideration. Such treatment is tantamount to consigning their improvements to oblivion, because the experiments required could not be made without the use of war ships and large guns.

Complaint is justly made that military officers who have secured patents for their own benefit, while under the patronage and in the pay of the government, are allowed peculiar facilities for experimenting and introducing their improvements into the army and navy, while a civilian inventor is told to go home and make his experiments, which the government knows is impossible for him to do. Had Captains Dahlgren and Rodman, for example, been civilians and mere mechanics, our country would not now be in possession and use of the unrivaled guns and modes of casting designed by these two distinguished inventors. What we desire is, to see the same facilities for introducing inventions extended to all inventors who have useful improvements which are adapted to either land or naval service, and we are satisfied Congress cannot perform an act more profitable to the nation than to authorize the Navy and War Departments to appoint a competent board of its officers and engineers to examine and test the merits of such inventions as may be presented for their consideration. An appropriation of $200,000 would be sufficient to test the feasibility of the plan, which, if rightly conducted, will redound to the credit of the nation, by putting our War and Naval Departments in possession of many useful improvements in ordnance and modes of mounting and operating siege guns, armor plates for vessels and fortifications, effective modes of closing port holes, apparatus for puncturing iron-clad vessels below the water line, &c.

We have had submitted to us very ingenious plans for improving nearly all the present modes of offensive and defensive warfare, and some of the plans seem very feasible, and, in our opinion, worth testing. One of the most ingenious plans for closing the portholes of a vessel or embrasures of a fort, was shown to us a few days ago by an inventor who had just returned from Washington. He was told at the War and Navy Departments that his plan seemed very good, but they had no money to expend for testing new inventions, and he had better go home and test the invention himself. The poor inventor humorously remarked to us that he supposed they expected him to build a fort or war vessel, and fill it with an armament sufficient to test the invention. His experience forcibly illustrates the summary way a patriotic inventor is disposed of by officials, after he has labored for months to study out an invention which he thinks, if adopted, will prove the destruction of his country's enemies.

We again, in behalf of the inventors of our country, call upon Congress to make some provision for examining all inventions pertaining to war, by land or sea, which may be presented for consideration, and for testing on a limited scale such of the number as seem most likely to prove useful.

PARAFFINE.

Most bituminous substances, when treated by distillation and other refining processes, yield a beautiful white substance, resembling sperm, called paraffine, which name it has received on account of its inert character, when brought into contact with a great number of corrosive agents. Sulphuric acid, which converts wax and spermaceti into a blackened mass, has no effect upon it at ordinary temperatures; and nitric acid, which oxidizes nearly all organic bodies with great rapidity, exerts no action upon paraffine except at very elevated temperatures. The strong alkalies—potash and soda—which convert oils and fats into soap, do not exert such action upon paraffine. It is as white as the purest bleached wax, and it makes candles of great illuminating power. It is obtained in the greatest quantities from the oils of distilled cannel coal. The paraffine oil is the heaviest which passes over from a still in the distillation of coal tars—its specific gravity ranging from ·900 to ·930. It is placed in a vat and cooled down with ice or other refrigerating agents, when it crystallizes in large scales. It is then lifted and strained, placed in bags, and submitted cold to severe pressure. It is then remelted and treated with half its weight of strong sulphuric acid, at a temperature of 356° Fah. The acid removes any impurities, consisting of bitumen, that may be in it, after which it is washed with water, run into cakes, and pressed again, while warm, in a hydraulic press. It is again melted and treated with caustic potash in solution (some use alcohol) to remove any resinous matter that may be left, after which it becomes as clear as water before solidification. It is now admitted that there are several varieties of paraffine, but there is little to distinguish them excepting their melting points, which range from 113° up to 139° Fah. Aniline colors impart to paraffine candles most beautiful red, purple and violet tints.