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THE EFFECT OF PATENTS IN THE DEVELOPMENT OF THE GAS INDUSTRY.

Some weeks ago, an article on the present status of the gas industry in America appeared in this journal. After reviewing the changes that have taken place, and improvements that have been made during the recollection of the younger gas engineers, the natural conclusion was reached that much of this advance was due to inventors, encouraged in their work by the protection of the patent laws. This belief was predicated on several facts, in great measure on the numerous gas process and apparatus patents taken out every year. Since the article in question appeared, our position has been attacked by the London *Journal of Gas Lighting*. It thus states our review of improvements: "The progress in gas making is summarized as consisting of an advance from a production of from 9,300 to 9,600 cubic feet of gas per ton of coal, when carbonized in 20 inch retorts, yielding from 5,500 to 6,000 cubic feet per day, to a yield per ton of 12,000 cubic feet and a double duty from the retorts, which are stated to be sometimes 36 inches wide, and worked at a high heat by means of generator furnaces." Apparently, our contemporary disputes these statements, but as we presumably know more about American gas engineering we prefer to let the statement speak for itself. What we are most concerned about are the statements that follow, to the effect that patents have little or nothing to do with this progress. Our contemporary in words challenges us "to show the patents under which the progress already mentioned can be realized." This of course we cannot do, as we do not propose to advertise patents or processes here.

In speaking of a 12,000 cubic foot ton and retort yield, our reference was more particularly to the Providence, R. I., gas works. There, under the management of one of our most accomplished gas engineers, these results, in round numbers, were reached with patent retorts. So much for patents as affecting retorts. To show what patents have to do with the other parts of works, we may now review an ordinary American gas works. The retorts will be fitted with self-sealing lids, patented, that do away with the old luting and loose cutterbar. The next point in the manufacture is to preserve a steady vacuum on the hydraulic main. To secure this end, overflow tar valves, engine gas governors, and engine steam governors, all patented, patent smooth running exhausters, with patent compensators, will be found simultaneously in use in many or almost all coal gas works. Condensers and washers of different types and friction scrubbers come next, each probably patented or perhaps the subject of several patents. Then come purifiers, whose lids are raised, perhaps, by patent traveling cranes and whose contents are sustained on patent grids. The station meter may embody several patents. The holders are next reached. There little progress has been made. Gas holders in this country are the same to-day as they were ten years ago, and accordingly we find that they have not been favorite subjects of the inventor's art. There are few patents connected with holders. Hence comes the lack of improvement in them. Finally, to finish our review of gas works, the outlet governor, controlled, perhaps, by an automatic pressure changer, must be noted, both of which, if of an approved type, are certain to be subjects of patent right. The course of the gas through the works is regulated by patent gas valves and center seal. On the most moderate estimate, from ten patented structures upward will be found in use in the most primitive coal gas works.

If we go a step further into a more advanced type of works, we find many more patented structures in use; patent generator furnaces, patent tar burners, and patent testing apparatus, for determining the quality of the gas. The water used for scrubbing is accurately measured by patent water meters. The profession in this country has to render tribute to England for many of these advances, notably in condensing, washing, and purifying processes, all patented. The gas engineers of our contemporary's country are as quick as those of our own land to patent everything.

It seems idle to say that patents have had nothing to do with the advancement of the gas industry in this country, after the above showing. For every device named above, many representative names of patentees could be given, were it not out of place here.

To leave coal gas and enter the realm of water gas, we find more emphatic testimony on our side. Out of some six thousand millions of cubic feet of gas made per annum in this city, over half is made by patent water gas processes.

In examining English gas engineering, the same thing is found to prevail there. Paper after paper has been read at their engineers' meetings on the coal liming process—patented. The most advanced attempt at purification by ammoniacal liquor, on which a very interesting paper was read at the recent meeting of the Gas Institute, and which was duly reported by our patent-hating contemporary, is patented. Reviewing the advertising columns of our contemporary, we find

innumerable patents advertised, all more or less connected with the gas industry. Can any one assert that all the necessary expense incurred in perfecting these inventions would have been incurred without hope of reward?

Furthermore, it must be stated that in our hasty summary we have given nothing like a full catalogue of devices, the subject of patents, actually in use to-day. Leaving the gas works, we find gas burned in improved patented burners, that, compared with the unpatented rat tail burner of the past generation, give, on a moderate estimate, ten to fifteen times the light per unit of gas. To compete with the electric light a cheapening of light was necessary, and immediately patent regenerative burners appeared that multiply the light given by the best of the burners of five years ago, two and three fold. This was within the last five years. We repeat that the inventor's record in the gas industry is an honorable one, and that the progress of the last fifteen years owes everything to him.

The literature of gas engineering, at least in the case of our esteemed contemporary, seems deeply concerned in patents. Of its forty-eight pages, no less than twenty-six are filled with advertisements, for the most part of patented articles or mechanisms more or less pertaining to the gas industry. For example, a full page is devoted to advertising a patent scrubber, another a patent regenerative gas burner, another a patent retort drawing and charging machine, and so on. In attacking patentees, it carefully distinguishes between business and sentiment, accepting all the advertising patronage it can get from "the host of Yankee" as well as English "patentees" that it so slightly speaks of. To one conversant with the cost of publication, it is clear that the London *Journal of Gas Lighting* derives its bread and butter almost wholly from patents. With its limited circulation, and appearing weekly, it could not be sustained without the aid of the advertising gas patentees, whom it insults by telling them that their patents are a drag upon real industrial progress and that their efforts have in no recognizable manner assisted the progress of gas making.

In all that we have ever said in our columns on the utility and beneficent effect of the patent laws, we are sustained by the words and practice of the best jurists both of this country and England. In the recent revision of the patent laws of Great Britain, we have found another confirmation of our views. Thus supported, we may with propriety consider our opinions well sustained and just.

THE TILDEN TRUST.

The late Samuel J. Tilden began his professional career in the law. Owing to his aptitude for business calculations of the most intricate class, he acquired fame as a corporation lawyer. Gradually assuming importance in politics, he was elected to Congress, then chosen as Governor of the State of New York, and subsequently nominated for the Presidency. Since that last exciting period he has lived to a great extent in retirement, and little has been heard of him in later years, except where he was referred to as the Nestor of the political party to which he had always belonged. He had retired on his fortune, and was only a power in the sense of being the adviser of acting politicians. When he died, it was to be supposed that he would, to a great extent, disappear from memory, except as one of the presidential candidates of 1876. No reputation is so evanescent as that of the lawyer and politician. Both of them are, as a rule, concerned with issues of the day, whose interest soon dies out. Any such anticipation of oblivion for Mr. Tilden has been done away with. By his will he has placed his name by the side of those of Astor, Lenox, Ottendorfer, Peabody, Vassar, and Holloway.

The composition of the will, that will do much for his reputation with posterity, and that has already lifted him from the level of the successful politician and business man to the pre-eminence of the philanthropist, presumably occupied much of his time during the last two years of his life. In it he provides for the management of immense residuary legacies, to be devoted to benevolent objects. New Lebanon, N. Y., his birthplace, Yonkers and New York, his residences, are chosen as the recipients.

For New Lebanon, one hundred thousand dollars is authorized as foundation for a free library and reading room, and, if possible, for a school for the education of girls. The latter provision shows an appreciation of the tendency of the day.

For Yonkers, the city where he died, the expenditure of the sum of fifty thousand dollars is authorized for the establishment of a free library and reading room.

But for this city the great donation is reserved, to be known as the Tilden Trust. It is to be devoted to the establishment and maintenance of a free library and reading room in New York, and for other scientific and educational objects. The amount of this legacy will be very great, probably four millions of dollars and over.

This bequest is destined to exercise an important in-