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PATENT ROYALTIES ON SHOE MACHINERY.

The shoe manufacturers of the United States, or at least a considerable proportion of them, have lately been finding fault with our patent laws and the way in which they are enforced, without, as we conceive, a just apprehension of the grounds on which their complaint is based. They recently held a National Convention of the trade in Philadelphia, for the discussion of this question, and matters related thereto, during the progress of which, notwithstanding that many untenable propositions were made, and very extreme opinions were put forward by individual members, it must be allowed that great good sense was manifested, the conclusions reached pointing in what was perhaps the only direction from which practically beneficial results might be reached.

For some years past it has been an extremely unpopular and up-hill work to endeavor to sell to shoe manufacturers a machine for which a royalty was charged on the work done to cover the rights of the patentee. There were many in the trade, including some of its most influential members, who took the position that, for any machine that was of decided advantage to them, they would be willing to pay a sufficient round sum down, and then be the owners thereof, to use as they saw fit, while they did not believe it was possible to offer them a machine the payment for the patent rights in which was to be made on the basis of a specified tax for each pair of shoes produced. There are, of course, twosides to this question. There are many manufacturers who would not be able to purchase outright a machine covering the introduction of valuable patents, but who would find it no tax, comparatively speaking, to pay such royalty as would be enforced upon all other users of the same improvement, and hence would become a regular item in the cost of production in all goods of the kind. In this way the royalty system, where all are taxed alike, places the small manufacturer on an equal basis with the producer possessed of unlimited means. Perhaps quite as common a ground, however, for the adoption of the royalty system in the introduction of any particular patented improvement, is the skepticism with which new inventions are sometimes looked upon when first brought to the attention of those practically engaged in the particular industry for which the improvements are intended. The old workmen are prejudiced against and look with distrust upon the innovation, so that, if they give to the inventor any credit at all, their allowance is so meager that it would hardly afford a basis for fixing any proper compensation for the improvement, and even this concession is frequently accompanied by the assertion that the patent is for something not new, or not entitled to the protection of a patent. The last question must, of course, always go to the courts for final decision, although the patent itself is prima facie evidence of its own validity. But the manufacturer who takes a machine on trial, the patentee to be paid by royalties, seldom binds himself to pay anything for the improvement unless he finds it valuable to him; in other words, he need not produce his goods with its aid, but may keep on according to his old methods, and so be free from all royalty payments. In this way many of the most valuable patented improvements have been introduced, and, with a little practice and the removal of first prejudices, been made to work successfully, the tax at first being so light as to seem insignificant. The inventor, in fact, has been to all the expense of perfecting his machine, device, or process, overcoming objections thereto, and proving its practical success, before obtaining any return for his outlay, and, therefore, according to all business principles, is entitled to a proportionate reward. There are many inventors and patentees who have traveled this road to meet failure only; many more have achieved a fair degree of success; the few who have won the grand prizes can be counted on the finger ends.

The boot and shoe trade affords one conspicuous instance of the splendid success of a patented improvement, as exemplified in the sole-sewing machine. It was only by a long course of experiment and the investment of a great deal of money that it was perfected; it did not easily obtain a first introduction, so the system of putting it in factories and allowing the manufacturers to pay for its use a small royalty per pair of shoes made, was the only one then thought practicable, and certainly was at the time eminently satisfactory to the trade. Under the able management of one who was accomplished a mechanic as he was a shrewd business man, the machine almost revolutionized the boot and shoe manufacture, and has yielded magnificent profits to the patentee. This triumph, however, gave a strong encouragement to other patentees to adopt the royalty system, and the number has become so great as to cause much opposition to royalties in the trade; and this was a principal topic of discussion at the late convention in Philadelphia. The prime object in calling the meeting was to consult in regard to how much longer the royalties must be paid on the sole-sewing machine.

We noticed, a few weeks ago, the decision of Judge Blatchford, virtually affirming that the patents would hold good, and royalties thereon be collectible, till next August, but there are many in the trade who were not disposed to accept this as final. Ample discussion at the convention, however, showed the doubtful utility of any further contest on this point, as the representatives of the sole-sewing machine patents made it too clearly evident that they had the law on their side. Great as had been their profits, it was not denied that they had done a vast deal for the prosperity of the trade, particularly among small manufacturers;

but while they now stood, as a strong corporation, ready and able to meet the issues at law with the manufacturers, they were willing to confer and negotiate in regard to such future royalties as had not been decided upon in their favor by the courts. The convention thereupon appointed a committee of representative manufacturers to take charge of such negotiations, not only with this company, but with all others owning patents which were paid for by royalties, with power to commence legal proceedings should they deem such course advisable.

Patentees generally can certainly have no objections to negotiations looking to a settlement in cash in lieu of royalties for their rights, and such moderate action on the part of the convention is far more sensible than it would have been for its members to rush blindly into expensive and almost interminable litigation.

THE PRALL SYSTEM OF HEATING.

During their recent convention in this city the members of the American Society of Civil Engineers were entertained by the Prall Heating Company. The dinner was cooked throughout by superheated water; and whatever may have been the cost on the relative economy of the system, the cooking was accepted as unquestionably satisfactory.

That bread can be baked and meat roasted by hot water may seem quite incredible to those who think of boiling water only as commonly seen in open vessels. Under atmospheric pressure water can be heated no higher than 212°, far below a roasting temperature. But when confined there is no limit to the temperature it may receive save the weakness or strength of the containing vessel.

The Union Heating Company propose to supply heat and power to houses by a system of pipes circulating water heated under pressure to about 376°, that is, a pressure of about 160 pounds above the atmosphere. In being conveyed a mile in boxed pipes, under ground, the water, it is claimed, loses not more than 1°, so that a temperature of 375° can be maintained in the pipes of a cooking range, a heat sufficient for all culinary purposes. The heating of houses can be effected either by air currents circulating around hot-water coils, or by means of steam radiators, the hot water being converted into steam in small converting chambers.

In the operation of the system, central boiler stations will be established in districts of about one square mile area. The pipes conveying the superheated water from the central station and back again, are laid in the same trench, and are so connected as to allow a forced circulation. The return pipe conveys to the generator all the water not drawn off for domestic or other purposes, thereby saving all the heat not available for heating purposes or for steam power.

The alleged advantages of this system of circulating superheated water over systems of steam heating consist in the smaller size and cost of the service pipes; in the smaller loss of heat by radiation and condensation, owing to the smallness of the pipes; and the saving of fuel through the return of all the unused condensed water to the central generator.

At the trial station at 125th street about 3,000 feet of pipe have been laid. The water to be circulated is heated to about 342°, and is said to be driven through the system at such a rate that no water is allowed to be more than fifteen minutes away from the boiler. It is estimated that two or three cubic feet of water an hour will suffice for heating an ordinary city house, and that the cost to consumers will be much less than with any other system of heating. To determine this, however, we are inclined to think that something more than brief experimental trials, under the management of the company's engineers, will be necessary. However promising a system may be theoretically, serious difficulties are apt to be encountered when it is put to the test of practical use at the hand of ignorant and unskillful servants. In the ordinary use of steam at low pressure for domestic purposes, leaking joints and valves are a source of constant trouble; much more must they be troublesome under a pressure four or five times as great. At any rate the successful use of superheated water in the way proposed will necessitate a style of valve making and steam fitting marvelously better than builders and house owners are able to obtain now.

THE RESTORATION OF OUR COMMERCIAL AND NAVAL MARINE.

No question before the American people to-day presents so wide a range of problems of national interest, so many problems having a direct and vital bearing on the prosperity and security of the country as a whole, as that which seeks an answer in the restoration of the United States to their former and proper place among the commercial and naval powers.

Our industrial interests cry aloud for a reconquest of the sea by a commercial marine flying the Stars and Stripes. The security of our coasts, not less than the protection of the mercantile fleets which our enterprising traders are bound to set afloat before another generation passes, demands the speedy building of a navy commensurate in magnitude, capacity, and power, with our position as a nation among the ruling nations of the civilized world. The universal reign of arbitration and international peace is yet a long way off; and it will not do for the wealthiest country of the world to leave her great depositories of wealth open to sudden incursions from powers less peacefully inclined. Besides the consciousness of insecurity inseparable from a lack of means

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