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THE SCIENTIFIC AMERICAN SUPPLEMENT

No. 216,

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MR. CONVERSE'S PATENT BILL.

In our issue of January 17, the bill introduced in the House of Representatives by Mr. Converse, of Ohio (H. R. No. 2,913), was reprinted as it was received from the government printer. The author of the bill now informs us that by a clerical error the words "who shall knowingly violate the provisions of this act," had been omitted from the final clause as officially printed, and that the bill properly reads as follows:

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That it shall be unlawful for any owner, or part owner, or assignee of the whole or any part of any patent granted or pending under the laws of the United States, to charge or receive as royalty on such invention or discovery more than an amount equal to the cost of production, and twenty-five per centum to be added thereto for profits of manufacture in addition to such cost, and twenty-five per centum profit. Whenever the invention or discovery or the article patented, or when patent is applied for, is used for hire instead of being sold, it shall be unlawful to charge or receive for such use more than the royalty, cost, and profit of manufacture aforesaid. Every owner or part owner, by assignment or otherwise, of any patent heretofore or which may hereafter be granted, or for which application is pending under the laws of the United States, who shall knowingly violate the provisions of this act, shall forfeit to the public all right to said discovery or invention."

In this form the bill is worthy of serious consideration as a fair representative of a large class of well-intentioned but mistaken efforts to regulate the business affairs of patentees.

In discussing the relation between those who make and those who use inventions, many are apt to overlook the fundamental facts of the case; among them these:

1. To live, an invention must be of practical utility. If it is useless it is dead to begin with, and since the fees paid for a patent on such an invention more than cover the cost of issuing it, no one but the inventor loses by or because of its inutility.

2. An invention lives and pays when it furnishes a product which is novel and useful; or when it improves the quality or usefulness of some product already in use; or when it improves or cheapens the methods of producing some existing article; or when it facilitates (like the telephone) the necessary intercourse of men. In each and all of these cases the maximum price of the invention or its product is fixed not by the inventor, but by the public need. It is impossible for an invention to increase the price of anything already in use, for in that case no one would abandon the old and buy the new. For an entirely novel article the public will pay no more than it is worth to them. If the inventor charges more than that he cannot sell. However large the profit which accrues to the patentee the public is of necessity benefited more or less immediately, and ultimately it receives the entire benefit which the invention is capable of yielding.

3. The larger the immediate profit to the inventor the greater the practical value of the invention, and the greater also the legacy which falls to the public when the brief term of the patent expires.

4. The object of the patent law is to hasten the development of the useful arts by holding out inducements to all men to exercise their inventive faculties and publish the results of their labors. These inducements cost nothing to the community, and in the aggregate they yield to the nation large benefits directly and indirectly.

5. The experience of the past century proves that it pays to encourage invention as a means of advancing the useful arts. It proves, moreover, that it pays to encourage invention by giving the fullest protection to the inventor's constitutional property rights. Where inventors have been most liberally treated, there their work has been most active and beneficial, and there social and industrial progress has been most rapid.

In view of these fundamental facts, any attempt to arbitrarily interfere with the property rights of inventors and patentees, or to arbitrarily limit their profits, is objectionable for such reasons as these:

1. The act would be one of gross injustice.

2. The act would be impolitic and contrary to public interest.

3. The attempt to limit the price of patented articles by such means would be entirely futile.

The injustice of the act lies in its unwarranted discrimination against the holders of one particular kind of property. There is no species of property which is more honorable to the holder, or which has contributed more to determine the character of modern life and to advance the wealth, power, and industrial supremacy of the American people, than that which is or has been covered by or developed under patent rights for invention. By a single achievement the inventor not unfrequently creates or makes available in the course of a few years more power and more wealth then a million other men can produce by a year of hard work on the farm or in the factory. By far the larger part of such created wealth and power accrues not to the inventor, but of necessity to the nation at large. Still the inventor's possible reward is great (and this is the chief incentive which urges men on to invent), but the greatness of a man's profit in other lines of endeavor is not made a pretext for public interference and legalized robbery. Some lawyers make enormous gains from their professional practice. Would that fact justify a law to the effect that no lawyer should receive for his services in any year more than twice the earnings of a hod-carrier, plus twenty-five per cent for professional profit? What would farmers and stock raisers say of a law which should forbid their selling a specially promising colt, or a bull of superior stock and breeding, for more than twice the average price of animals of the kind, with twenty-five per cent added for breeder's profit? What would any man in any profession, business, or art say of a law arbitrarily limiting the profit he might make from his genius, or skill, or patient labor, or fortunate investments of any sort? If such interference would be unjust in the case of the farmer, the miner, the professional man, the artist, or any other, it is not less an injustice to the inventor.

The attempt to limit arbitrarily the inventor's profit in his invention would be bad policy in that it would remove the great incentive to invention, and still worse, it would tend strongly to suppress useful inventions should such be stumbled upon. If men were deprived of the possible hope of making a rapid fortune through successful invention they would not toil on year after year, in poverty may be, to achieve some grand result. Besides the more profitable the invention to the inventor, the greater generally is its value to the community, in the long run if not immediately. But this law would make a poor invention or slight improvement more profitable to the inventor than a great one. The greater the economy effected by an invention the smaller, under such a law, would be the inventor's percentage of profit, thus placing an indirect penalty upon successful invention as marked as the penalty for thrift upon the worst managed Irish estate. Said a tourist to a wretched cottager at the door of his hovel, "Why don't you mend your roof and make your place more tidy and comfortable and wholesome?" "What!" was the reply, "and have the landlord raise me rint!"

The law as proposed would be futile: first, because of its vagueness; second, because, though it attempts to limit the profit of the inventor and maker of patented articles, it in no way touches the profit of the dealer.

The bill limits the rental of patented articles and processes to two and a half times their cost, but it does not say how that cost is to be determined or for what period the rental is to be paid. Some things are rented by the hour, some by the day, some by the year. For what length of time is the prescribed rental to be charged? Again, by strict and skillful economy a manufacturing inventor may turn out an article at the cost say of one dollar. His royalty and profit would then be limited to a dollar and a half. Suppose he chooses not to be so very skillful, but makes the cost of production two dollars, increasing his legal royalty and profit to three dollars. How could Mr. Converse help himself? And how many radically novel and economical processes would the public ever hear of under such a rule?

But suppose the inventor or manufacturer too honest or too stupid to study his own interest in that way, what is to hinder the jobber from doubling, trebling, or increasing a hundred fold the price of the patented article, irrespective of the maker's profit, except the limit of price which the public desire or need determines? If an article is worth ten dollars a year to the user, and there is no cheaper substitute, that fact will ultimately fix its price whatever may be its original cost. To arbitrarily limit the profit of the inventor and manufacturer, therefore, simply takes what properly belongs to them and gives it to the go-between, who hascertainly done nothing to justify such a discrimination in his favor.

Though these remarks have been so far extended, we feel that we have but barely touched upon or hinted at the more obvious objections to the law proposed in this bill. There is scarcely a field of productive effort in which its injustice and unwisdom would not work mischief if it could be enforced, and the attempt to enforce it would be scarcely less mischievous.

"HOW STEEL HARDENS."

The above is the title of a paper read before a recent meeting at Pittsburg, of the Engineers Association of Western Pennsylvania, by its President, Mr. William Metcalf, who is also a prominent steel manufacturer of Pittsburg. The gentleman has for years expended thought and time upon the topic, assisted in the chemical bearings of the subject by Professor Langley, of Ann Arbor, Mich. The paper awakened a deep interest among the iron and steel men of Pittsburg, and is an exhaustive treatise. The conclusions arrived at by Mr. Metcalf and Mr. Langley are embodied in the concluding portion of the paper, in which the authors express the opinion that it has been clearly shown:

First—That a good soft heat is safe to use, if steel be immediately and thoroughly worked. It is a fact that good steel will endure more pounding than any iron.

Second.—If steel be left long in the fire it will lose its steely nature and grain, and assume the nature of cast iron. Steel should never be kept hot any longer than is necessary for the work to be done.

Third.—Steel is entirely mercurial under the action of heat, and a careful study of the tables will show that there must, of necessity, be an injurious internal strain created whenever two or more parts of the same piece are subjected to different temperatures.

Fourth.—It follows that when steel has been subjected to heat not absolutely uniform over the whole mass, careful annealing should be resorted to.

Fifth.—As the change of volume, due to a varied degree of heat, increases directly and rapidly with the quantity of carbon present, therefore high steel is more liable to dangerous internal strains than low steel, and great care should be exercised in the use of high steel.