

ing also the fact that according to all previous theories a "good white frost" ought to destroy the malarial poison, the present epidemic has often maintained its activity in the very dead of winter. We are forced to conclude that the true cause, or causes, for the affection, and for its present eccentric northeastward march, yet remain for research.

The pollutions of streams by the refuse from factories, etc., may of course cause much injury to health, but there is no evidence that they ever produce ague.

THE HOSTILE PATENT BILLS.

One of the ablest articles that we have read in regard to various patent bills was recently published in the *New York Sun*. It is as follows:

"ATTACKING INVENTORS.

"Serious apprehension is felt among inventors and patent owners lest great and very injurious changes in the existing patent laws should be effected during the present session of Congress. Over twenty bills, most of them bad, have been introduced to alter these laws. One of the most striking reduces the life of a patent from seventeen years to five. Another empowers juries to fix the license fees to be paid by users of patent infringements, without regard to the patent owner's valuation of his property right. Another enables any user of an infringement to evade punishment by the simple plea that he did not know that the thing was patented or that the person selling it to him had no right to patent it. Another authorizes the user of an infringement to continue its use where it would be of the greatest benefit to him and most injurious to the owner of the patent, notwithstanding ample legal notice after his purchase that it was an infringement.

"Then we have bills to compel the owner of a patent repeatedly declared valid by the United States courts to give bonds for the payment of costs before commencing suit against an infringer; to make the plaintiff in such suits pay all costs if he does not recover damages to an amount seldom reached in such prosecutions, except where the defendant is a vendor or a fraudulent manufacturer of the infringement; and to make the plaintiff liable not only for the costs of suit, but for the payment of the defendant's attorney when these and other ingenious devices to thwart justice choose him out of an award of damages.

"There may have been some instances of injustice to innocent users of infringements through the peculiar methods of certain patent owners, either in securing their supposed rights or through the vexatious uncertainties affecting contested ownership of patents. The extent of such injustice, however, has unquestionably been greatly exaggerated. Even at the worst, it is in a very small ratio to the patent interest of the country as a whole. If the evils alleged exist in any degree, they may certainly be remedied by a less radical process than the destruction of all protection for property right in patents. To make laws of the proposed bills would annihilate the owners' benefits on a great number of patents, ruinously unsettle the values of all not made absolutely worthless, and affect injuriously all manufacturing interests dependent to any extent on patented processes or machinery.

"It is surprising that three members of the Senate Patent Committee, who represent States in which enormous sums of capital are invested in patents, and in which the prosperity of nearly the entire population is intimately connected with the maintenance of the rights of inventors and patent owners, should permit such measures to pass through their hands without careful scrutiny and strenuous opposition.

"These are questions in which the honor and material prosperity of the nation are opposed by the interests of petty rogues who wish to steal the fruits of others' brains."

[From the *New York Star*.]

"LEGISLATION ON PATENTS.

"It is a singular conception of right in property that animates a considerable number of the members of the present Congress, as demonstrated by the measures they have proposed affecting patent interests. A patent is virtually a contract between the Government, representing the whole people, and an individual who has something, of his own invention, creation, or discovery, that would be of practical value to the people were it known to them. In consideration of his making known, for common benefit, the results of his study, genius, or skill, he is guaranteed a reward in the form of an exclusive right, for a term of years, to whatever profits may accrue from the common use of that which before was his alone, he being given the right to control that use so as to reap pecuniary benefit from it. After the expiration of that term, the patent—except in a small percentage of cases in which there is reissue—becomes free to all, the presumption being that his reward is by that time sufficient.

"The first principle of value in a patent, as in any other form of property, is stability in possession—protection by law against theft. But the patent, though more liable to be stolen than almost any other property, is actually least of all protected, and were the bills now before Congress to become laws, would be practically deprived of almost all protection.

"It is a notorious fact that inventors and patent owners, as a rule, make nothing on the first five years of the lifetime of a patent. During that time they are mainly occupied in fighting patent thieves in the United States Courts—a very expensive business—and in introducing their inventions to popular knowledge. But one of the bills now pending in the House proposes to reduce the lifetime of a patent from

seventeen years to five. And even for that time the value is to be destroyed by the ingenious devices to protect infringers which other bills comprise.

"The preposterous conceptions of making the owner of a patent pay all the costs of prosecuting an infringer, even though he may win his suit; of expecting him to prove guilty knowledge on the part of the user of an infringement when he purchased the thing; and finally, of permitting an infringer to continue his use and enjoyment of the infringement even after he is duly informed that he has no legal right to do so, and to use it even in manufacturing processes, the license fee to be fixed, not by the patent owner, but by a jury—all these are in the proposed bills. The owner of a patent that has been over and over again declared valid in courts of competent jurisdiction, it is proposed shall give bonds before he can begin suit to bring an infringer to justice, just the same as would one whose patent had never been put to test. All these things are calculated to amaze any just and intelligent person who will stop to think of the moral right of the patent owner to his property, and of the impolicy of depriving the community of the great benefits that accrue to the country from the inventor's genius, of which we shall certainly be deprived if our patent system is to be thus destroyed."

WATER LINE DEFENSE AND GUN SHIELDS FOR CRUISERS.

The plans adopted by the Naval Advisory Board in the construction of the new cruisers have called forth a large amount of criticism from various quarters. Among these is one by N. B. Clark, U. S. N., which was published in the *Journal of the Franklin Institute*; it has the merit of consistency.

As regards water line defense, objection is raised by the author on the score of the form given to the deflecting shields, which in the cruisers now building extend from a distance of four feet below the water line at the side to one foot above it at the center. The form given to this shield is that of three intersecting straight lines; the center being horizontal and the other two sloping toward the sides. The author argues that if this shield were a continuous curve, starting at the same points, and having the same rise as the other, it would have several advantages. The principal among these is the increased protection offered, due to the fact that the angle at which a projectile could strike would be more acute in the curved than the plane-sided shield. This is especially the case when the ship is inclined to one side, which would be the case when rolling in heavy weather. Among the other advantages are the reduced weight, the increased room afforded for the boilers, together with increased stiffness of the entire ship.

Taking up the gun shields of the new cruisers, it will be remembered that the single gun turrets are almond-shaped, the muzzle of the gun projecting at the sharp end. With this form, a projectile striking the turret forward in the direction of the gun would glance off without doing any damage.

But since this form of shield (with the proposed thickness) is only effective when the gun is pointed toward the direction whence the projectile comes, the author argues that that part of the shield which is useless for protection ought to be removed. He would therefore have the back of the turret removed entirely, leaving the rear free, or only protected sufficiently light to exclude flying splinters and bursting shells. This would reduce the weight considerably with practically equal safety.

In discussing the engines, the author advocates the adoption of emergency power, since by so doing considerable reduction in the weight of machinery would follow. He proposes to do this by two sets of engines, which can be connected or thrown out of gear with the propelling appliances at will; under ordinary circumstances, when high speed is not essential, one of these light, fast running engines would be in use, whereas in emergency the other would be connected, which being fed by emergency boilers similar to the locomotive type would give the ship the desired velocity.

Breaking Faith.

AN OPEN LETTER TO THE HON. D. W. VOORHEES, SENATOR IN CONGRESS FROM INDIANA.

HON. SENATOR D. W. VOORHEES:

Dear Sir: In the matter of your bill, No. 1,558, for the purpose of amending the patent laws, I feel myself personally interested, and would like to come to a definite understanding as to my rights in this patent business.

I have had five patents granted to me, and on my part I have paid Government fees and complied with all the conditions of the law, and in consideration of this the Government has virtually agreed that I shall have the exclusive right to *manufacture, sell, and use* the invention patented for seventeen years.

Now, I understand that you propose without my consent to repudiate the contract; and while I supposed that the Government would stand by me and protect my rights in this species of property, you seem to be taking sides with those who by *fraud or theft* will appropriate my property to their own use.

A law to this effect has already passed the House of Representatives, and is now before the Senate, and is being vigorously pushed by Senators. I hereby wish to enter my most solemn protest against the infamous fraud.

The law which you now contemplate passing provides in substance that a man may sell my property, although he has

no right to it whatever, yet the sale shall be valid, and this thief can convey a good title. The following is the text of your bill, which wears unmistakable marks of fraud on every syllable of it:

"That it shall be a valid defense to any action for an infringement of any patent, or any suit or proceedings to enjoin any person from the use of a patented article, that the defendant therein, or his assignor, purchased the patented article for use or consumption, and not for sale or exchange, in good faith, and in the usual course of trade, without notice that the same was covered by a patent, or without notice that the seller had no right to sell such article, and in all such cases notice received after such purchase shall not have the effect to impair in any way the right of such purchaser as absolute owner."

Now, suppose I should steal your jack knife or your horse and sell it to a third man; in order to save your title you must hasten and notify the purchaser, before he buys, that it is stolen property; for after he has purchased it he is the "absolute owner," and you will be barred forever after; and this is precisely what your bill proposes to do with inventors and owners of patents.

You say, if the man purchase the patented article for *use*, that will clear him; but that is just what I own—the *use* of the article; or if he purchase "in good faith," that shall make his title valid, but how am I to prove that he did not purchase in good faith? Or if he purchase it in the "usual course of trade," he becomes the "absolute owner;" any notice that I may give him after he has purchased will avail me nothing. In conclusion I would say that I have often heard of wickedness in high places, but I think this is the most flagrant attempt at legalizing theft of anything that has ever transpired in the Congress of the United States.

But hoping that there is wisdom enough in the Senate, or the President, to defeat the measure, I remain,

Respectfully,
D. L. CARVER.

Hart, Mich., March 10, 1884.

Th. Du Moncel.

It would appear that the column of obituary notices of scientific men was becoming too much of a permanency in our paper when week after week it heralds the demise of such men as Siemens, Guyot, Smith, Balfour, etc. Now we are under the painful necessity of announcing the death of the Count Theodore Achille Louis du Moncel. This distinguished electrician was born in Paris on March 6, 1821. He spent his early days in the study of archæology and the arts, and it was not until 1852 that he began to devote himself to electricity. So little was known of this obscure phenomenon of nature at that time that the field for study was immense, and it required a peculiar perseverance and an unswerving purpose to make this branch a special study. He was the inventor of numberless electrical contrivances, and he contributed in no small degree to the advancement of knowledge, practical and theoretical, in this particular direction.

His work on the application of electricity went through three editions, and his *Practical Treatise on Electricity* was published at the time of the Exposition of 1878, and gave quite an impulse to the movement in electricity started at that time.

Later, he published works on the telephone, electric lighting, and electricity as a motive power. His works were written while he was serving as editor of *La Lumière Electrique*.

In 1860 M. Du Moncel was electrical engineer of the telegraph wires of the city of Paris, and he held this office till 1873. He was elected an officer of the Legion of Honor in 1866, and belonged to a number of scientific and literary societies. In 1874 he was elected a member of the Academy of Sciences.

We offer our contemporary, *La Lumière Electrique*, our sympathy at this her loss.

The Remarkable Storms of February 19.

The Signal Service Bureau has issued a series of charts showing the course of the terrible storms which swept over so large a portion of the country on February 19.

The central area of barometric minima stretched from Dakota in a great bend over the southern end of Lake Michigan, and thence to the north of and far down the valley of the St. Lawrence. From thence the wind was generally southwest of the Mississippi, and north at the east, with remarkable contrasts of temperature in localities. The storm lasted from about seven o'clock in the morning until after midnight, being most destructive in Virginia, North and South Carolina, Georgia, and Alabama. The loss of property thereby is placed at between three and four million dollars, with about 1,000 killed and a great number severely wounded. Some 10,000 buildings are said to have been destroyed, with horses, cattle, hogs, and other domestic animals in great numbers.

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