

For the Scientific American.

Patent Laws.—Selling before the Issue of a Patent.

No 3.

It may be said, and many no doubt suppose, that the 7th section of the Act of 1839 must be understood to apply to sales only during "the time intervening between such sale and the application for a patent, and cannot mean to allow sales of the same articles after that time." The language, however, is perfectly clear and explicit, that every sale or construction of a newly invented article made prior to the application for a patent, vests a "right" in the purchaser or manufacturer to "use and vend to others to be used," the "specific" articles so purchased or constructed, "without liability therefor" to any person whatever. It does not indeed in words, say that such right may be exercised after the patent issues; but, unless such were the effect intended and naturally resulting, the provision would be absurd, for if one possesses a "right" he cannot be divested thereof in law, except by his own act, and as the statute authorizes him "to use and vend," this privilege is unlimited, for the inventor or patentee has no privilege of monopoly not expressly confined by statute or necessarily resulting from and belonging to the privileges given him; and in thus using and vending such persons are particularly exempted from all "liability to any person whatever, at any time, as is shown by the use of the comprehensive and universal expression "without any liability." Thus if the inventor allow B. to construct a quantity of his machines prior to applying for a patent, which machines remain in B.'s hands after the patent issues, B. can sell them and the purchasers may use them without infringing the patent.

As to sales of territorial rights before a patent is obtained, nothing is said in the statutes; the subject must therefore be governed by such other principles of law as will apply. Since it is uncertain whether the inventor will succeed in obtaining a patent until he actually receives it—long delay and careful examination being had at the Patent Office by the proper officers—it is plain that he cannot sell a "patent right," for he possesses none. He can, however, make a contract (if a person can be found sufficiently devoid of common shrewdness to make such a purchase) that he will assign a territorial right in case he obtains a patent, and may include a stipulation in regard to intermediate manufacturing, using or vending. Such a contract would be good in law, and similar agreements are of daily occurrence. As such a contract is "executory," to be valid only in case the patent is obtained, there would be considerable risk to both parties in making it, for the issuing of the patent is in reality but an uncertain contingency.

The safe course to be adopted, if inventors make sales before applying for patents, is, to require written agreements from all purchasers that they will use the invented article only and return it to the patentee when a patent is issued; and if they permit others to manufacture, to require a stipulation from them that all machines they may have on hand or unfinished, at that time, shall on just terms become the property of the patentee, the manufacturer to agree also that every person to whom he sells shall be restricted to the use only of his purchase, and by no means to construct another after the same manner.

I will observe in conclusion that it is not necessary and scarcely expedient that an inventor should scatter his contrivances over the country before applying for a patent, whether for the purpose of advice, commendation and popularity, or to raise money. If he knows in the outset what he wants to invent, he can tell for himself whether it be worth attempting; and after a little progress he can, if possessed of an intelligent acquaintance with the scientific principles applying, form a sufficient opinion of its utility. Then after making a working model for private use and experiment he can himself ascertain and correct all deficiencies. After doing this he can apply for a patent, and no other person will be acquainted with his secret. If, however, he must have the advice and suggestions of competent judges, they may be had without giving or selling to such persons a single specimen of the in-

vention. If the inventor be poor, then he should borrow money to secure his patent, or failing in that let him labor with increased energy until the necessary sum has been earned; he will be much wiser by being patient and persevering, and in the end much richer than if he had made sales indiscriminately or taken a partner.

If any are desirous to obtain the laws, forms and instructions of the Patent Office, they can be had without expense by writing to their representatives in Congress. It has occurred to me, however, that a compilation of the patent laws and judicial decisions (American,) with a concise elementary exposition of the whole patent law, and full directions and forms of procedure, accompanied by a complete general index, presented in a cheap and comprehensive form (pamphlet) would be of great benefit to a large class of enquirers whose numbers are constantly increasing, at the same time that it would supply a deficiency nowhere at present filled, being in character and arrangement entirely different from any other work on patents. If this impression is correct, and sufficient desire for such a work should be manifested, I will engage to prepare it.

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Rochester, N. Y.

For the Scientific American.

Turning of Irregular Forms.

Prior to the invention of Thomas Blanchard (as he mentions in his specification) there was a machine in Waterbury, Conn, for turning lasts,—the invention of Azariah Woolworth now of Hartford, Conn. who, like most original inventors, was by reason of limited circumstances prevented from securing himself or invention against piracy and was therefore compelled to convey it to an Assignee for the purpose of obtaining letters patent, which assignee brought a suit against said Blanchard for the infringement of said patent when he, (Blanchard) compromised the suit and purchased the right of said patent, and conveyed it to the Blanchard Gun Stock Company; and for the space of 14 years had control of said Woolworth's patent;—and said Blanchard not asking a renewal of said conveyed right, it has become common property and the public have a right to use the same. But Blanchard contending that Congress had renewed to him his invention (which if he ever had a legal one, except that conveyed to him by said Assignee) is a question to be settled hereafter. For nearly the space of 14 years the original invention was locked up in the Blanchard Gun Stock Company and all right of the inventor lost.

Mr. Blanchard has made Congress as well as the public believe that it was his own invention; and under the renewal granted him presumes to have the power to prevent any person, except those having license from him to make lasts or spokes by any machine whatever; although in the case which was tried last Spring, Blanchard against myself and others, in which the jury were unable to agree, the judge charged the jury that although the defendants' machine was superior to Blanchard's it contained his combination, for it was not in evidence that said combination was in use before his alleged invention. And when the evidence was produced to prove that such combination did exist, it was objected to, on the ground that legal notice of its production had not been given. Yours, &c.

Philadelphia.

J. B. ELDRIDGE

Adulteration of Bread.

In England when alum is cheap and flour dear, it is a common thing to adulterate the flour with this stuff, and so inveterate is the evil, that many have supposed it morally impossible to iradicate it. The custom is so universal that the most respectable baking establishments are stained with the crime, for we can call it nothing else. Alum to be sure, is not a deadly poison but it contains no nutriment, and is so far a fraud upon the purchaser. But it has also a very decided effect upon animal matter either dead or living; it dries, contracts, and hardens. Of course when continually taken in food it gradually acts upon the bowels; by hardening them, it hinders the proper performance of their function and constipation is the result. To counteract this, purgative medicines are given, but

as the cause of the evil still continues these can afford merely a temporary relief. These are mainly called into existence by the alum bread, and thus the consumer is first robbed by the baker of his money and his health, and then again fleeced by the quack.

The poor people are the greatest sufferers, and this is a great shame, for as they raise the beef and bread, they certainly have the best title to use them.

To detect the presence of alum in bread—the bread must be soaked in water, and to the water in which it has been soaked, a little of any test for sulphuric acid must be added. (Solution of muriate of lime will do.) Upon which, if any alum be present, the liquid will be pervaded with milkiness; but if the bread be pure, the liquid will remain limpid. Rationale.—Sulphuric acid has a stronger affinity for lime than for the alumina and potash with which it forms alum; it, therefore, quits those bodies, to form sulphate of lime with the lime of the test which produces the milkiness.

Charcoal.

Charcoal is usually made by piling wood, covering it over with a compact earthy layer and firing it, when the slow combustion of a portion of the volatile combustibles and of the wood itself expels the residue of the volatile matter. Such heaps are termed charcoal pits. The following is an outline of the process. Logs not more than 6 feet long and 6 inches thick are laid either horizontally or vertically and stems and branches are employed to fill up the interstices. The whole is covered with from 3 to 5 inches of earth, or still better with a mixture of earth and fire charcoal over a layer of leaves and small brushwood, and kept moistened with water. The heap is ignited by coals thrown into the chimney in the centre when the fire "draws to the sides" towards small openings left around the base. A heavy, yellowish-gray smoke and much watery vapor first appears, which condenses on the outer covering called sweating. The fire should be rapid during sweating, to avoid explosions, and the heap carefully sweated off, requiring 16 hours from the beginning.—The general shrinkage of the wood opens cracks, when the coalman mounts the heap, rams the wood together, and replaces the covering. When the heap is fairly warmed, and no farther explosions to be feared, the openings are closed, and the heap suffered to burn several days. A few openings are now and then made for the escape of the tarry matter, &c., and a few others at the foot: and after 4—8 days others half-way up the heap to char the outside logs. If a blue flame rises, the openings are stopped and made lower down. When the fire gradually breaks out uniformly around the base, the charring is complete. The heap has become smaller and very irregular in form from shrinking, &c. The whole time required is from 6 days to 5 weeks, according to the size. A heap of 3000 cubic feet requires about 15 days.

Economy is an important point in charring, for the object is to employ as little of the charcoal as possible for expelling the volatile matter, and no doubt the combustion of some of the volatile matter assists in it. There is a great difference in the amount obtained by slow and rapid charring, in favor of the slow process. To insure slow charring, little space should be left in the pile, and the interstices should be filled with fine coal, or *culm*, of a previous burning. This was tried and found to give 10 per cent more in bulk, and the charcoal was 20 per cent heavier, and well charred.

The ashes of charcoal is less in quantity than that of the wood from which it is produced, a portion passing off even by a very slow distillation. The alkaline matter especially diminishes, being probably carried over in combination with acetic acid.

Charcoal is chiefly employed as a fuel, igniting readily, burning freely, with a strong heat, making a clean fire, from the absence of volatile and other matters. It is farther used in the manufacture of gunpowder and fireworks; as a decolorizer, disinfector, and antiseptic. From its imperfect conduction of heat, it is often used as a casing for heated pipes; and from the same property and its

reducing quality it is useful in Blowpipe experiments. It is an important reducing agent employed in the arts and in this respect is decidedly superior to any other, where the quality of the metal, &c. is important.

Influence of Sounds on the Elephant and Lion.

In the human ear the fibres of the circular tympanum radiate from its centre to its circumference, and are of equal length; but Sir E. Home has found, that in the elephant, where the tympanum is oval, they are of different lengths, like the radii from the focus of an ellipse. He considers that the human ear is adapted for musical sounds by the equality of the radii, and he is of opinion that the long fibres in the tympanum of the elephant enable it to hear very minute sounds, which it is known to do. A pianoforte having been once sent on purpose to Exeter Change, the higher notes hardly attracted the elephant's notice, but the low ones roused his attention. The effect of the higher notes of the piano-forte upon the great lion at Exeter Change was only to excite his attention, which was very great. He remained silent and motionless. But no sooner were the flat notes sounded, than he sprang, up, attempted to break loose, lashed his tail, and seemed so furious and enraged as to frighten the female spectators. This was attended with the deepest yells, which ceased with the music. Sir E. Home has found this inequality of the fibres in neat-cattle, the horse, deer, the hare, and the cat.

Singular Insanity in Paris.

It could not have been expected that three revolts in Paris, fighting in the street, 300,000 men engaged, and dreadful slaughter should have taken place without creating wildness and insanity among many classes to a great extent. As soon as the revolution broke out in February, the hospitals began to fill. Dr. Borsmont states that the first patients were generally sad, melancholy, and despondent. Their fancies were of a heart-rending description, as they expressed a constant fear of being slaughtered and assassinated. The patients of this class mostly belonged to the respectable trading part of the community, and many of them had, by industry and perseverance, succeeded in amassing some property. In order to escape the misfortunes they dreaded; some of these patients tried to destroy themselves, and the most careful watching was necessary to prevent them from doing so. Two starved themselves to death in spite of every precaution. A short time afterwards, another description of patients were received, whose derangement might be fully attributed to the working of the new political ideas. These were not dejected and sad; on the contrary, they had proud, gay, and enthusiastic looks, and were very loquacious. They were constantly writing memorials, constitutions, &c., proclaiming themselves great men, the deliverers of the country, and took the rank of generals and members of the government. The last revolution greatly increased the number of insane patients, who talked of death, guillotine, ruin, pillage and fire.

Something for All.

So various are the appetites of animals that there is scarcely any plant which is not chosen by some and left untouched by others.—The horse gives up the water-hemlock to the goat; the cow gives up the long-leaved water-hemlock to the sheep; the goat gives up the monk's head to the horse, etc.; for that which certain animals grow fat upon others abhor as *poison*. Hence no plant is absolutely poisonous, but only respectively. Thus the spurge, that is noxious to man, is wholesome nourishment to the caterpillar.—That animals may not destroy themselves for want of knowing this law, each of them is guarded by such a delicacy of taste and smell that they can easily distinguish what is pernicious from what is wholesome; and when it happens that different animals live on the same plants, still one kind always leaves something for the other, as the mouths of all are not equally adapted to lay hold of the grass—by which means there is sufficient food for all.