

JOURNAL OF PATENT LAW.

EFFECT OF USING A PATENTED ARTICLE UPON A FOREIGN VESSEL IN AN AMERICAN PORT, WHEN SAID ARTICLE, THOUGH PATENTED IN THIS COUNTRY, IS IN COMMON USE IN A FOREIGN ONE.

As the world advances and the relations of men become more intimate, the questions which arise upon the conflict of individual rights are constantly becoming more intricate and refined. The case of *Brown vs. Duchesne*, recently decided by the United States Supreme Court, illustrates this truth. It involved not only the mutual rights and obligations which exist between the United States government and its citizens, but also the reciprocal duties which exist by treaties, or comity, between one government and another.

The above action was brought by the plaintiff, charging the defendant with unlawfully using his invention, which related to the "gaffs" of sailing vessels, and which was secured to him by a patent issued by the United States government. The defendant, it appeared, was a subject of France, the master of a French vessel built in France, and owned and manned by French subjects. The improvement in question was in common use in France, and was placed upon the defendant's vessel at the time it was built in France. The vessel, at the time of the alleged infringement, was upon a lawful voyage under the flag of France, from the Island of Minquelon, a dependency of France, and thence back. It was claimed by the plaintiff that, while in the port of Boston, being within the jurisdiction of the United States government, the defendant was prohibited from using such improvement by reason of the plaintiff's patent, and was liable to him for using it as an infringement of his patent. The case was first tried at the Massachusetts circuit, where the court gave judgment for the defendant. It was then carried by writ of error to the United States Supreme Court, where, after argument, the above judgment was affirmed. The following is a portion of the opinion of the court:—

Taney, C. J.—"The general words used in the clause of the patent laws granting the exclusive right to the patentees to use the improvement taken by themselves, and literally construed, without regard to the object in view, would seem to sanction the claim of the plaintiff. But this mode of expounding a statute has never been adopted by any enlightened tribunal, because it is evident that, in many cases, it would defeat the object which the Legislature intended to accomplish. And it is well settled that, in interpreting a statute, the court will not look merely to a particular clause in which general words may be used, but will take in connection with it the whole statute (or statutes on the same subject) and the objects and policy of the law, as indicated by its various provisions, and give to it such a construction as will carry into execution the will of the Legislature, as thus ascertained, according to its true intent and meaning. Neither will the court, in expounding a statute, give to it a construction which would in any degree disarm the government of a power which has been confided to it to be used for the general good, or which would enable individuals to embarrass it in the discharge of the high duties it owes to the community, unless plain and express words indicated that such was the intention of the Legislature.

"The patent laws are authorized by that article in the Constitution which provides that Congress shall have power to promote the progress of science and useful arts by securing for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries. The power thus granted is domestic in its character, and necessarily confined within the limits of the United States. It confers no power upon Congress to regulate commerce, or the vehicles of commerce, which belong to a foreign nation, and occasionally visit our ports in their commercial pursuits. That power and the treaty-making power of the general government are separate and distinct powers from the one of which we are now speaking, and are granted by separate and different clauses, and are in no degree connected with it. And when Congress are legislating to protect authors and inventors, their attention is necessarily attracted to the authority under which they are acting, and it ought not lightly to be presumed that they intended to go beyond it, and exercise another and distinct power, conferred on them for a different purpose. Nor is there anything in the patent laws that should lead to a different conclusion. They are all manifestly intended to carry into execution this particular power. They secure to the inventor a just

remuneration from those who derive a profit or advantage within the United States from his genius and mental labors. The right of property which a patentee has in his invention, and his right to its exclusive use, is derived altogether from these statutory provisions; and this court has always held that an inventor has no right of property in his invention, upon which he can maintain a suit, unless he obtains a patent for it, according to the acts of Congress; and that his rights are to be regulated and measured by these laws, and cannot go beyond them. But these acts of Congress do not, and were not intended to operate beyond the limits of the United States, and as the patentee's right of property and exclusive use is derived from them, they cannot extend beyond the limits to which the law itself is confined. And the use of it outside of the jurisdiction of the United States is not an infringement of his rights, and he has no claim to any compensation for the profit or advantage the party may derive from it.

"The court is of opinion that cases of this kind were not in the contemplation of Congress in enacting the patent laws, and cannot, upon any sound construction, be regarded as embraced in them. For such a construction would be inconsistent with the principles that lie at the foundation of these laws; and instead of conferring legal rights on the inventor, and in order to do equal justice between him and those who profit by his invention, they would confer a power to exact damages where no real damage had been sustained, and would moreover seriously embarrass the commerce of the country with foreign nations. We think these laws ought to be construed in the spirit in which they were made—that is, as founded in justice—and should not be strained by technical constructions to reach cases which Congress evidently could not have contemplated, without departing from the principle upon which they were legislating, and going far beyond the object they intended to accomplish. The construction claimed by the plaintiff would confer on patentees not only rights of property, but also political power, and enable them to embarrass the treaty-making power in its negotiations with foreign nations, and also to interfere with the legislation of Congress when exercising its constitutional power to regulate commerce. And if a treaty should be negotiated with a foreign nation, by which the vessels of each party were to be freely admitted into the ports of the other upon equal terms with its own, upon the payment of the ordinary port charges, and the foreign government faithfully carried it into execution, yet the government of the United States would find itself unable to fulfill its obligations if the foreign ship had about her, in her construction or equipment, anything for which a patent had been granted. And after paying the port and other charges to which she was subject by the treaty, the master would be met with a further demand, the amount of which would not be regulated by law, but would depend upon the will of a private individual. And it will be remembered that the demand, if well founded in the patent laws, could not be controlled or put aside by the treaty. For, by the laws of the United States, the rights of a party under a patent are his private property; and by the Constitution of the United States, private property cannot be taken for public use without just compensation. And in the case I have stated, the government would be unable to carry into effect its treaty stipulations without the consent of the patentee, unless it resorted to its right of eminent domain, and went through the tedious and expensive process of condemning so much of the right of property of the patentee as related to foreign vessels, and paying him such a compensation therefore as should be awarded to him by the proper tribunal. The same difficulty would exist in executing a law of Congress in relation to foreign ships and vessels trading to this country. And it is impossible that Congress, in passing these laws, could have intended to confer on the patentee a right of private property which would in effect enable him to exercise political power, and which the government would be obliged to regain by purchase, or by the power of its eminent domain, before it could fully and freely exercise the great power of regulating commerce, in which the whole nation has an interest. The patent laws were passed to accomplish a different purpose, and with an eye to a different object; and the right to interfere in foreign intercourse, or with foreign ships visiting our ports, was evidently not in the mind of the Legislature nor intended to be granted to the patentees."

LITERARY AND SCIENTIFIC NOTICES.

THE MANUFACTURE OF COAL OILS.

The second edition of this useful work has just been published by D. Appleton & Co., of this city. This affords evidence of its usefulness and the general interest manifested in the subject. We are not surprised at this result, because its author—Professor Thomas Antisell, who occupies the important position of Chief-examiner in the Chemical Department of the Patent Office—has had the best of opportunities to become acquainted with all that has been patented and published in relation to the manufacture of oil from coal and other mineral hydrocarbons.

A brief history of coal oil is given; and the discovery is dated as far back as 1739. It was first obtained by Dr. Clayton, of England, but only as a product of the destructive distillation of coal. The credit of the invention of manufacturing oil from coal, as an art, by distilling the mineral at a low red heat, is awarded to James Young (now of Glasgow), and only dates back to 1850—ten years ago. His patent is held to be good and his invention exceedingly valuable. The first person who attempted the manufacture of coal oil on our continent was Dr. Gesner, of Brooklyn; the substance from which he obtained it was the bituminous shales of New Brunswick.

The qualities of American cannel coals for producing oils are quoted from a paper by Professor B. Silliman, Jr., and are as follows:—Breckinridge cannel coal, 62.89 volatile matter in each hundred-weight; New Brunswick (Albert coal), 61.74; Chipperville, Pa., 49.80; Kanawha, Va., 41.85. The Torbane Hill cannel coal of Scotland is the richest in oil in the world; it contains 71.9 per cent of volatile matter. The American cannel coals yield from 40 to 105 gallons of crude oil per tun.

Several methods of purifying the oil are described, being a very valuable portion of the work. The merits of different kinds of retorts are discussed, and as the whole economy of this oil manufacture is dependent upon the distillation process, this feature invites particular attention. We know that there is a great difference of opinion among chemists and others regarding the merits of the stationary close, the close revolver, and the open retort. The revolving retorts of J. E. Holmes, of Newark, Ohio, are held by several persons to be the most economical of all; while others think more highly of the open or *meerschau* retorts of Luther Attwood. These latter were used at the Kerosene-works on Newton Creek, near Brooklyn—the largest coal oil establishment on this continent; but they have not been in operation for several months. We do not know the reason; we only know the fact. These works are capable of turning out 30,000 gallons per month, and that they should be stopped is deeply to be regretted.

The manufacture of coal oils will become a permanent business. This illuminating agent gives the most brilliant light of any fluid known to us, and our mines have inexhaustible material for manufacturing it. We also understand that its use is still rapidly extending. In a great many cases, impure qualities, having a very offensive odor, are still manufactured and sold. Several improvements have yet to be made in the purifying of these oils and in the lamps for burning them. Professor Antisell tells us that coal oils are employed in northern Germany for street lamps; they must be prepared in a superior manner to that which is used with us, or they could not be employed for such a purpose. We understand that their coal oil undergoes more distillation and purification than ours, which accounts for its purity and absence of offensive odor—qualities which it is stated to possess.

AMERICAN ENGINEERING.

This most important and useful work on American machinery is a credit to its author, G. Weissenborn, C.E., of No. 131 Fulton-street, this city; he has already issued 22 numbers, each containing two large sheets of good working drawings and some accompanying letter-press. The latest numbers illustrate peculiar mechanism of an interesting nature to every engineer. There are four variable steam cut-offs, namely, Corliss & Nightingale's; N. T. Green's, made at Providence, R. I.; Boyden's, at Newark, N. J.; and Charles Reynolds, manufactured by Mr. Burden, Brooklyn. In Vol. II. of "Engineering Precedents," patent cut-offs are slightly alluded to by the author of that work—Chief-engineer Isherwood; but no fact, we believe, is better established in the operations of steam machinery than that a great

saving of fuel is effected by the use of a variable cut-off, when the work to be done is variable. No engineer can be posted up in his profession unless he is acquainted with the recent improvements in cut-offs, as illustrated in this work, and as they have appeared in our own columns. Our mechanics have devoted more attention to such devices for regulating the power of engines than those of any other country; this, we believe, has been called forth by the peculiarity of American operations. We remember when it was scarcely possible to find an American steam engine that would operate so as to give uniformity of motion to machinery in a factory. Their governor's were so sluggish that, when a few machines in a factory or mill were thrown off, the engine drove the others with such fury that something was sure to break down. These defects are now almost unknown; our present steam engines—thanks to patent cut-offs and sensitive governors—operate like clockwork, and cut off the steam to do the work required—no more and no less—at every stroke. These are great improvements, truly.

In another department our machinists have made most astonishing advances during the past 20 years: namely, the manufacture of tools. We had previously attained undoubted superiority in the manufacture of tools for working wood, but not those for working in iron. We remember when it was scarcely possible to find a good American lathe, planer or gear-cutter; our best tools had to be imported from England. But all this has changed. American iron tools, as now manufactured, are of a very superior character. Some of the English tools are a little better than ours and some of ours are better than theirs, so that we stand about equal; but as our inventors are never to be beaten in anything, and as our country is more extensive than England, and our wants more numerous, we shall soon shoot further ahead. As the accurate, superior and rapid construction of machinery is dependent upon good tools, we have hailed with the utmost gratification our progress in tool-making; it is a sure sign of excellence and advancement in the arts. Several tools, as manufactured by Sellers, of Philadelphia (a distinguished maker), are illustrated by full working drawings in the work of Mr. Weissenborn.

MACAULAY'S COMPANIONS IN THE TOMB.

Baron Macaulay (says the *London Post*) now lies close at the foot of Westmacott's statue of Addison, whom he once so happily described as the unsullied statesman, the accomplished scholar, the master of pure English eloquence, the consummate painter of life and manners, and "the great satirist who alone knew how to use ridicule without abusing it; who, without inflicting a wound effected a great social reform; and who reconciled wit and virtue, after a long and disastrous separation, during which wit had been led astray by profligacy, and virtue by fanaticism." The remains of Addison, however, are at some distance from the spot on which the monument stands—they are in the chapel of Henry VII.; and it was not until three generations had laughed and wept over his pages that any tablet was raised to his memory in the Abbey. Macaulay said of the statue which now keeps watch over the newly-closed grave:—

"It represents Addison as we can conceive him, clad in his dressing-gown, and freed from his wig, stepping from the parlor at Chelsea into his trim little garden, with the account of the 'Everlasting Club,' or the 'Loves of Hilpa and Shalum,' just finished for the next day's *Spectator*, in his hand."

Thickly strewn near the grave of Macaulay, are the relics of men whose names are still held in reverence, and whose works adorn the literature of our country. As a poet, not less than a brilliant essayist, Macaulay has earned a place among the great men of the past and present; and in death the author of the "Lays of Ancient Rome" and the ballad on the "Spanish Armada" will face Thomas Campbell, who won a poet's fame by the "Pleasures of Hope." A few feet from the grave of the enobled poet of the nineteenth century stands the fine old piece of gothic sculpture which marks the resting place of Chaucer—the father of English poetry.

Just opposite to the tomb of Chaucer, "the day star" of English poetry, is the monument of "Fairie Spenser," the sunrise of our poetry, who died, as Ben Jonson tells, "for lack of bread; refusing the twenty pieces sent him by my Lord of Essex, as he was sorry

he had no time to spend them. Fairly obliterated by the hand of Time, the tomb of Spenser bears the inscription, "Here lies the body of Edmund Spenser, the prince of poets in his time, whose divine spirit needs no other witness than the works he left behind him." Beaumont, the dramatist, sleeps here too, but no memorial or inscription marks his resting-place; it is, however, immediately behind Chaucer's tomb. A marble much defaced, erected by the Countess of Dorset, bears in very illegible characters an inscription written by Ben Jonson for the tomb of Drayton. Still nearer Macaulay's grave there is a small pavement stone with the inscription, "O rare Ben Jonson!" which Aubrey tells us was done at the charge of Jack Young, who walking there when the grave was covering, gave the fellow eighteen pence to cut it. At a recent relaying of the pavement of the Abbey the original stone was removed and destroyed. A few feet distant is the monument of Cowley, raised by George, Duke of Buckingham. A monument raised by Sheffield, Duke of Buckingham, marks the grave of Dryden—"Glorious John"—who was followed to his resting-place by mourners in twenty mourning coaches, each drawn by six horses, and at whose requiem an ode of Horace was sung, with an accompaniment of trumpets and hautboys.

The only titled poet that sleeps in this part of the Abbey, is the Earl of Roscommon, the famous master-of-the-horse to the Duchess of York at the Restoration. Another companion of Macaulay is Nicholas Rowe. There are also Matthew Prior and John Gay and he whose tomb bore the inscription (in imitation of that of Jonson) "O rare Sir William Davenant!" and Samuel Johnson, David Garrick, and Richard Brinsley Sheridan, and Camden, the father of English history; May, the historian of the Long Parliament; Gifford, the editor of the "Tory Quarterly Review;" Dr. Parr, and numerous others. At the opposite or north end of the transept, there towers above other memorable graves the stately monument of Chatham, of whom Macaulay wrote, and the words are now not less applicable to himself:—"Among the eminent men whose bones lie near him, scarcely one has left a more stainless, and none a more splendid name."

ANCIENT RUINS IN THE UNITED STATES.

A new stimulus is likely to be given to American archaeology by a discovery recently made some 90 miles north-east of Fort Stanton, a long account of which has just appeared in the *Fort Smith (Arkansas) Times*:—

The plain upon which lie the massive relics of gorgeous temples and magnificent halls, slopes gradually eastward towards the river Pecos, and is very fertile, crossed by a gurgling stream of the purest water, that not only sustains a rich vegetation, but perhaps furnished with this necessary element the thousands who once inhabited this present wilderness. The city was probably built by a warlike race, as it is quadrangular, and arranged with skill to afford the highest protection against an exterior foe, many of the buildings on the outer line being pierced with loop-holes, as though calculated for the use of weapons.

Several of the buildings are of vast size, and built of massive blocks of dark granite rock, which could only have been wrought to their present condition by a vast amount of labor. There are the ruins of two noble edifices, each presenting a front of 300 feet, made of ponderous blocks of stone; and dilapidated walls are even now 35 feet high. There are no partitions in the apex of the middle (supposed) temple, so that the room must have been vast; and there are also carvings in bas-relief and fresco work. Appearances justify the conclusion that these silent ruins could once boast of halls as gorgeously decorated by the the artists' hand as those of Thebes and Palmyra.

The buildings all have loop-holes on each side, much resembling those found in the old feudal castles of Europe designed for the use of archers. The blocks of which these edifices are composed are cemented together by a species of mortar of a bituminous character, which has such tenacity, that vast masses of wall have fallen down without the blocks being detached by the shock. We hope ere long to be favored with full and descriptive particulars, as it is probable that visits and examinations will be made among such interesting relics of the unknown past, by some of the United States officers attached to the nearest fort.

GRIST MILLS AND MILLING.

MESSRS. EDITORS:—I propose to give the readers of the *SCIENTIFIC AMERICAN* some practical information about milling, as I have been a working millwright for seventeen years, and have put up mills with stones varying from six down to three feet in diameter. These extremes in the sizes of stones in different mills led me to observe their relative merits during a long series of operations; and I can give a very experienced opinion of their qualities, regarding the best size of stones and the speed at which they ought to be run to do the most and best work with the least waste of power. I have attended a steam mill during the past six years; having charge of the milling and doing the mill-work. In it there are five pairs of stones—four for wheat and one for corn. The "run" for grinding corn have a speed of 150 revolutions per minute; they grind 800 lbs. per hour. The ground corn meal is carried up, by elevators, to a sieve 5 feet long and 2 feet wide, driven by a crank, with a 2-inch pitch, and it has a speed of 136 revolutions of the crank shaft. There is a small fan which blows off the light bran; the coarser meal is carried back to the eye of the stone with a small tin spout. We use No. 16 brass wire cloth in the sieve, which does very well, if attention is paid to keep it clean. The speed given to the four "run" of wheat stones is 100 revolutions per minute. We never use a hammer-pick in dressing these stones, as the French burr is liable to wear into holes. We use a plain chisel pick, one inch in breadth, which makes better work than when it is made broader. One "run" of stones grind 660 lbs. of wheat per hour, with a loss of only 4 lbs. in 260. I have given the quantities in pounds because this is the most correct method, as it is difficult to find two men who can measure alike by the bushel. These millstones are each 4 feet 8 inches in diameter. W. M.

Baltimore, Md., April 28, 1860.

EXPLOSIONS IN COAL MINES.

MESSRS. EDITORS:—In a late number of the *SCIENTIFIC AMERICAN*, you noticed the explosion of "fire-damp" in a coal mine, near Scranton, as corroborating your previous statement of the great exposure of life by the present poor mode of ventilation in mines. The accident referred to was not caused by insufficient ventilation; those mines, like many others in that section, are ventilated by an air passage excavated with and separated from the main tunnel by battened boards; the inner end of this passage opens into the main one, and near its mouth is a chamber containing a large fire which assists the draft and would especially consume all combustible gases. The wire rope holding the platform (on which was a loaded car hoisted almost up to the mouth of the shaft) broke and uncoupled from the drum; the platform and car of course were precipitated and carried with them parts of the structure, smashing in the side of the air passage. Impure air and gases then rushed into the tunnel and were carried, by the downward current, through the shaft into the coal chambers; an explosion was the result, wounding several, and one (it is feared) fatally. It is very unusual for an explosive gas to collect in mines ventilated in the above manner. S.

[Our correspondent states that the explosion "was not caused by insufficient ventilation," and yet it is substantially admitted that it was, only that if the ventilating arrangement had not met with an accident, the probability is that the explosion would not have occurred. We are well acquainted with the mode of ventilation described; it is the most simple and common, but it is a very imperfect system, as we shall clearly show. A coal mine cannot be properly ventilated unless a current of fresh air is made to flow continually through all the passages and rooms; now, as the draft through a mine, where a fire is used in the up-take shaft, depends entirely upon the size and intensity of the fire, which is seldom uniform, the ventilation can neither be uniform nor certain. For some mines this system of ventilation is sufficient, while for others, it is not.—EDS.]

THE DANGER OF TATOONG.—The *Journal de Rouen* states that the medical statistics having shown that several cases of loss of limb, and even death, had occurred from the practice of tatoong so common among seamen, the maritime authorities in France have recommended the discontinuance of the practice.