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Courts of Equity.

Any order, long accustomed to wield great power, becomes arrogant, over-bearing, and dogmatic. This is true of all those who exercise unbounded authority, especially when there is a feeling of security from long, or anticipated possession. It makes no matter whether authority is exercised by a despot or a council, the one is just as bad as the other, when they act out the same principles. It is in human nature to become domineering and reckless of consequences, when pride and passion are placed in the one scale against justice and rectitude in the other. A religious order may commence existence with a high and noble standard of morality, and at the same time those principles may be based upon a most excellent stratum of benevolence and meekness, but let that same body exercise its influence for a long time under popular favor, without opposition to keep it humble, and it will —for all the history of the past proves it— become haughty, "heady, and high-minded," it will become the very reverse of what it was when it commenced upon a career of noble effort with the most noble motives. If it be so with religious orders, we can more strongly assert it is so with those bodies devoted to the transaction of political or legal duties.

Last week we said a few words upon the subject of a change in the Judiciary System of the United States, and in another column of this number will be found the form of petition praying for that change, accompanied with some very excellent and temperate remarks upon the subject. They express the opinions of one who is practically acquainted with all the evils of our United States Equity System, and who is distinguished as a professional man and inventor, and who possesses legal, mechanical, and scientific qualities of no ordinary character.

Our U. S. Chancery system—our Courts of Equity—often act upon the very opposite principles for which they were anciently instituted. They were created for the purpose of mitigating the rigors of some just law—tempering mercy with judgment—but some of our U. S. Judges have made decisions of a most arbitrary nature in many particular cases, and instead of mitigating the rigors of common law, they have acted in the most cowardly manner, by being afraid to trust to its justice and clemency; they have made decisions above all law—common and statute. Our Courts of Equity have failed entirely to carry out the principles for which they were instituted; we only refer to cases wherein *facts* have been at issue, not questions of law. If our Courts of Equity acted as sound interpreters of law only, all would be well, but we have frequently equity without law, and this is always dangerous to the public weal. We are alluding to cases of patents.

A patentee believes or supposes another younger patentee has a machine something like his; he applies, by his attorney, to a U. S. Judge for an injunction to restrain the defendant—the younger patentee—from using his machine. The defendant denies the claims of the complainant, and a day is appointed for a special hearing of both parties. But this preliminary to a hearing of both sides may be coupled with the odious issuing of a partial injunction against the defendant, however innocent he may be. In the meantime a number of questions are proposed to a certain number of witnesses on both sides; these are taken down in writing, and are to be used before the Court. The one side, by the most respectable testimony, proves there is no similarity in the two machines, while the other proves there is. The testimony is contradictory; it is a question of facts, and one which our Constitution asserts should be tried by a Jury. Both parties come before the judge, and in one case which took place in Philadelphia last year, we have before us three large volumes of testimony, some of which was presented by the most distinguished men in our country—it was a question of facts, one for a Jury, but the judge pooh-poohed at all the testimony on one side, and ordered a perpetual injunction, with the sequestration of all the defendant's property.

Judges of our Equity Courts often make very startling decisions; thus, for example, a judge recently decided that a certain saw, for tongueing and grooving, embodied the principle of the Woodworth patent, while Woodworth himself, while living, asserted upon oath that saws for this purpose were not claimed by him. It is a sad thing for the administration of justice in our country, when a Judge presumes to judge of both law and facts, and when he takes up a board, and by looking upon it, decides that he knows the principles of a machine better than those who saw it operate—says, they are mistaken, numerous and respectable though he admits them to be, and decides at once, arbitrarily, against all the testimony on one side. These things will effect their own cure. The honest and just agitation has commenced, which will, in the course of time, bring down such arrogant pretences to the platform of common sense, justice, and equity, in deed—not tyranny under its mask.

Light Houses and our Light-House System.

A Board of officers, consisting of Com. Shubrick, U. S. N., Commander Du Pont, Gen. Totten, U. S. Engineers, Lieut. Col. Kearney, Topographical Engineers, Prof. Bache, U. S. Coast Survey, and Lieut. Jenkins, U. S. N., Secretary, was appointed, and received instructions from Hon. Thomas Corwin, Secretary of the Treasury, on the 21st of May, 1851, to examine into and report upon our Light House System. They have done so, and their report states that the Light House establishment of the United States does not compare favorably in economy with those of Great Britain and France. It is admitted in the report that the difference for maintenance per lamp, in a year, is sometimes in favor of those in this country, yet we are a long-shot behind the European *lights* in management, &c. In 1832 Congress passed an act to have two sets of dioptric or lenticular lens apparatus, and one set of reflector apparatus of the most improved kinds imported, set up, and their merits, as compared with apparatus in use, tested by full and satisfactory experiment. The report asserts that no such satisfactory experiments were ever made, except a lens apparatus placed in each of the towers at the highlands of Navesink, and fourteen out of the fifteen reflectors placed in the Boston Light House. A second order of lens, to test the plan of Mr. Isherwood, of discriminating one light from another, and the distance of a vessel from a light, was placed, by order of Congress, at Sankaty-head, Nantucket, and lights were placed by the Topographical Burea, on Brandywine shoal, Carysford-reef, and Sand-key. This is all that has been done to keep up light-house improvements in the United States with those of France and Great Britain. The report makes out the present light-house system of the United States to be miserable and inefficient. The floating lights are set down as comparatively useless for want of efficient lamps and parabolic reflectors. The modern light-house towers are asserted to be inferior in point of materials and workmanship to the older ones,—Sandy Hook light-house, built in 1762, is better than the latest edition of a light-house tower. This is certainly disgraceful; it is plainly stated that "there is not in useful effect a single first-class light on the coasts of the United States." The conclusion to which the Report comes is, that "the present Light-house System of the United States requires a thorough organization to insure to the service efficiency and economy; therefore it is recommended that there should be a Light-house Board organized, composed of scientific civilians, and army and navy officers, to be charged by law with the entire management of the light-house establishment of our country."

When we consider that the United States of America is the second greatest naval power in the world, and that in a very few years, if we progress as we have done, it will be the greatest, it is a shame that we have such a miserably managed light-house system. It is asserted, in the Report, that Scotland stands at the head of all nations for her light-house management; this is due no doubt to those distinguished men, Sir David Brewster and Allan Stephenson, the eminent engineer. There is nothing to hinder the United States from having as good a light-house system as any other nation; she should have the best, and if things were managed in Washington as they should be, we would have the best.

While we have said this much, it would be wrong not to mention that S. Pleasonton, the Fifth Auditor, had made a reply: he asserts that the Report of the Board is full of errors. He indeed makes out our light-house system to be conducted more economically, so far as dollars and cents are concerned, but that is no evidence of error in the Report of the Board,—a penny candle is cheaper than a huge argand lamp, but what proof is that of its efficiency? The Report of the Auditor presents no evidence to prove that we have lights to compare with those of other nations, indeed, we know when he speaks of the good lights about New York and the Hudson river, he is wrong: they are miserable as compared with the Toscar, the Skerrevore, and other lights on the coasts of Ireland and Britain. Now we want better lights on our coast, not your penny-wise and pound-foolish kind, but those of the most improved construction, if they do cost more than those now employed.

Sperm oil is the kind in use for our light-houses; colza oil is employed in the French and English light-houses; it possesses the advantage of remaining fluid at a temperature below that which thickens whale oil; it does not congeal above 21°; it is said to be better and cheaper than spermaceti oil; but the great advantage which it possesses over the other oils is, that it does not char the wick so readily; it will also burn in the Fresnal lamp and the single argand burner, with a thick wick, during seventeen hours, without trimming the wick. Spermaceti oil is cheaper here than the colza; still, we have no doubt but some vegetable oils, such as rape, might prove to be as good, and certainly much cheaper than the sperm. An objection to the Fresnal Light, which is recommended by the Board, is, it requires more attendance, and thereby entails more expense. Capt. Canfield, of the Topographical Engineers, who has erected a light on a shoal in the Straits of Mackinaw, has made a valuable improvement to do away with the constant attendance of a watchman. The lamp has only a single light, and if this were to go out by accident, all would be total darkness; a constant watchman is usually required to prevent such a result; the improvement is the attachment of a bell which will commence ringing whenever the light goes out. It works by the expansion and contraction of a copper tube, when heated and cooled. The arrangement has been found to answer perfectly.

Profits of Patents.

In our last number there was a small extract about the profits derived from the Woodworth Patent. It is well known to our readers that an extension of this patent has been prayed for, and arguments have been set forth by C. M. Keller in favor of the extension. A pamphlet has been published, and is now before us, which presents arguments against the extension. It is asserted from the facts set forth by the counsel for the extension, that the gross earnings of the patent amount to $15,000,000 per annum. Mr. Woodworth sold the extended term of the patent for $100,000, as was stated by Senator Dawson. In 1842, John Gibson, of Albany, purchased a right for $4,600, seven months before the first extension was granted; he had run five machines for the ten previous years. There are 1000 Woodworth machines in the United States; each dresses 10,000 feet of boards per day. The owners of the patent get one dollar of tribute per thousand feet, which amounts to $10,000 of clear profits per day. The price paid to the licencees for planing a thousand feet of boards is $5: after paying $1 they have $4 for all expenses. This pamphlet states that the whole cost of planing boards is only $2, therefore the clear profits of each machine is $30 per day. The pamphlet also states that the machine of George W. Beardslee, which was illustrated in our columns, can plane 1000 feet of boards, in the best possible manner, for one dollar; therefore, as the Woodworth machine is more expensive, is a tax upon the community, it concludes that it is wrong to bolster up an old and inferior invention. The logic of it is this: that the support given to the Woodworth machine retards improvements, and taxes the community by a law for an invention inferior to another one. This is a critical point in judging upon such matters; we are afraid that it is often overlooked by our courts. It is the fortune of war—no, not war, of progress—that what was a good invention some years ago, is not a good one to-day; at least it has been superseded by a superior improvement. Unless free scope is allowed to genius in the use of improved machines, we cannot expect to advance in mechanical improvements. The very spirit of patent laws "is the promotion of the useful arts." We have seen many paragraphs respecting the profits of the Woodworth patent, and have seen no contradictions of the same; there may, however, be some room for corrections.

Arresting Conflagrations in Cities.

In the Merchants' Magazine of this month R. Hare, of Philadelphia, proposes a system for arresting conflagrations. His project is to employ locomotive fire engines, with the addition of powerful pumps and high wheels for running on the pavements. He also recommends that a steamboat should be provided with powerful apparatas for throwing water, and propelling to any practicable distance. He also suggests that water reservoirs should be placed on the tops of buildings for keeping roofs wet in case of fire. A stationary engine, he believes, might operate on fires throughout the whole ramification of hydrant pipes.

None of these plans are new—but if good they are none the worse for that. In London there is a fire engine steamboat; it belongs to the fire brigade, but is of very little use, and has only been once used in a number of years. A steam fire engine by Ericsson is illustrated on page 347 of Ewbank's Hydraulics. Stationary engines have been employed in some of the European cities, and many of our houses have fire tanks on their roofs; French's Hotel that was recently burned in our city had one. Steam fire engines would be too slow in being brought to operate on a fire; but they would be very effective when brought to bear. We have no doubt but one could be made to throw a stream of four inches in diameter 100 feet high; this would soon put out a fire.—The expense of steam fire engines would, however, be very great; therefore we advocate more fire-proof houses, and an efficient hand fire-engine department in preference to other plans.

We have been informed that the engine No. 5, which was so successful in Brooklyn two weeks ago, having beat all the rest, was not made in this city, but by Mr. Jeffers, of Pawtucket, R. I., whose engines have been frequently noticed in the Scientific American.

Water for Brooklyn.

On Tuesday evening, the 8th inst., Alderman Marvin, as Chairman of the Committee on Water, made a report to the Common Council on supplyieg the city with water. It stated that the surveys had been completed by Mr. McAlpine, the State Engineer, and his Report was presented. The Committee were of opinion that the plan contemplated in the Report was the best that had been presented. This plan is to supply Brooklyn with water collected from a number of streams on Long Island, which are to be conducted to a large Reservoir, and pumped by steam power to the highest level in Brooklyn. It asserts that provision should be made for a supply of 250,000 inhabitants, or 10,000,000 of gallons per day. The waters which Engineer McAlpine has examined have been analyzed by Dr. Chilton, of New York city, and have proven to be of extraordinary purity—more so than the Croton.

The Common Council of Brooklyn have, at the recommendation of Mr. McAlpine, authorized suitable gauges to be placed in the several streams referred to in the Report, and the employment of a competent person to make a daily examination of the quantity of water furnished by each, and to keep a record of it.

This is a prudent measure; Brooklyn will yet have a good supply of water, but it will always be more expensive than the Croton which supplies New York.