

1892

# The Law of Electricity

Elmer Alonzo Denton  
*Cornell Law School*

Follow this and additional works at: [http://scholarship.law.cornell.edu/historical\\_theses](http://scholarship.law.cornell.edu/historical_theses)



Part of the [Law Commons](#)

---

## Recommended Citation

Denton, Elmer Alonzo, "The Law of Electricity" (1892). *Historical Theses and Dissertations Collection*. Paper 260.

This Thesis is brought to you for free and open access by the Historical Cornell Law School at Scholarship@Cornell Law: A Digital Repository. It has been accepted for inclusion in Historical Theses and Dissertations Collection by an authorized administrator of Scholarship@Cornell Law: A Digital Repository. For more information, please contact [jmp8@cornell.edu](mailto:jmp8@cornell.edu).

T H E L A W O F E L E C T R I C I T Y .

-----ooOoo-----

G R A D U A T I N G T H E S I S

----- O F -----

E L M E R A L O N Z O D E N T O N .

-----ooOoo-----

C L A S S O F ' 9 2

C O R N E L L U N I V E R S I T Y

L A W S C H O O L .

C O N T E N T S .

-----ooOoo-----

INTRODUCTION.....	1
RIGHT OF STREET RAILWAYS TO CHANGE TO ELECTRICITY AS A MOTIVE POWER.....	3
POLES AND WIRES FOR ELECTRICAL PURPOSES IN STREETS AND HIGHWAYS.....	5
ELECTRICITY AS A NUISANCE.....	16
NEGLIGENCE.....	23
ELECTRICAL INTERFERENCE.....	33
IS ELECTRICITY MANUFACTURED?.....	52.

## THE LAW OF ELECTRICITY.

## ----- INTRODUCTION. -----

Electricity as a property in matter has been known for centuries. Its presence in various substances was described, we are told, as early as 621 B.C. But its real nature has always been shrouded in mystery, though important discoveries respecting some of its peculiar characteristics have been made from time to time. But within the last few decades great and important achievements in electrical science have introduced into modern civilization practical results far beyond the wildest dreams of the most sanguine enthusiasts of a century ago. Behold the telegraph! That great revolutionizer of modern communication, which speeds intelligence with the quickness of thought, and unites continent with continent, the Eastern and the Western hemispheres, so that events in the Old World are published the next day in the newspapers of the New World, nearly half way round the globe. The telephone, too, which enables the more marvellous achievement of personal communication of friend with friend hundreds of miles apart, even the qualities of the voice being reproduced with great exactness.

Then follow in quick succession the electric light, the electric motor, and the electric railroad,-- these in the last decade and a half. Fifteen years ago the only electric currents in use were the feeble currents of the telegraph and the telephone. There was then not a lineman nor a workman of any kind who had ever heard of the high

tension currents in use to-day for the services of light and power. To-day electricity lights our streets, our business places, our homes. It operates our street railways and our manufactories, and does an endless variety of other work in novel and highly ingenious ways.

These wonderful inventions and the uses to which they are put, the innumerable light and power plants which have suddenly sprung into active operation, and the varying intensity of the current employed for different purposes, necessarily entail in many cases a conflict of interests to harmonize which it has become necessary to resort to the authority of the courts, there to have applied the principles of established precedents in such a manner as to meet these new conditions and relations. Thus there have been rendered within a very few years numerous decisions in the courts of this country which attempt to establish the legal status of this new element, and the rights and liabilities flowing from its use. To what extent this attempt has succeeded it is my endeavor to show in the following pages.

It is not my purpose to discuss the law of telegraphs and telephones in respect to the services they perform for the public; e.g., the sending and receipt of messages, etc., nor the law of patents covering electrical inventions. The scope of this investigation will be confined as nearly as possible to the law of electricity as it pertains to the rights, duties, and responsibilities of those who employ it, arising from the peculiar nature of this mysterious agent itself, and the apparatus necessarily employed in its successful use and operation.

--- I. ---

.....RIGHT OF STREET RAILWAYS TO CHANGE TO ELECTRICITY  
AS A MOTIVE POWER.....

This question has arisen in a few recent cases where street railroad companies organized for some time have undertaken, in accord with the spirit of industrial progress and enterprise of the age, to dispense with the old, tedious, and slow method of running their cars by horse-power, and substitute the use of electricity as being cheaper, cleaner, more convenient, less noisy, and in every way an improvement upon horse-power. Of course an express authority under a city ordinance would leave no question. The point has been raised, where by act of the legislature a corporation is authorized to operate a street railroad, and to "use the power of horses, animals, or any mechanical or other power, or the combination of them which the said company may choose to employ", whether such statute embraced electricity as a motive power, so that under the statute a city ordinance might grant and a street railroad adopt it to be used as a motive power. The contention has been where the point was raised that because electricity as a motive power was unknown and not in contemplation of the legislature when the act was passed, it was not within the intention of the legislature.

In *Hudson River Telephone Co. v Watervliet Turnpike & Railway Co.*, 9 N.Y.S.177, Landon, J., delivering the opinion, said:

"The legislators of that day were not ignorant of the inventive and experimental activity of the age, and had they intended to grant the defendant any right to use any

power except steam, which subsequent invention or experiment might demonstrate to be most beneficial to the company and to the public, the language employed would have been apt for the purpose. We therefore think the terms and intent of the act embrace electricity as a motive power."

The point is also very forcibly and logically presented by Justice Grant in *Detroit City Railway v Mills*, 48 N. W. 1009 (Mich.), where he says in the course of his opinion:

"The general railroad law enacted in 1855 provides for the use of the force and power of steam, of animals, or any mechanical power, or any combination of them. If some new motor should be found to take the place of steam, and thereby dispense with the noise incident thereto, and the discomforts of dirt and smoke, would it be contended that railroad companies could not use it under the provisions of this law, because it was not known at the time the law was passed? These laws were enacted in times of rapid advancement in the mechanical arts. This advancement is nowhere more forcibly shown than in the discovery and use of devices and motors to facilitate travel and transportation. It cannot in my judgment be held that the legislature intended to limit these corporations to the use of things that were then known. This rule would be too rigid and technical to merit approval. The common law is more elastic and progressive. It adapts itself to meet the needs of the people, and the advance of science and civilization."

These cases would seem to settle the law on this point.

--- II. ---

.....POLES AND WIRES FOR ELECTRICAL PURPOSES IN STREETS  
AND HIGHWAYS.....

(1). Telegraph and telephone.--- It is well settled that telegraph and telephone companies have no right to erect posts and maintain wires thereon in streets or highways without legislative authority directly given or mediately conferred through proper municipal action, for obvious reasons applicable generally to the placing of such things in highways. If such posts be erected within the limits of a street or highway without such sanction they are nuisances; but if the erection be thus authorized they are not.

In Metropolitan Telegraph & Telephone Co. v Colwell Lead Co., 50 N.Y. Supr. Ct. 488, it was held that the legislature had no power, so far as the rights of abutting owners are involved, to authorize the use of the streets of the city of New York for the erection of poles to support telegraph or telephone wires, the legislative authority over the streets being limited to a regulation of use for which the streets are held by the city in trust, which is to appropriate them and keep them open as public streets, and such erection of telegraph poles is not a street use, and does not come within the terms of the trust. A telegraph company cannot, therefore, invoke the equitable power of the court to restrain interference by abutting owners with its poles in city streets; even though its lines have been erected under legislative sanction. There was a dic-



tum in this decision to the effect that a court of equity might refuse an application of the defendants to restrain the plaintiffs from maintaining the poles, but it was plaintiff who asked for an injunction, and before the court should interfere, they must show that they have a vested right which may be greatly affected by the act sought to be restrained.

It has been held that where a city ordinance was passed in pursuance to legislative authority which gave a company permission to erect and maintain a telephone line in the streets of the city under certain regulations, that after the company in accordance with this permission had proceeded to expend large sums of money in constructing their lines, and had violated no regulations of the ordinance in respect thereto, that the company had thereby acquired an irrevocable right to use the streets for the purposes indicated. In the words of the court:

"The notion that a corporation which under provisions similar to the present act has upon the strength of a permission to use a certain route spent thousands of dollars in laying railway tracks or subterranean cables, or in erecting poles and stretching wires, is at the mercy of the city authorities continually and entirely, is not to be entertained for a moment. # # # # #. It is opposed to all judicial sentiment."

Hudson Telephone Co. v Jersey City, 49 N.J.L. 303.

Title 65, Revised Statutes of the United States, §5263 ff., provides that telegraph companies duly organized under the laws of any state shall have the right to construct and maintain lines of telegraph over and along any military or postroads of the United States declared by law, but not so as to interfere with the ordinary travel.

In the *Western Union Telegraph Co. v The City of New York*, 39 Fed. Rep. 552, the Circuit Court of the United States decided that an injunction would not be granted to restrain defendants from removing complainant's wires from the streets of New York City, pursuant to powers devolved upon them by the state legislature. (See enactments referred to on p. 17, post.) That the act was a valid exercise of the police power.

"The privilege to maintain telegraph wires "over and along post-roads" is not to be construed so literally as to exclude regulations by the state respecting location and mode of construction and maintenance which the public interests demand; but is to be construed so as to give effect to the meaning of Congress, which was to grant an easement that would afford telegraph companies all necessary facilities, and which to that extent should be beyond the reach of hostile legislation by the states. Thus interpreted the grant is no more invaded when the regulation requires the wires to be placed in conduits under ground, than it would be if they were required to be placed in conduits along the surface of the streets; and when this becomes necessary for the comfort and safety of the community, such a regulation is as legitimate as one would be prescribing that the poles should be of a uniform or designated height, or should be located at given distances apart, or at designated places along the streets. The expense and the temporary or occasional interruptions and inconveniences which are incident to the scheme proposed, constitute the extent of their sacrifice for the general comfort and

convenience."

But the court expressed serious doubts as to whether the powers conferred by the state statutes in question were not nugatory to the extent that they permit the complainant to be deprived of the right to maintain and operate its wires upon the structure of the elevated railway, that being an independent post-road of the United States in legal contemplation, carved out of the streets upon which its structures are erected; and state legislation under whatever power it may be classified is impotent to destroy the privilege given by the act of Congress. The power to remove the wires altogether from these structures, and to refuse to permit them to be placed there under any circumstances, is not regulation, but is equivalent to a complete denial of the privilege. An injunction was therefore granted restraining defendants from interfering with complainant's use of the structures of the Manhattan Elevated Railroad Co for operating and maintaining its wires.

A very interesting case decided in 1879, and reported in 31 N. J. Eq. 627, is *American Union Telegraph Co. v Town of Harrison*. The complainants were organized under the general telegraph law which allowed any corporation organized under it the right to use the public highways of the state for the purpose of erecting and maintaining their lines, upon obtaining the consent in writing of the owners of the soil. But provided that no posts or poles should be erected in any street of any incorporated town without first obtaining a designation of the streets in which the same should be placed, and the manner of placing the same.

The court held that the municipal authorities under this act had the right to regulate but not to control. That their regulations must be fair and reasonable, and that they have no power to lay an embargo. The real point at issue in this case arose upon the following facts: The complainants were engaged in the construction of a telegraph line between New York and Philadelphia, which for part of the distance passed over territory under the jurisdiction of the defendants. But the poles were erected outside of the streets or highways, and upon private property, although the wires hung thereon overhung some twenty streets at an elevation of about twenty-five feet above the roadway. The poles were erected with the permission of the owners of the soil, but without the permission of defendants who made no opposition thereto, but resisted the stringing of the wires by force amounting almost to riot and bloodshed. The wires were finally stretched by the exercise of superior force on the part of the complainants. This was shown by defendants themselves in answering to complainants' bill which charged certain officers of the town with opposing the hanging of the wires, and that defendants intended to destroy the line by cutting the wires where they overhung the streets, and asked that they be enjoined. T

The court said that the section of the statute which enacted that "the use of the public streets, etc., under this act shall be subject to such regulations and restrictions as may be imposed by the corporate authorities", was broader than the one previously considered, which relat-

ed only to such use of the streets as would be made if poles were erected therein; and comprehended any use which could be made of them by a telegraph company; e.g., hanging wires over the roadway; that the public easement was not limited to the use of the soil of the highway, but extended upward indefinitely. Under this clause the town authorities might adopt regulations fixing the elevation at which telegraph wires should cross the streets, and any other precautions reasonably necessary to the safety of travel, to which complainants would be obliged to conform. But defendants had adopted no such regulations, and never considered the expediency of exercising this power. Therefore, the facts not showing that the wires in the slightest degree impeded or endangered the full, free, and safe use of the streets, the complainants in erecting their poles on private property and hanging wires on them at an elevation of twenty-five feet above the roadway, did nothing but what they had an unquestionable legal right to do. And the defendants were accordingly enjoined from cutting the wires or otherwise unlawfully interfering with them.

(2) Electric Light.--- A different conclusion from that relating to telegraph and telephone apparatus has been reached in regard to electric lighting, and undoubtedly with good reason. In *Tuttle v Brush Illuminating Co.*, 50 N. Y. Supr. Ct. 464, it was held that the lighting of the streets of New York City under legislative authority was one of the uses for which the streets were held by the municipal corporation in trust,---to be used solely as public

streets. The erection of poles for the purpose of supplying the streets with light would be such a use of the streets. And the fact that when the act empowering the city to contract for lighting the streets was passed, the lamps were oil lamps placed on poles, and no poles were needed to carry the conductors to such lamps, would not prevent the city when an improved method of lighting the streets had been discovered from using such improved method. And the city has the power to light the streets by contracting with the defendants, and having exercised such power they are the sole and exclusive judges of the means to be employed, so long as they do not authorize a use which is subversive of and repugnant to the use of the streets as an open, public highway, and the poles used by the defendants are not such a use. They have provided that certain streets are to be lighted by wires carried through Twenty-fifth Street, and their acts cannot be reviewed. Such a provision was absolutely necessary. It is impossible to generate electricity at the foot of each lamp-post, and under such circumstances in order to carry out the power given to light the streets it was necessary to bring the electricity to the streets to be lighted. An injunction to restrain defendants from placing poles or wires in 25th St., and for judgment directing the removal of such poles and wires as are now erected was refused. The court, however, expressed some doubt as to the right to use the poles for furnishing light for private purposes. Probably an injunction would lie for such a use.

In *Johnson v Thompson-Houston Electric Co.*, 54 Hun 469, the defendant had a license from the board of trustees of the village of Fulton, upon which was conferred jurisdiction and control of streets therein by the act incorporating the village, to erect poles and wires in the streets and grounds of the village for the purpose of supplying electricity for electric lights to be used in lighting the streets of the village, and also for private use. The Company thereupon erected a pole in one of the streets of the village in front of plaintiff's premises without obtaining his consent. He brought suit restraining such action on the part of the Electric Company, and the court decided ~~that~~ the license of the board of trustees did not justify the erection or maintenance of the pole, and directed its removal. But on appeal, the Supreme Court, while doubting that the Board could properly authorize the erection of poles for the purpose of supplying light for private use, held that the defendant had the right to erect this pole, and use it for the purpose of supplying electricity necessary to light the streets in that vicinity, and as a point from which to suspend a street light, and that this was no invasion of plaintiff's just rights.

It was held by the Supreme Court of Massachusetts, in the *Suburban Light & Power Co. v Aldermen of Boston*, 26 N. E. 447, that a statute authorizing the erection of electric telegraph lines along the public streets and highways so as not to incommode the public; and providing that the Mayor and Aldermen of a place through which an electric

telegraph line is to pass "shall" designate where the posts may be located, even if this was imperative, requiring the Board of Aldermen to grant some location for the posts of telegraph lines, yet other statutes extending the provisions of these two sections to electric light companies "so far as applicable" cannot receive such an imperative construction, in view of the local character of the companies, of the danger arising from their lines to travellers on the streets, and of the other demands for the use of the streets by the general public. The court said:

"As this chapter was originally enacted only with reference to telegraph companies whose lines must often if not always pass from town to town and run through different towns, if it were intended, as the plaintiff contends, that the officers of one of these towns should not have the power to defeat the operations and business of such corporations, and that they should be compelled to grant some locations for the necessary posts, the same intention would not necessarily exist in reference to electric lighting companies, whose operations are usually confined to a single town, or a part of a single town, and are of local interest merely. It cannot, we think, be inferred as the plaintiff urges that it was intended not to put it in the power of local boards to defeat the operations of electric lighting companies, the organization of which was authorized by statute. When we observe how many considerations so far as the public are concerned enter into the question whether the streets shall be used by electric lighting companies of a local character, the liabilities of the cities or towns which may be involved, the danger to their inhabitants and to travellers, the other demands for the use of the streets, the necessity or otherwise of any use of the streets by any such companies, the expenses which must be incurred, the character for responsibility of the particular company petitioning it, it is not readily supposable that in regard to companies whose operations were confined to a single town, all that was intended to be left to the Board of Aldermen or selectmen were questions of detail only."

(3) Electric railways.--- As with telegraph or telephone companies, and electric light companies, so with electric railways. Legislative authority is necessary to



warrant them to be placed in streets or highways, which authority may be delegated of course to municipal or local bodies. But the real reason for this latter is that applicable to street railways generally.

Are poles and wires an additional servitude on abutting owners entitling them to compensation?

Dillon in his work on Municipal Corporations, last edition, #698a, says: in regard to telegraph and telephone lines <sup>^</sup>

"The safer and perhaps sounder view is that such a use of the street or highway, attended as it may be especially in cities with serious damage and inconvenience to the abutting owner, is not a street or highway use proper, and hence entitles such owner to compensation for such use, or for any actual injury to his property caused by poles and lines of wire placed in front thereof."

And he doubts the soundness of the distinction made in some of the cases between whether the fee in the street is in the public in trust for street uses or in the abutter. He considers the true doctrine to be that the rights of the abutter as between him and the public are substantially the same, whether the fee is in him subject to the public use, or is in the city in trust for street uses proper.

As to street railways, he concludes that they do not create a new burden upon the land, and hence no compensation is necessary.

These views are supported by the weight of authority, and certainly seem to be soundly judicial. But Dillon makes no reference to street railways operated by electricity, and here there is a new element to be considered, viz., the erection of poles to support wires carrying electricity

necessary for the operation of the cars. But the reported cases uniformly hold that this does not impose an additional burden on abutting property owners.

In *Detroit City Railway v Mills*, 48 N. W. 1008, at p. 1011, after a careful consideration of the question in relation to street railways generally, the court said:

"It has frequently been held that telegraph and telephone poles are not necessarily erected to facilitate the use of the streets, and consequently that they create an additional servitude. But the authorities are by no means uniform. Decisions to the contrary are based upon the doctrine that the whole beneficial use of the land has been taken and appropriated to the public, and that one of the original uses of a highway was the transmission of intelligence.....The question as to whether the erection of poles for electric street railways constitutes an additional servitude has been several times before the courts, and thus far they have been held to be ancillary to a proper use of the streets, and to create no such additional servitude.....The poles used by complainant are a necessary part of its system. When they do not interfere with the owner's access to and the use of his land, we see no reason why they should be held to constitute an additional servitude. Certainly they constitute no injury to his reversionary interest. To constitute an additional servitude, therefore, they must be an injury to the present use and enjoyment of his land. But they do not obstruct his light or his vision, as do the structures of an elevated railway, neither do they nor the cars they assist in moving cause the noise, steam, smoke, and dirt which are produced by steam cars. They do not interfere with his going and coming at his pleasure, when placed as they can and must be so as to give him free access. Wherein, then, is he injured? If it be said that they are unsightly, and therefore offend his taste, it can well be replied that they are no more so than the lamp-post or the electric tower. It is as necessary that rapid transit be furnished to a crowded city, as it is that light should be furnished to its streets. Public convenience must control in all such cases."

To the same effect are *Taggart v Newport Street Railway Co.*, 19 At. 326(R.I.), cited with approval in *Lockhart v Craig Street Railway Co.*, 21 At. 26(Pa.).

In *Tracy v Troy & Lansingburgh Railroad Co.*, 7 N.Y. Supp. 892, plaintiff sought a temporary injunction to re-

strain defendant from erecting poles to form part of an electric motor system on a street in the village of Lansingburgh, and opposite plaintiff's property, while his action for a permanent injunction was pending. This was denied on the ground that the plaintiff would not suffer irreparable injury or one for which money damages would not be an adequate compensation, while if the injunction was granted, "a public improvement believed to be of utility would be obstructed for many months, which in the end might be allowed to proceed."

-----  
 --- III. ---

--- ELECTRICITY AS A NUISANCE. ---

Anything of such a nature as to be injurious or dangerous to the lives, health, or property of the public, unless kept or used in such a manner as to guard against danger therefrom, must, of course, come within the definition of a nuisance. It is admitted that electricity is of such a nature, and the courts will take judicial notice that electricity developed to some high degree of intensity, for example, is exceedingly dangerous, and even fatally so to men or beasts when it is brought into contact with them. But they will not take judicial cognizance of the fact that its use by any particular person or company in any particular way is dangerous. For it is to be presumed that neither the legislature, nor municipal government under legislative authority, would grant any franchise to conduct a business in the operation of which was necessari-

ly involved the use of an element or agent in such a manner as to be primarily and essentially dangerous to human life, especially when it was to be used in public service or on public thoroughfares. These facts must be proved by competent evidence. (Taggart v Newport Street Railway Co., ante.)

After the discovery and general adoption of electric light for lighting purposes, the number of wires necessary to operate the different systems and supply the demand therefor, added to the already large number of telegraph and telephone wires in large cities, particularly New York and Brooklyn, seemed to make it necessary that some action should be taken to abate the nuisance which resulted from such a network of wires conducting currents of electricity of varying degrees of intensity, some of which were in a high degree dangerous to life and property, and mixed together in such indescribable confusion, as to make it practically impossible to maintain them in any comparative degree of safety.

Accordingly in 1884 the Legislature of the State of New York enacted a law which provided that all telegraphic, telephonic, and electric light wires and cables in any incorporated city of this state having a population of 500,000 or over should thereafter be placed under the surface of the streets and avenues of said cities, before the 1st of November, 1885. And it was further provided that in case the owners of the property should fail to comply with the provisions of the act, the local governments of the said cities were directed to remove without delay all telegraph-

ic, electric light, and other wires, cables, and poles, ~~where~~ wherever found above ground, within the corporate limits of said cities.

Compliance with this act having been recognized as a physical impossibility, in 1855 another act was passed, by which it was provided that in cities having a population of 1,000,000 or over, according to the last census, the Mayor, Comptroller, and Commissioner of Public Works of such cities should appoint three disinterested persons, residents of the respective cities for which appointed, to constitute a board of commissioners of electrical subways, whose duty it should be to cause to be removed from the surface and put, maintained, and operated under ground, wherever practical, all electric wires or cables used in the business of any electrical company. Regulations were also made for the building of the subways under the direction and approval of the subway commissioners.

Another act was passed in 1887, by which the Board of Commissioners in and for the City of New York, together with the Mayor of said city for the time being, were constituted a board of electrical control in and for the City of New York, whose duties were those previously conferred upon the subway commissioners, and in addition was imposed the duty of notifying owners of the electrical conductors above ground, when a sufficient construction of subways were made ready, to place their wires therein within ninety days after notice. And in case it was not complied with, it was made the duty of the Commissioner of Public Works to

cause the same to be removed forthwith by the Bureau of Incumbrances, upon the written order of the Mayor to that effect.

Certain subways were constructed in the City of New York, but insufficient for the operation of the underground wires of certain companies, who also were not allowed to construct the same upon plans of their own. Various accidents having occurred, the attention of the Board and the city authorities was called to the condition of the electric light wires which were being used by those companies; and it being found that many of these wires were dangerous, because of their want of proper insulation, the Board of Electrical Control notified these companies to discontinue the use of such overhead wires until certified by the expert of the Board to be in a proper and safe condition. A day or two thereafter the Commissioner of Public Works was directed by the Mayor to remove all the electric light wires which were at that date improperly insulated, and then in position in violation of the rules and regulations of the Board of Electrical Control, which he immediately proceeded to do. The result of this action was the institution of suits by the aforesaid companies to restrain any further proceedings of this nature.

One of these cases in the United States Illuminating Co. v Grant et. al., 7 N. Y. Supp. 758; s.c. 55 Hun 222. In this case an injunction order was issued which restrained the Commissioner of Public Works from removing or causing to be removed any of plaintiff's poles, wires, etc., where

suitable subways had been provided and notice thereof given, without first giving plaintiff a written notice specifying in detail the particular wires or parts of wires defectively insulated, or for other cause needing repairs or displacement, and giving plaintiff reasonable time to repair and replace the same, and only after the default of plaintiff to do this. From this order an appeal was taken. The plaintiffs contended that the condition of their wires was due solely to the arbitrary<sup>and unjust</sup> refusal of the Board of Electrical Control to permit the plaintiffs to repair the same, without which permit such repairs could not be made; and that they were at least entitled to some notice of the defects complained of, that they might remove the same.

The Supreme Court held that on account of the dangerous character of the business which plaintiffs were conducting they were bound to exercise the highest degree of diligence; and when they failed to comply with this obligation, and human life was threatened in consequence thereof, the public authorities, or for that matter any citizen, had the right to remove such danger at once as a common nuisance, without waiting for the slow progress of the ordinary forms of judicial procedure, because "human life is more sacred than the forms of legal procedure." In the words of the court:

"When it is apparent, as in the case at bar, that the condition of the wires of plaintiff is such that they are dangerous to human life, and that any passerby without negligence on his part is liable to be struck dead in the street, can it be said for a moment that the public authorities have no power to abate this nuisance, and protect the lives of its citizens? Indeed, it is one of the highest duties, and if they allowed such a condition of affairs to

continue, they might make the city itself liable for the damages sustained by reason of their negligence in not removing the common nuisance."

In answer to plaintiff's contention that they should have notice of defective wires, the court said:

This proposition involves a claim upon the part of these corporations that the public authorities shall perform a duty which the law devolves upon themselves; namely, the proper inspection of their own apparatus, which is liable to become dangerous at any time, and the immediate remedying of the difficulty. It is not a part of the duty of the public authorities to inspect the apparatus of private corporations, and warn them when such apparatus becomes dangerous to human life."

The court held that the claim of the company that the Board arbitrarily refused to allow repairs to be made, that their regulations for making these repairs were unreasonable, and that they were consequently unable to keep their wires in that condition which their plain duty required should be done, furnished no excuse to the plaintiffs. They had ample remedies to compel the Board of Electrical Control to grant permits to repair; the courts were open to them; and if they had been actuated by the slightest desire to put their apparatus in a condition such as would not endanger human life, they could easily have found a way to remove the obstruction which they claim was placed in their path by the Board of Electrical Control. The order appealed from was reversed.

The argument upon which the court bases its decision is certainly a logical and forcible one. Even at common law there is no question but that where a grievance threatens such immediate injury to life or health that its removal is necessary at once without waiting for the slower



processes of the law, any individual would be justified in abating it, and without notice to the one by whom it was created. Much more so a public official charged with the duty of removing obstructions from the streets. But absolute necessity is the only justification for such summary procedure, and the person taking such action does so at his peril, and is bound to show such necessity if action is brought for the violation of any property rights.

In a recent well-considered case in the Circuit Court of the United States for the Northern District of California, it was held to be a valid exercise of the police power for the Board of Supervisors of the City and County of San Francisco to make an ordinance absolutely prohibiting the stretching or maintaining of any electric wire over the roofs of buildings where the evidence showed such practice to be extremely dangerous, both as being liable to originate fires, and as obstructions to the extinguishment of fires otherwise originated. (Electric Improvement Co. v City and County of San Francisco, 45 Fed. Rep. 593.) This decision is certainly in accord with the well established principles of law governing the exercise of the police power of a state in respect to the carrying on of any business in such a way as to prove a menace to the health, lives, or property of the public,--a public nuisance.

But a court of equity will not enjoin the construction and operation of an electric street railroad, merely because it is shown that there might be some danger to men

and animals from the electric current, and from the more rapid running of the cars, and that the current would interfere with telephone wires in the same street, where no present injury is shown, and it is only a remote apprehended injury of which complaint is made. (Potter v Saginaw Union Street Railway Co., 47 E. W. 217.)

-----

--- IV. ---

----- NEGLIGENCE. -----

Practical experience has demonstrated electricity to be an element in the employment of which for many purposes the greatest care and diligence should be used to prevent injury to person or property. It is a powerful agent, useful beyond any estimable degree when surrounded by proper safeguards and handled with care. But once allowed to break its bounds and its effects are disastrous. It acts swiftly and silently, and strikes without a note of warning. It is highly important therefore that those who assume to provide electricity for public service in the way of light, heat, or power, should entrust its management and handling only to persons skilled in its use and familiar with its properties, and be required to provide the greatest possible safeguards against injury to the public health or safety.

It is true, however, that but comparatively few deaths have resulted from contact with the electric current, and a correspondingly small number of cases are found in the reports in which actions for damages have been brought

for negligence causing injury. This is undoubtedly due to the fact that the character of electricity being known to be so dangerous under the proper conditions, persons unacquainted with its use and management, but thoroughly aware of its effects, exercise extraordinary precautions in its presence, and avoid it in every way possible; while those who are employed in its handling and management follow certain rules and regulations necessary to secure to them safety therein, and in the case of the few who have become victims of its power through a long experience and resulting carelessness, their contributory negligence bars the right to an action. Further, as a rule, companies employing it have surrounded it with every precautionary device known for entire safety with ordinary care on the part of people generally.

It may be well, however, to glance for a moment at what amounts to negligence in the use of electricity. One of the safeguards and necessary precautions here referred to is proper insulation of the wire conducting the current, where possible, and consistent with its use. Insulation is made by means of a non-conducting substance placed around the conducting wire, so that any contact of a conductor with the wire thus insulated would produce no special or dangerous results. It is evident that a neglect to thus properly insulate a wire conveying a current of electricity of a high tension from which an injury resulted would render the person responsible therefor liable to an action for such negligence. It has been well said that the only real

difference now between danger and safety is between bad and good insulation.

A late case in Michigan involving this question is that of Kraatz v Frush Electric Light Co., reported in 46 N. W. 787. The plaintiff was an employe of the defendants, an electric light company doing business in the City of Detroit, furnishing arc lights for lighting the streets by the tower system, and his duty consisted of trimming the lamps in the various towers. There were several different circuits in operation. At the time when Plaintiff was injured he had trimmed the lamps in 12 or 13 towers before he came to the one where his injury was received. While engaged in trimming the lamps in this tower, some three or four in number, he received a shock of electricity which severely injured him, having an effect somewhat similar to a stroke of paralysis, and for which ~~the~~ injury this action was brought. The defence claimed that he was stricken by paralysis, and physicians on both sides testified, one set that his condition was the result of an electric shock, and the other that it was a stroke of paralysis. The verdict of the jury, however, settled the question in plaintiff's favor, and the question remained as to defendants' negligence. In the circuit upon which was the tower where plaintiff received the injury, which was numbered 11, the wires were supposed to be dead wires, that is, not charged with electricity. Another circuit, numbered 4, was used for furnishing light in the day time, and the wires upon this were live wires, i.e., charged. The evidence showed

that the wires upon No. 4 were placed part of the distance upon the same poles as those upon No. 11; that the insulation had worn off the wires in places; that when the insulation was worn off any of these wires, either from friction or other causes, and a live and dead wire came into contact at the point where they were bare, the current would instantly be conveyed from the live to the dead wire, and pass along the whole line; that the wires were placed in such a way on these poles that the wires of one circuit crossed those of another, and whenever they sagged or became slack, which was to be expected, the wires of different circuits would touch one another; and that the wires were actually in contact in this way at more than one place that day. The court held that the jury from the evidence offered had a right to infer that the shock to the plaintiff was caused by one of these live wires coming into contact with a dead one at an uninsulated point, and causing a current to pass through the dead wire upon which plaintiff was working; further that they were not compelled to find out the particular wire, nor the particular place from which the current was conveyed. In the words of the court: "This would be an impossibility, and such tracing and chasing of lightning is not required." And that it was plainly apparent that the defendant was negligent in constructing and maintaining the wires upon the different circuits in this way, and set employes to handling with bare hands dead wires crossed by live ones. And the court said: "There was no excuse for it when we consider the deadly nature and

effect of the electric current passing over the wires."

Another interesting case arose in Louisiana, *Myhan v Louisiana Electric Light & Power Co.*, reported 6 So. 798, under the statute giving damages for wrongful death caused by negligence. The suit was instituted by a father and mother whose son, Edward, while in the employ of the defendant company, was killed, as alleged, by defendant's gross negligence. The defendants set up contributory negligence. It seems that the plaintiff was employed as night oiler by the defendant company in the dynamo room of its plant in the City of New Orleans. While engaged in his duties, and pressing some tallow down in the box of a dynamo, he came into contact with one or more wires, and was instantly killed. According to the testimony of the electrician in charge of the dynamo room at the time of the accident, the company was negligent and careless in an arrangement of wires about the dynamo, which were placed improperly along the floor instead of running direct to the ceiling, and that this was the cause of the death of the deceased. He further testified that he had frequently told the manager of the company and also the Superintendent, who were in charge of the plant at different times, that there was great danger in leaving the wires on the floor and unprotected. No notice was ever taken of the warning, except that they would remark that they would attend to it by and by, or when they got a new superintendent, or some excuse of the kind, until the day after deceased was killed, when orders were given to take up the wires from the floor, and arrange them prop-

erly and safely. In the course of a well considered and careful opinion, the court says:

"It is undeniable that the wire or wires which the young man touched or which touched him were dangerous. Had they not been dangerous they would not have killed him. He might have received a shock only even becoming unconscious, but he would not have died from contact therewith. The company's representatives had been warned several times of the dangerous character and condition of the wires on the floor,-- of the propriety, at least, if not the necessity of running them up to the ceiling; but the warning remained unheeded. The representatives of the company to whom it is said that the warnings were given denied that they ever were, but their denial is of a weak character. The affirmative testimony, corroborative as it is, outbalances the negative, and justifies the inference that the notices given were unheeded, because they were forgotten. At any rate it was the duty of the defendant company to have known of the dangerous character and condition of the wires. The knowledge they ought to have had the law presumes, *juris et de jure*, they had. Even if the company's representatives had sworn that they did not know of the same, such ignorance on their part would not have exculpated them. A superior is presumed to know, and in law knows, that which it is his duty to know, namely, whatever may endanger the person and life of his employe in the discharge of his duties. In such cases the superior is bound specially to warn the employe of the nature of the danger, and will not be excused in case of injury, unless he does prove that the employe well knew of the danger, and, notwithstanding, exposed himself willingly and deliberately to it. In this case there is no evidence that the company or any of its officers ever notified *Myhan* of the dangerous character of the wires in question about which he had to move, or that he knew of the same. The burden of positive proof was on the defendant. The great presumption not to say the certain proof is that he was totally unaware of the same; for it cannot for one instant be reasonably supposed that had he known that by coming into contact with the wires they would have stricken him down dead, he would have done so, thereby committing suicide. It is manifest that had the wires been laid as is usually done, or even been properly insulated, coming into contact with them would not have, as it did, produce death."

The court then states certain leading principles of the law of negligence bearing on the case, as follows:

"Based on sound reason and justice the law as expounded by jurisprudence is clear that it is not contributory negligence to engage in a dangerous occupation. (Each

Contrib. Neg. 370. Wood, Master and Servant 763.); that the risk assumed by the servant is the ordinary hazard incident to the employment, and this is synonymous with unavoidable accident. (Id. 738.); that unless the act is necessarily and inevitably dangerous, no negligence can be imputed. (Beach Contrib. Neg. 370. Wood, Master and Servant 763.); that a servant has the right to rely on the care and trust, the superior knowledge, information, and judgment of the employer, and to act upon the presumption that the latter would not expose him to unnecessary risks, and has taken all necessary precautions. (Id. 681, 738-9, 749, 751, 763. 2 Thompson Neg. 975.); that an employe is not bound to inquire as to latent but only as to patent defects; that he has the right to presume that this inquiry was made by the employer upon whom the duty devolves, and although the servant may know of the defects, this will not defeat his claim, unless it is shown that he knew that the defects are dangerous. (Wharton Neg. #214. Wood Master and Servant 786-9.); that the master is liable for subjecting the servant through negligence to greater risks than those which fairly belong to the employment, and the servant, in order to recover, need only raise a reasonable presumption of negligence and fault on defendant's part. (Id. 777. 3 So. 863.); Considering the facts and the law, we are driven to the conclusion that the company is responsible."

The gist of the decision is the point that the company knew of the dangerous condition of the wires, and did not specially warn Myhan, and did not show that he knew that they were of that character.

This same point was the basis of another decision in the case of Piedmont Illuminating Co. v Patteson's Administratrix, a Virginia case, in which damages were sought for the death of plaintiff's intestate, caused by the negligence of the defendant company, who employed him in their electric lighting business. The evidence showed that the deceased with others went out to look for and repair a break in the circuit, and provided himself, as did the rest, with a shunt-cord, an apparatus used in repairing such breaks. The shunt-cord used by Patteson was defective in having the insulation worn off at one end. He found the



break in the circuit, and in attempting to repair it received a shock and was killed. The court said in the course of the opinion:

"Testing the case upon the plaintiff's evidence alone, we are of opinion that the evidence fails to make out the plaintiff's case. There is nothing in the plaintiff's evidence to show that the defendant company in any way by commission or omission caused the electric current to strike and pass through Patteson and kill him; but from the plaintiff's own showing, the inference of contributory negligence by Patteson, as the proximate causa mortis, is inevitable. He carried with him his shunt-cord, and although it was defective he knew its defects, and he selected it and used it without complaint. If in fact the defect in the shunt-cord used by Patteson caused his death, the evidence shows that they were open, patent, and visible to Patteson who chose it for himself, and used it unhesitatingly and without complaint of his own selection with deliberation, and without necessity, requirement, or direction so to do. The servant is bound to see for himself such risks and hazards as are patent to his observation; and the employer does not stand in the relation of an insurer to the servant against injury caused even by such defects as are known or are palpable to the servant in the due exercise of his own skill and judgment. (Shear & R. Neg. §§92-3. Wood, Master and Servant, §326, pp.679-81. Id. §401, p. 791, note 1.) The evidence shows that Patteson had been for many months with a brief interval in the service of the company in the same capacity he was in when killed; that he had been carefully instructed in the care and attention necessary to his own safety in the discharge of his dangerous duty; and that he did know how to use the shunt-cord with perfect safety to himself, and had twice turned on the current with the shunt-cord but a few moments before he received the shock that killed him. At the first flash Patteson knew that in his lamp the breach in the circuit was, and that in his efforts to make the connection great care and prudence was necessary; and that there was no hurry, necessity, urgency, or reason for his putting himself in the line of the current, in the only way possible, by holding the shunt-cord with one hand by its metal end, and at the same time carelessly and inadvertently putting his other hand on the exposed end of the line wire, and thereby make his body a part of the circuit, through which the current passed and killed him. It is not charged nor can it be implied that there was any defect in the line wire,--in the structure or insulation,--a small part of the end of the line wire being necessarily left naked in order that the set screw might be fastened to it in the connection with the shunt-cord to restore the circuit. And even though Patteson was foolish and careless enough to

catch hold of the shunt-cord at its defective end below its insulated end, --at most not three inches of it, --he would have been perfectly safe and could not have been harmed by the current, had he caught hold with the other hand of the line wire two or three inches from its exposed metal end, where it was carefully and perfectly insulated and guarded. It is certain that from the very nature and necessity of the case, that but for the careless and negligent act of Patteson in grasping the naked end of the line wire, whatever may have been the condition of the shunt-cord, he could not have been killed or hurt by the current."

The court cites authority for the proposition that in order to recover for injury caused by negligence, it must be shown that the negligence was unmixed; it must not appear by plaintiff's evidence that his want of ordinary care and prudence directly contributed to the injury. Continuing, the court says:

"We are of the opinion that the plaintiff's own testimony fails to prove negligence on the part of the defendant company, unmixed by the concurrent and co-operating negligence of the decedent, but for which the accident could not have occurred."

In the *United Electric Railway Co., et al. v. Shelton*, 14 S.W. 863, plaintiff's horse was killed by coming into contact with a wire of the telegraph and telephone company which had fallen across the trolley wire of the Electric Railway Company. The wire of the telegraph company had become much impaired. The falling of the wall of a burning building broke a pole of the telephone company, causing the telephone wire to break and fall across the railway wire, and while in this condition plaintiff's horse came into contact with the telephone wire and was killed. Both companies were held liable for negligence in not using proper precautions to prevent such an occurrence. The court said:

"The obligation to see that its road was in good repair, and its machinery in ~~safe~~ operating order, is not

confined to the immediate and abstract presence of either, but extends to all surroundings that may depreciate the security of either. Both companies knew of the unprotected trolley, and the consequences of a contact of the wires of the one with those of the other. Both knew of the unsoundness likely to produce a fall of the one upon those of the other. Both were bound to guard against such likelihood, and having failed to do so are liable."

These cases show the manner in which the principles of the law of negligence established and determined by a long course of judicial reasoning and decision have been applied to a new arrangement of facts,--facts in which a **new** element of danger is involved,--and how the law adapts itself to new circumstances and conditions. As before stated the cases of injury from negligence in the use of this new invention, which are found in the reports, are not numerous; but those cited and discussed show how easily and admirably the law **adapts** itself to such conditions. And in any given case it is principally a question of fact as to whether, taking into consideration the nature of this new source of power, its use has been **attended** with negligence so that injury results. Then the application of the general principles of the law of negligence will render the solution comparatively easy.

--- V. ---

----- ELECTRICAL INTERFERENCE. -----

There is another element in the use of electricity which seems naturally to have arisen out of the peculiar properties of this substance, viz., an interference of one current of electricity with another feebler current under certain conditions, or from certain situations in respect to each other. Space here does not allow, even if knowledge warranted, a scientific discussion of the peculiar nature and properties of electricity, however pertinent and helpful it might be to a full and complete understanding of the proper manner of applying legal or equitable principles to a case involving this point. A general view, however, is necessary.

The question seems to have arisen in respect to telephone wires and wires conducting electricity for lighting or power purposes. There are two kinds of electric lighting, known as the incandescent and the arc light. The former requires a less degree of force and intensity than the latter, but a much larger quantity and force of electricity than that necessary for the transaction of telephone or telegraph business. Wires charged with the amount of electricity necessary for supplying the incandescent light, when placed parallel with telephone wires or at a certain angle or within a certain distance thereto, act by induction upon the latter, and cause other currents of electricity in them, and interfere with their successful use and operation. In operating the arc light, as has been stated,

a more powerful current being necessary, its effect upon telephone service would of course be more disastrous, even when the wires are placed at a greater distance therefrom.

A case recently decided by the Supreme Court of Nebraska, and reported 43 N. W. 126, involved a decision upon such an interference. Plaintiffs, the Nebraska Telephone Company, prayed for an injunction restraining the defendants, the York Gas & Electric Light Co., from interfering with the telephone system of plaintiffs in the City of York. In some places defendants' wires were erected previous to those of the plaintiffs. And the court held that the defendants could not be enjoined under these circumstances. But where it was found that in some places the plaintiff had first erected wires, the injunction was granted restraining defendants from using for arc lighting purposes any wires running parallel with and on the same side of the street with a telephone wire of plaintiffs, or any wire used for incandescent lighting purposes which was placed parallel with any telephone wire of plaintiffs within a certain distance, or for a certain distance parallel. And not in any case unless strong iron guard wires were placed at certain distances and in such a position that the upper wires would be prevented from falling on the lower. A further restriction was also laid upon the defendants, viz., that none of defendants' wires should be used for electric lighting which crossed any telephone wire of plaintiff at a less angle than 45 degrees, and at least five feet apart, and not in that case unless the wires of

one system were boxed, or unless guard wires were placed to prevent any possible contact.

The court in this case does not seem to base its decision upon any well established principles of law or equity. Aside from a consideration of the pleadings and the evidence in the case, upon which, perhaps, the case was more properly decided, it simply affirms the decision of the lower court in respect to the injunction already detailed. The lower court also refrained from any application of logic or precedent to the case. It finds that great and irreparable injury and damage would result to the plaintiff and its property, and danger would result to the lives and property of the public, if defendants' wires were allowed to be placed or maintained as proposed, and adjudges, therefore, the abatement of the nuisance, as it were. There seems to have been no inquiry in regard to the expense of any change, or the utility and benefit to the public to be derived from the construction of the electric plant. The case having been decided on this point in plaintiffs' favor in the lower court, and appealed by it on other grounds, the defendant seems not to have raised the point in the Supreme Court, but accepted the decree of the lower court without question.

There may be a question as to how far the apparent assumption as to the correctness of the lower court's decision on this point harmonizes with the case of the Cumberland Telephone & Telegraph Co. v United States Electric Co., reported in 42 Fed. 273, in the United States Circuit Court

for the Middle District of Tennessee. Complainant owned and operated a telephone system in the City of Nashville. In operating its instruments each telephone was connected with the ground by what is termed a "ground wire", through which the return current of electricity is carried back to the earth, and perhaps through the earth, acting as a conductor, back to the telephone exchanges. Such return in some form or other is necessary to the production of a current of electricity in every case. Defendants were five street railways, all operated by electricity, and using what is known as the single trolley or overhead wire. This wire is suspended over the middle of the track along which the electric current passes, descending by the trolley rod mast through the cars to the motor underneath, and thence to the rails, which are connected together at their ends, and which operate to convey the return current back to the dynamos at the power house. The evidence, however, established the fact that the current did not all return by the rails. Much of it escaped, became scattered through the earth, ascended through the ground wires to the telephones, and seriously impaired their operation by causing a humming or buzzing noise which drowned the voice of the speaker, and often caused the annunciators in the exchange to fall, and the bells to give false calls, so that it was impossible for the operators to tell which, if any, of its subscribers had called, and in short threw the whole system into confusion. Complainants sought an injunction in equity to re-

strain the use of electricity by defendants under any system which makes use of the earth for a return circuit. In the course of the opinion the court says:

"That these evils exist to the serious detriment of the telephone service is not denied; but it also appears from the evidence on both sides that they are not absolutely insurmountable. Indeed there are but few serious questions of fact in this case, and these turn upon the relative practicability and expense of the several methods of overcoming this difficulty."

The court then considers several methods which it was shown would remedy the evil. The adoption by the defendants of the double trolley system by which a second trolley wire is used to convey the current back to the dynamos without coming into contact with the earth at all, would completely obviate the difficulty. But this it was shown would not only entail large expense upon the defendants but would disfigure the streets with a complicated network of wires, and render the road very difficult of operation at curves, turnouts, or switches. It could only be used successfully with a double track, and the courts had uniformly held, in the numerous cases between the telephone companies and the electric railways, which had arisen in other states, that the double trolley had been a failure as applied to single tracks.

It was further shown that the evil might be remedied by a return wire attached to each telephone by which the current is carried directly back to the exchange instead of being dumped into the earth. This, however, was also very expensive, doubling the cost of the electric plant, and doubling the number of wires, already far too



numerous for comfort, beauty, or safety. "Upon the whole", the court said, "we deem it impracticable."

There was a third device considered by the court known as the "McClure System", which contemplated the employment of a single return wire upon each route disturbed by the railway service, to which each telephone upon that route is connected, and which operates to complete the metallic circuit. It was believed and assumed that this device if adopted by the complainant company would obviate the disturbances produced by leakage, though there would still be slight disturbances by induction from parallel wires, from which no complete relief has been discovered by any kind of metallic circuit, unless supplemented by the use of non-conducting cables, and the transposition of wires. The case then practically resolved itself into the question at whose expense should this change be made? As the testimony tended to show that the introduction of the McClure device into the telephone system of Nashville would not cost to exceed \$10.00 to each telephone, the question was not vital to the existence of either of these companies.

"At the same time," the opinion reads, "as it is one that confronts the telephone and electric railways in every city of the country where both are used, it becomes of great importance. Are the telephone companies which have the right to use the streets bound to conform their business to the demands of these newcomers, though by so doing they put themselves to large expense? Or are the railway companies bound as a condition of occupying the same territory, to see to it that in operating their roads no incidental damage is done to their neighbors? If the existence of the one was absolutely incompatible with the continued operation of the other, it might be incumbent upon us to make a choice between these two great benefactions, both of which will rank among the necessities of

modern urban life. But as we are bound to assume that they can be persuaded to live together in harmony, the case virtually resolves itself into a question of liability for certain damages sustained by the complainant."

The court then said it was open to serious doubt whether the plaintiff was entitled to invoke the aid of a court of equity at all, if a mere question of dollars and cents was involved, especially when the defendants were amply able to make reparation.

"We do not desire, however, to dispose of the case upon this ground. We have deemed it more satisfactory to treat this as an original question, and inquire how far it may be answered by the application of well settled principles. We are asked to determine how far a person making a lawful and careful use of his own property, or of a franchise granted him by the proper municipal authorities, is liable for damages incidentally caused to another; in other words whether the right of the latter to an injunction does not depend upon something more than the simple fact that he has suffered injury, though his right to an undisturbed use of his own may ante-date that of another. We take it to be well settled, so far as persons operating under legislative grants are concerned, that something more than mere incidental damage must be proved,--something in fact in the nature of an abuse of the franchise,--to entitle the party injured to an injunction." (Citing cases).

The court then enters into an elaborate and exhaustive discussion of the cases involving this question, showing that while there are a large number of cases where persons have been held liable for an infringement upon the maxim, *sic utere tuo ut alienum non laedas*, they will usually be found to turn upon questions of negligence or nuisance. The court concludes:

"Subject to these exceptions we understand the law to be well settled that no person is liable for damages incidentally occasioned to another by the necessary and beneficial use of his own property, or of a franchise granted him by the state. The principle is thus stated by Judge Woodworth in *Panton v Holland*, 17 Johns. 92-99: 'On reviewing the cases I am of opinion that no man is answerable for damages for the reasonable exercise of a right, when

it is accompanied by a cautious regard for the rights of others, when there is no just ground for the charge of negligence or unskillfulness, and when the act is not done maliciously.”

The court concludes:

“The substance of all the cases we have met with in our examination of this question, --and we have cited but a small fraction of them, --is that where a person is making a lawful use of his own property or of a public franchise in such a manner as to occasion injury to another, the question of his liability will depend upon the fact whether he has made use of the means which in the progress of science and improvement have been shown by experience to be the best; but he is not bound to experiment with recent inventions not generally known, or adopt expensive devices when it lies within the power of the person injured to make use himself of an effective and inexpensive method of prevention. *Hoyt v Jeffers*, 30 Mich. 181. If in the case under consideration it were shown that the double trolley would obviate the injury to complainant without exposing defendants or the public to any great inconvenience or to a large expense, we think it would be their duty to make use of it, and should have no doubt of our power to aid the complainant by an injunction; but as the proofs show that a more effectual and less objectionable and expensive remedy is open to the complainant, we think the obligation is on the telephone company to adopt it, and the defendants are not bound to indemnify it; in other words that the damage incidentally done to the complainant is not such as is justly chargeable to the defendants. Unless we are to hold that the telephone company has a monopoly of the use of the earth, and of all the earth within the City of Nashville, for its feeble current, not only as against the defendants, but as against all forms of electrical energy which in the progress of science and invention may hereafter require its use, we do not see how this bill can be maintained.”

The court thus seems to base its decision finally upon the fact that the defendant was not guilty of any negligence in the exercise of its franchise, and no wanton or unnecessary disregard of the rights of the complainant; but admitting that if the double trolley were shown to be a practicable and not expensive solution of the problem, the failure or neglect of the defendant to adopt it would be quasi negligence, or an unnecessary disregard of the rights of

the complainant.

Comparing this case with the one last cited, (Cumberland Telegraph & Telephone Co. v United Electric Co.) it will be observed that in the first case the disturbance was caused by arc and incandescent light wires, in the latter by a trolley wire used to operate a street railroad. In the former the disturbances were caused by induction, in the latter by conduction through the earth, principally, although the element of induction was also present, but did not bear upon the decision of the court. In the first case the arc light wire with the more powerful current was enjoined altogether from running parallel with the telephone and on the same side of the street. Here the similarity ends. The last case refuses an injunction, on the ground that the complainant can obviate the difficulty more easily than the defendant. As has been stated, in the first case there is no discussion of any method by which the two systems of using electricity can be harmonized, but seems to assume there is not, and rules out the party coming last in the field. Of course the result in this case is simply to compel the electric light company to place its wires at such a distance and in such a manner that there would be no interference. And the assumption easily follows that this would not be a great undertaking. In the latter case, on the other hand, in order to harmonize the two systems, it would be impossible to consider a removal of defendants' trolley wire to a greater distance from the telephone wire, because this would render the operation of the road impos-

sible; for the trolley wire must be placed in the center of the street, or at least at such a distance from either side as would inevitably bring it within the field of induction upon the telephone wire on the opposite side.

Therefore the assumption follows, that if no practicable method of harmonizing the workings of the two uses of electricity existed or was shown, it would be necessary for the court to permanently restrain one system or the other, which in this case, on account of the priority of right of the complainant, would naturally be defendants'.

A very different conclusion in regard to the comparative cost and practicability of different systems of operating street railroads by electricity is reached in *Hudson River Telephone Co. v Watervliet Turnpike R. R. Co.*, 15 N. Y. Supp. 752. This case is first reported in 8 N.Y. Supp., where the plaintiff, who had brought an action against the defendant for a permanent injunction to restrain defendant from operating its electric railway, sought an injunction pendente lite, in the Supreme Court, Special Term, on the ground that great and irreparable injury would result to it, if the defendant was allowed to continue the acts complained of during the pendency of the action. The injury complained of was that already noticed in the previous cases, viz., the influence of the current of electricity in the trolley wire over that in the telephone wire by induction, and the disturbance through the escape of electricity into the earth from defendant's wires, plaintiff using the earth as a return circuit. The court avoided any dis-

cussion or determination upon the merits of the question involved, not being necessary to the decision upon the motion for the injunction, and granted the injunction pendente lite, upon plaintiff furnishing an undertaking sufficient to cover any loss which would result to defendant by reason of the interruption of the operation of its railroad. Defendant appealed to the General term from this order, and there the court seems to have indulged in some speculation upon the merits of this novel question, concluding that the adoption by either party of the "metallic circuit" would obviate the electrical interference complained of by the plaintiff, and that it would be much cheaper for the telephone company to construct it than for the railway; that; however, if there were no reasonable and practicable method to obviate this interference, the defendant must needs desist from the use of electricity as a railway motive power upon the streets preoccupied by the plaintiff; but continued the injunction for thirty days, and until the defendant should stipulate that the court might determine on the trial and adjudge to plaintiff such recovery for the expense and damage to it by reason of its constructing a metallic circuit as might be just and equitable, and upon defendant giving a bond for the payment to plaintiff of the amount awarded against it. Defendant then appealed to the Court of Appeals from this order, where the appeal was dismissed upon the ground that the granting of an injunction pendente lite rests within the sound judicial discretion of the court of original jurisdiction, and that this dis-

cretion is reviewable only by the General Term; and an appeal from the judgment of the General Term would not be entertained except where it plainly appeared upon the face of the complaint that the case is one in which by settled adjudications the plaintiff upon the facts stated is not entitled to final relief. (*Williams v Telegraph Co.*, 93 N.Y. 640).

The court, however, per Andrews, J., goes into a consideration of the facts in the case, and concludes that the evidence strongly preponderates in favor of the contention of the defendant that the single trolley system of propulsion of street cars by electricity is the best in use, "having regard to mechanical, electrical, and financial considerations"; that the substitution by the plaintiff of the metallic for the earth circuit is practicable, although involving a large outlay, and would not only obviate the disturbances caused by defendant's road, but would promote the general efficiency of the telephone system. Continuing, the court says:

"We have examined with care the questions involved in this case, and we are compelled to say that we entertain very grave doubts whether the facts stated in the complaint and affidavits are sufficient to constitute a cause of action in favor of the plaintiff, and whether the plaintiff has any remedy for the injury of which it complains, except through a readjustment of its methods to meet the new condition created by the use of electricity by the defendant under the system it has adopted. But we think we ought not to dispose of the case upon its merits in this proceeding. The questions are new and difficult, and courts elsewhere have differed upon them. The trial of the case upon the merits is now proceeding wherein the facts will be judicially ascertained; and in case an appeal shall be taken to this court upon the final judgment rendered, we shall then be better able than now to determine the ultimate rights of the parties."

Finch and Peckham, JJ., dissented upon the ground that the complaint stated no cause of action. A reference was ordered in the case in the trial court, and the referee found as follows, in regard to the status of the two methods of using electricity employed by plaintiff and defendant: That the system employed by the defendant acted by conduction ~~through~~ the escape of electricity into the earth upon the wires of plaintiff, and also by induction wherever defendant's trolley wires ran for any <sup>considerable</sup> distance parallel or substantially parallel with the wires of plaintiff, and at a short distance therefrom, ---in each case with the results noticed in the cases previously cited. The referee also found that the difficulty could be obviated by the adoption by the defendant of either the double trolley or storage battery system for running its cars, or to a considerable extent by the adoption by plaintiff of the McCluer Device, or by the use of a metallic return circuit. But that the cost to the plaintiff of making the latter change, which was the only way to prevent a complete interference, would greatly exceed the cost to defendant of either the double trolley or storage battery systems. But the referee found and decided upon the pleadings and proof that the plaintiff had failed to establish a cause of action against the defendant, and that defendant was entitled to judgment against plaintiff dismissing the complaint.

This decision of the referee was appealed from to the Supreme Court. In examining the questions involved the Supreme Court ignored entirely any conclusions or doubts



expressed by the Court of Appeals in its decision dismissing the appeal from the injunction pendente lite, saying it was apparent from the language used by the court in concluding its opinion (quoted above), that the whole subject in controversy was remitted to the trial court for its determination as an original question, and hence came to the Supreme Court on appeal as an original question in which there has been no authoritative determination by the Court of Appeals. The Supreme Court first decided that the defendant acquired no right by reason of its franchise to permit currents of electricity induced by it in the operation of its railroad to escape upon the private property of the plaintiff, and thus injure or destroy it, or impair its use, unless the legislature contemplated such a result and provided for it in the grant to the defendant, which related only to the power to be used by it, and specified no particular mode of its application. If the single trolley system was the only mode of applying electricity as a motive power to cars, then the authority to use electricity might be said to imply an authority for the use of that system, notwithstanding its injurious effects upon others, provided the legislature has the constitutional power to grant a right to a corporation to invade private rights, or destroy the property of other corporations or individuals. This was a constitutional question which the court was not called upon to examine, as the case disclosed that the single trolley system was not the only method of applying electricity as a motive power for the propulsion of railway cars. The court says:

"It is doubtless the duty of the court in the exercise of its equitable power to protect as far as possible and practicable within legal rules both these great modern improvements; and, as has been intimated by this court and the court of appeals when this case was before it on a motion, save both of them to the public use upon just and equitable principles, and at the least possible expense and burden to the parties. On that motion it was assumed that the telephone could change its system from a ground circuit to a metallic circuit at less expense than the defendant ~~could~~ could change from a single to a double trolley system. The trial of the action and the report of the referee now demonstrates that the expense of changing to a metallic circuit by plaintiff would be over \$120,000, while that of changing from the single to the double trolley system would be but about \$33,000."

The court concludes that the conclusions of law of the referee were not in harmony with the facts found, and that the dismissal of the complaint was error for which judgment should be reversed and a new trial granted.

Learned, J., in a short concurring opinion held that the case had been practically decided by the Court of Appeals; that it was held by the court in *McHenry v Jewett*, 90 N.Y. 58, that if in any case the complaint showed no cause of action, then on an appeal to that court from an order affirming an injunction order pendente lite, a question of law arose; that that court ought to decide that question, and ought to reverse the order. And that in the present case the Court of Appeals would have reversed the ~~the~~ order affirming the injunction pendente lite, if they had not really determined when the question was directly before them, that upon the facts as shown by the complaint a cause of action existed, although they did express "grave doubts" upon it, which language was "probably used in compliment to the two judges who disagreed with the majority opinion."

"It was the right of the defendant to have a reversal as matter of law, if no cause of action was set forth in the complaint; and when that court dismissed that appeal, it decided that the complaint stated a good cause of action."

The best statement of the real merits of this question, and a decision rendered accordingly, will be found in the case of the Cincinnati Inclined Plane Railway v City and Suburban Telephone Ass'n, reported in 27 W. E. 890. This is an Ohio case, and without entering into an unnecessary repetition of detailed facts, it may be said that substantially the same point is involved as in the previous cases, viz., the interference of electric railway and telephone wires. The original action was brought in the Superior Court of Cin<sup>cin</sup>nati, Special Term, by defendant in error, injunction order granted, appeal by plaintiff in error to General Term of Superior Court, where order was affirmed, and appealed again to the Supreme Court of the State of Ohio. The decision in the Superior Court follows in fact and argument practically that in the final decision in Hudson River Telephone Co. v Watervliet, etc., R.R.Co., supra, holding that plaintiff in error should use the double trolley system, and without considering the comparative expense to each company. The Supreme Court eliminates at once all immaterial considerations from its discussion, and meets squarely the real "bone of contention" in the following language:

"Conceding that the mode adopted by the Railway Company of propelling its cars by electricity (the single trolley system) is an interruption to the telephone service of the defendant in error, and calculated to impair its franchise in the manner contended, the inquiry is suggested

whether the Railway Company must yield up a useful franchise, that the same may be exclusively enjoyed by the Telephone Association, or whether the Association shall adapt its system to existing conditions, ---whether the Company shall change from the single to the double trolley system, from the grounded to the metallic circuit, or whether the Association shall use either a complete metallic circuit, or resort to the McCluer Device. It is immaterial on which party the expense of the change may fall the more heavily. It is a question of legal right, and as remarked by Lord Hatherly, L.C., in Attorney General v Colney Hatch Lunatic Asylum, L.R. 4 Ch. 153, 'the simplest course as far as regards the administration of justice is to ascertain the exact state of the law which regulates the relations of the parties; and having done so to proceed to act upon it, without any reference to the difficulties of the case on the part of those against whom it is obliged to decide, leaving those parties to relieve themselves as they best can from the position in which they have placed themselves, and if there be no other mode of escape, to cease to do the acts which occasion the wrong.'"

The court then proceeds with a clear, consistent, and logical discussion of the rights of the parties. Only a brief outline of the argument of the court can be here attempted. It is substantially as follows: The primary and dominant purpose of establishing the streets was to facilitate travel and transportation, and they therefore belong to the public for this purpose. The telephone system and its appliances is not among the original and primary objects for which the streets are opened, for they may be placed elsewhere than on the highway, and yet accomplish their purpose. And in granting permission to the telephone company to construct its lines along and upon the highways, the prohibition is laid upon them, that "the same shall not incommode the public in the use of such road." Hence this paramount easement or estate which the public acquires in the streets, carrying with it a special interest in the adoption of the most approved systems of modern street

travel, cannot be made subservient to the telegraph or telephone when admitted on the highway, without the clearest expression of the legislative will. The telephone company has no exclusive right or franchise to use the earth for a return circuit. The legislature did not grant the right by general enactment, nor empower the municipal corporation to give the telephone association the exclusive right to make use of its streets so as to create a monopoly. For 40 years before the telephone was discovered the use of the earth as a conducting medium in the formation of an electric circuit had been the common property of any electric enterprise. By what grant or title, then, did it become the especial, peculiar, and exclusive franchise of the telephone association? The contention that defendant in error had acquired a vested interest in the telephone system as at present operated before the Railway Company had any right to use electricity, which right could not be injured or taken away by the state, is answered by the fact that any special privileges are under the control of the legislature, and may be altered, revoked, or repealed. The primary object or design of the state in granting the franchises of telegraph and telephone companies is in a large measure to subserve the public benefit and convenience, and not the mere pecuniary advantage of the owners of the corporate property. The exercise of their corporate privileges is subordinate to the accommodation of those who travel on the streets and highways, the profit to the proprietors being a mere mode of compensating them for their out-

lay of capital in providing and keeping the public easement. The court concludes by reversing the judgment of the General and Special Terms, and dismissing the original petition. \_\_\_\_\_

The law upon this branch of the subject is necessarily conflicting in different jurisdictions where the question has been treated as an original one. It is yet in a crude and primary state of development, and no decisions can be regarded as finally establishing the law in any particular jurisdiction, when it is considered that many new elements are constantly arising under the influence of scientific invention and discovery in this branch of the mechanic art. But it would seem that the decision in this case is the most logical and just of any so far reported upon this novel and perplexing question. The conflict in most of the cases has been largely upon the question of what remedy can be employed to obviate the difficulty with the least trouble and expense. Of course this question must depend upon the evidence presented to the court, which in the present status of electrical science must necessarily be more or less conflicting, and a judgment thereon cannot be entirely satisfactory. It is, therefore, refreshing to study a decision of the question based upon undisputed fundamental facts, and which determines the legal rights of the parties in this novel situation, apart from any consequential difficulties or embarrassments.

--- VI. ---

----- IS ELECTRICITY MANUFACTURED?-----

The courts have recently had to consider the question as to whether companies generating electricity and selling it to consumers for power, illumination, or heating purposes are manufacturing companies under statutes exempting manufacturing companies from taxation. Decision has been passed upon this point in two reported cases, --~~Penn~~-sylvania Commonwealth v Northern Electric Light & Power Co. 22 At. 839, and People ex rel. v Brush Electric Illuminating Co., 45 Alb. L. J. 264.

The effect of these decisions is practically that such companies are manufacturing companies, although the contrary conclusion is reached in the first case, on account of the statute under consideration. The logical and sound view seems to be that electricity is as essentially the product of man's skill and labor, --a manufacture, -- as the production of illuminating gas, or the production of ice by artificial means. The court in the case last cited says:

"When we attempt to establish the proposition that the gas which lights one room is a manufactured product, and the electricity which lights another is not, we are obliged to rely more upon the definition of terms and the distinctions of scientists than the actual practical processes and operations by means of which results in all respects or at least substantially the same are produced..... The electrical energy which is manufactured and sold by electric lighting corporations originally resides in and is extracted from the coal which is burned; or more correctly speaking from the heat which is produced by the combustion of coal. Electrical energy is produced at the central station. It may be stored up in cells of definite capacity

known as accumulators. It may be and in fact is measured and sold in determinate quantities at a fixed price, precisely as are coal, kerosene oil, and gas. It may be conveyed to the premises of the consumer upon a wagon, boxed up in an accumulator, or it may be sent through a wire, just as gas or oil may be transported either in a close tank or forced through a pipe. Having reached the premises of the consumer, it may be used in any way he may desire, being like illuminating gas capable of being transformed either into heat, light, or power, at the option of the purchaser."

-----

It has been my impression while collecting the material for this thesis that it must necessarily prove incomplete and somewhat fragmentary. A review of the work only confirms and strengthens this impression. My intention has been, however, not to state the law of electricity as it should be, nor entirely as it is, (for it is as yet by no means well developed) but to point out, if possible, the manner in which the courts have dealt with a new source of litigation, and determined the rights and liabilities of the parties by long established common law principles logically applied. More than this could hardly be successfully attempted when we consider within how short a period of time reported decisions have become numerous, and the consequent immature and unsettled condition of this branch of the law. It will be readily seen that it is an important branch, however, and one that is becoming more interesting and momentous every year.

In the meanwhile here is a field in which the lawyer may plant the seeds of reason and judgment in dealing with the perplexing questions that must arise, unhampered by old and rock-bound precedents which must be followed,



with the hope that they will spring up and bear the golden fruit of justice and equity for future generations.

-----