1894

The Rights of an Electric Railway in Respect to its Poles and Wires

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THESiS

THE RIGHTS OF AN ELECTRIC RAILWAY
IN RESPECT TO ITS POLES AND WIRES.

Presented for the Degree

of

Bachelor of Laws,

by

Frank Roger Mowrer.

Cornell University,

Ithaca, New York.

1894
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Theonward progress of civilization is no more forcibly and unmistakably indicated than by the rapidity with which the inventions of man are being multiplied to facilitate and bless the existence of man in the present age.

Electricity whose feeble currents a few years ago were only used in the telegraph and telephone is perhaps the most potent agent to aid inventors in modern times to fulfill long felt needs in the sciences and for the necessity, convenience and comfort of mankind. The electric light, the electric motor and the electric railway have followed in quick succession. Electricity now furnishes light for almost municipality within the jurisdiction of our courts; while the electric railway will soon infest the whole country.

The electric railway is not only the greatest convenience for modern invention and discovery in that it gives a more rapid and reliable service than the horse railroad system but it can be operated in localities where it would be impossible to install and operate eith-
er the horse rail road or the cable system. The long
tortured steed of the street railway is superannuated and
a crowded and hustling American public now enjoy health-
ful and comfortable suburban homes without undue loss
of time in transit.

Not without challenge have all the appliances neces-
sary for the operation of an Electric Railway been set
up in some of our cities. It is not the presence of the
"deadly current" in our very midst that troubles the
practical people of this present time, but rather the
setting up of a row of innocent poles in the streets and
stretching a wire overhead. It is not "the black cats
pur as the train goes by nor even the gleam of the old
hag's wicked eye," but rather the obstruction of travel
by the poles or the effect of the heavier currents nec-
essary for the propulsion of cars, on conversation by
telephone that leads to applications for injunctions a-
gainst the use of the Electric Railway.
HISTORICAL SKETCH

The inception of the Electric Railway and the first period of its history had its scene of action in the United States: although the working out of the broad principles on which modern electric traction is based, and the first great step toward the reduction of these great principles to practice took place abroad. Soon again the scene changed back to America so completely that one may say without doing any injustice that electric traction as a whole is of American development.

It was the electric motor which has made so many practical applications possible, that gave us the electric railway. It originated from the Barlow Wheel, in 1826. About 1832, Thomas Davenport, a blacksmith living in Brandon, Vermont, independent of previous researches, devised a rudimentary electric motor working on the general principle of revolving an electro-magnet by its attraction for fixed armatures, the current being commutated at the proper time to let the poles pass the first set of armatures and take up the work, at the next. This he applied to an automobile car supplied with batteries carried upon it and as early as 1835 he constructed a
little circular electric road. Several attempts were made by inventors to apply battery currents to motors in various ways,—by carrying the batteries on the cars and by using the rail as conductor. Further, the motor armature was geared to the driving axle of a car, with a considerable speed reduction; which embodied the principle of economic working that has since been generally followed.

Battery currents were expensive and too weak for ordinary railway work, and it was not until 1840, when Henry Pinkus, in England, suggested the possible use of mechanical generators, to replace the batteries shown in his plans. It may also be mentioned that an English patent to Severe, in 1855, on telegraphy from moving trains, involved in a very obvious way the idea of taking current from an uninsulated conductor running along the line, thus forestalling the modern trolley system.

In 1864, Pacinotti brought out his famous electromagnetic machine, which was the forerunner of both the modern dynamo and motor. He understood perfectly, that if current were supplied to it power could be obtained; while if power supplied current could be obtained. Omitting many interesting and important experiments and re-
results obtained by Wheatstone, Siemens and Gramme in 1875, the scene of action shifted to America, and the experiments of Mr. George F. Green of Kalamazoo, Michigan, began.

Green used the track rails to transmit the current from the source of electricity to the moving car, which was driven by a small electric motor of the pole-changing type. He also proposed, as shown by his drawings of that date, to use an overhead wire as one of the sides of his circuit, but the experiment was not carried out. He fully understood the advantages of employing a dynamo to generate the electricity, instead of batteries.

In 1879, when he applied for letters patent, from the lack of funds he acted as his own attorney and encountered many difficulties and expensive litigation. His experiments formed the connecting link between the old and modern systems of electric traction.

The first working electric railroad, on a practical scale, was put in operation during the summer of 1879, by the Siemens & Halske concern, at the Industrial Exposition in Berlin. The first car was operated at about eight miles per hour and 18 or 20 persons constituted the full load. This was the practical starting point
of modern electric attraction. Subsequently, very accurate experimental work was being conducted in the United States by such men as Thomas A. Edison, Stephen D. Field, C. J. VanDepoele, Leo Daft, Bentley and Knight, and F. J. Sprague.

Mr. Sprague, in 1887, brought into special prominence, a mode of suspending motors under the cars which is now generally used and the development of the overhead and under-running trolley into something like its present shape.

The growth of this young industry, electric railway equipment and construction, would be a subject for an independent thesis. Suffice it to say that at the end of 1893, 

$\$905,870,000 capital was employed in operating 469 roads with a mileage of 5,446 miles.
I. By What Authority the Public Highway is Used for Street Railway Purposes.

Before discussing the two main questions suggested by the subject of this thesis, to wit,—Are the poles and wires necessary for the operation of an electric railway by the overhead system, an additional burden on the land sufficient to entitle the abutting owners to compensation, and second,—Whether the disturbances to the telephone circuits by the heavier currents necessary for the propulsion of cars are a sufficient ground for injunction against the railway company,—it may be interesting to inquire by what authority the public street is used for railway purposes.

It is well settled that the use of the street belongs to the public at large as distinguished from the municipality. The Legislature represents the public and the municipality has no control over the streets, except what is given to it by the Legislature, either expressly or by implication. (Hoboken Land Improvement Co. v. Hoboken, 35 N. J. L. 208) What the Legislature can thus do it may delegate authority to do; consequently this authority to have control over the highway is usually con-
ferred upon the municipality by the charter under which it is incorporated. Thus provision is made for lighting the city, water supply and sewage. (State v. Cincinnati Gas Light & Coke Co., 18 O. St. 262. Coke v. Flatbush Water Co., 27 Hun 72).

The city council cannot, without express Legislative authority, grant any exclusive franchise for any of these purposes. These grants are generally to a certain extent exclusive, and are conferred by special legislation "in consideration of the performance of the public service, and, after the performance by the grantee, is a contract, protected by the Constitution of the United States against State legislation to impair it." (New Orleans Gas Co., v. Louisiana Light Co., 15 U. S. 650).

In regard to the numerous demands, at the present time, made upon the highway by the necessity and for the greater convenience of the public. Vankleat, V. C., in Halsey v. Rapid Transit Street Ry. Co., 20 At. Rep. 859, says;— "The question is this; Has the complainant's land in the street been appropriated to a purpose for which the public have no right to use it? It is of first importance in discussing this question to keep constantly before the mind the fact that the locus in quo is a pub-
lie highway, where the public right of free passage, common to all the people is the primary and superior right. The complainant has a right in the same land. He holds the fee subject to the public easement, but his right is subordinate to that of the public, and so insignificant when contrasted with that of the public, that it has been declared to be practically without the least beneficial interest. Citing 36 N. J. L. 540, 551.

Lands taken for streets are taken for all time, and if taken upon compensation, compensation is made to the owner once for all. His compensation is awarded upon the basis that he is to be deprived perpetually of his land. The lands are acquired for the purpose of providing the means of free passage, and consequently may be rightfully used in any way that will subserve that purpose. By the taking the public acquire a right of free passage over every part of the land not only taken, but by such other means as the improvements of the age, and new wants, arising out of an increasing population, or an enlargement of business may render necessary. This is the principal on which it has been held that a street railway, operated by animal power, does not impose a new servitude on the land in the street, but is, on the con-
trary a legitimate exercise of the right for which the highway was constructed. Such use, though it may be a new and improved use, still is just such a use as comes precisely within the purposes for which the public acquired the land. This is not such a taking of private property from the owner of the fee as is prohibited by the Constitution.

The easement of the highway is in the public, although the fee may be technically in the abutting owner. It is an easement only which is appropriated, and no right of the owner is interfered with. While the street is preserved as a public highway, the use of it does not belong to the owner of the land abutting on it any more than it does to any other individual of the community. The Legislature does not, therefore, by permitting a railroad company to use the highway in common with the public, take away from the abutting owner anything that belongs to him. It is not a misappropriation of the way. It is used, in addition to the ordinary mode, in an improved mode for the people to pass and repass. This principle of law, in so far as it concerns horse-railroads, has been approved by the great weight of authority collected in 14 Am. St. Rep. 569.
It is equally well settled that the ordinary steam railroad, as now conducted, is not within the purposes for which a street is dedicated and does impose an additional burden on abutting owners. However, on the other hand, in Minnesota, in Newell v. Minn. & M. Ry. Co., 35 Minn., 112, it was held that the running of cars, drawn by steam motors, inclosed in cabs, was a proper use of the street in the aid of public travel and did not impose a new servitude. Also in Briggs v. The Horse Ry. Co., 79 Me. 363, the learned court expressed the dictum that "we do not think the motor is the criterion. It is rather the use of the street. If the Railroad Co. exclusively occupy the land, shut off the street from it, deprive it of the character of bearing the easement of a street, use it, not for street traffic, the company may perhaps, be said to make a new and different use of the land. A change in the motor is not a change in the use".

Chancellor HaBriski, in Jersey City and Bergen Ry. Co. v. Jersey City & Hoboken Ry. Co., 80 N.J. Eq. referred to many cases distinguishing street railways from the ordinary railroad occupied by steam. In general he said; "The cars will stop in front of every door and convey
persons from any point in their line which they may desire to go and the great use or advantage of them is to those whose property is taken for the street and whose lands adjoin it. They are but means of using the public streets to a greater advantage for the very purposes for which they were laid out,—they are the best and cheapest mode yet devised, and they do not hinder the use of the rest of the street for public travel, and hardly, in a very small degree, obstruct travel on the part, occupied by the tracks except the few inches used for the iron rails.

Whether an electric railway stands on the same footing with a horse-railway, or is rather to be classed with a steam railway, depends on the question whether it is a new use of the land for a purpose for which it was dedicated.

Now, from the obvious similarity, in principle, upon which an electric road operated by the storage battery system bears to a horse railroad as regards additional servitudes, on the land, the question is reduced to this: Are the poles and wires necessary for the successful operation of an electric railway, by the overhead system a burden sufficient to entitle abutting owners to compensation?
tion; omitting for the purposes of this discussion the question whether the municipality, by granting the right to place poles and wires has exceeded the authority conferred by the Legislature?
II. Are the Poles and Wires Necessary for the Successful Operation of an Electric Railway, by the "Overhead System", a Burden Sufficient to Entitle Abutting Owners to Compensation?

The slight obstruction to the use of the highway, from the erection of poles and wire is strictly a public damage, for which the people's remedy is clearly through the Legislature. The question to be determined, then, is whether the placing of poles in the highway is a taking of private property, and the question arises and is answered independently of whether the fee to the street is in the city of the abutting property owners. This statement is supported by a long line of authority collected in 14 Am. St Rep. 569.

There is a conflict of authority as to the right to erect telegraph and telephone poles in the street, without compensation to abutting owners. The decisions, however, in both cases depend largely on statute.

The cases have also been distinguished on the ground, that telegraph and telephone poles are not used to facilitate the use of the street, while the poles and wires for the Electric Railway, which has been shown to be simply an improved use of the highway — are directly ancillary to the operation of a street railway.

When we consider that one of the original uses of land appropriated for a highway was the transmission of intelligence it would seem that the distinction here drawn between poles and wires used for telegraph and telephone purposes and those used for the Electric Railway, is too fine. It is significant that in the case in which this distinction is made, the learned court says, that where a railroad company erects poles for the purposes of its railroad, such erection "does not constitute an additional servitude, but is only a legitimate development of the easement already acquired". Continuing Durfree C. J. in 16 R. I. 668, says— "Reference has been made to cases which hold that telegraph and telephone poles and wires erected on the highways, constitute an additional servitude, entitling the owners of the fee to additional compensation, and from these cases it is argued that the railway here complained of is an additional servitude,
by reason of the poles and wires which communicate its motive power. There are cases which hold as stated and there are cases which hold otherwise, but, assuming that telephone and telegraph poles and wires do add a new servitude, we do not think that it follows that the poles and wires erected and used for the service of the said street railway likewise add one. The poles and wires here in question are directly ancillary to the uses of the streets as such, in that they communicate the power by which the street cars are propelled.

On the whole therefore, it seems best to discuss this subdivision of the subject independently of poles and wires used for other electrical purposes.

The question whether the poles and wires interfere with the use of the street in connection with the land of the abutting owner is a question of fact to be determined in each case; but it can not be said without proof that the poles and wires as ordinarily arranged would have that effect. The most serious opposition is made to those placed in the middle of the street. However inconvenient these may be to the public, they are less open to objection from the abutting owner than those on the sidewalk. By custom at least, the abutting owner has
more privileges in the sidewalk on which he is allowed to place obstructions, such as awning posts and hitching posts for his own convenience. The land itself occupied by the poles in the middle of the street belongs to the public for the uses of the street, and if the pole is put there for such a use nothing belonging to the abutting owner is actually taken.

Although many of the recent decisions on this point have been rendered by local and inferior tribunals, they bear evidence of careful examination of principles and authorities.

One of the earliest cases was Mt. Adams and Eden Park Inclined Railway Co. v. Howard Winslow et al, 3 O. Court Ct. Rep. 425 (1888) In that case it appeared that poles were placed along the margin of the sidewalk about 100 feet apart and wires were stretched across and along the street for the purpose of supplying electricity to street cars. The court held that the sidewalk was a part of the highway and to be dealt with as such; that the margins of the sidewalks have, for centuries been appropriated for placing shade trees, lamp posts, hitching posts and similar structures, and that these poles did not obstruct access to the plaintiff's land and imposed no new servi-
tudes upon it; that the use of the street by the electric cars was substantially the same as that by horse cars, the mode of travel being the same, the only change being in the motive power. The court refused to order the poles to be removed. This decision was quoted and approved in Pelton v. East Cleveland R. R. Co. 22 Wk. Ful. and Ohio Law Jour. 67. Jan. 1889. The judge said that although the poles added nothing of beauty to the street, yet the burden or obstruction created was more fancied than real, and that it could not be said in seriousness that the poles and wires would, if properly placed, obstruct the light and air or interfere with the ingress or egress to and from the plaintiff's land. An injunction was refused.

The first decision, by the Supreme court of a state seems to be that in Taggart v. Newport St. Ry. (supra), 16 R. I. 668 — a bill was filed by abutting owners to restrain a street railway company from erecting poles and wires in front of their premises, for the purpose of carrying an electric current to propel the street cars. The poles were to be placed 120 feet apart and along the margin of the sidewalks. The act of incorporation of the company provided that the road might be oper-
ated "with steam, horse or other power, as the Council of the city, might from time to time direct." The permission of the Council, to use the overhead electric system had been given by ordinance. The court held, that the right to use electricity might be inferred from the words of the charter as this was probably meant by the words, "other power"; that the poles did not encumber the streets, was within the meaning of a clause of the charter forbidding the incumbrance of any portion of the street not occupied by the tracks; and lastly, that street railways operated by electricity, by means of poles and wires, did not constitute an additional servitude upon the land.

The ablest and fullest opinion seems to be, that of Vice Chancellor VanFleet, in Halsey v. Rapid Transit Ry. Co. 49 N. J. Eq. 380, December 1890,—in that case a statute had been passed authorizing any street railway to use electric motors with the consent of the city. Such consent had been given specifying the overhead system and providing for poles either on the side or in the middle of the street. The railway company was about to put up poles 120 feet apart, in the middle of the street, in front of Complainant's tannery. The bill was filed
for an injunction and it was insisted that the resolution of the Common Council went beyond the statute in authorizing the use of poles and that the poles occupied land belonging to the plaintiff and interfered with his easement in the street, for all of which he was entitled to compensation.

The Vice Chancellor held that the overhead system was included in the Legislative grant, that the testimony of Thomas A. Edison, perhaps the highest authority on this subject in this country, and other witnesses showed that "the only method of applying electricity for street car propulsion, which, up to the present time, has proved successful, electrically and commercially, is what is known as the overhead system, whereby electricity is supplied to motors on the cars from wires suspended above the cars". The poles and wires are to be used as helps to the public in exercising their right of passage over the street. They form part of the means by which a new form of power is to be supplied for the propulsion of street cars and they had been placed in the street to facilitate its use as a public way and thus add to its utility and convenience. The poles and wires do not impose a new burden on the land, but must on the contrary be regarded,
both in law and reason, as accessions to the use of the land for the very purposes for which it was acquired. They are to be used for the propulsion of cars, and the right of the public to use the streets by means of street cars, without making compensation to the owners of the fee in the street, is now so thoroughly settled as to be no longer open to debate. It would seem then to be entirely certain that the occupation of the street by the poles and wires, takes nothing from the abutting owner, which the law reserved to the original proprietor when the public easement was required. The use and not the motive power is the test. And the principle exhibits, in a very clear light, the reason why it has been held that the placing of telegraph and telephone poles in the street imposes an additional servitude on the land.
III. Disturbances to Telephone Currents by the Heavier Currents Necessary for the Propulsion of Cars, a Sufficient Ground for Injunction.

The remaining question suggested for discussion is;—Whether the disturbances to the telephone currents by the heavier currents necessary for the propulsion of cars are a sufficient ground for injunction against the railway corporation. This situation has given rise to the most determined opposition to the installation and operation of an electric road.

—First, a current of electricity cannot be produced without a circuit; that is, unless the negative and positive poles of the generating battery or machine are connected by a continuous substance capable of conducting the current. Such a substance may be a metal wire, or if both poles of the generator be connected to the earth by metal wires the current will find a circuit through the wires and the earth. The earth, by reason of its immense mass, makes an excellent conductor. By what path through the earth the current takes from one pole to the other pole is not capable of determination.

The telephone is a mechanism by which the sound of
human speech is reproduced over long distances. Without describing the exact mode by which this result is brought about, it may be said that the sound-waves of the human voice produce vibrations on a thin ferro-type plate, which, by means of a magnet and an induction coil, are converted into corresponding vibrations in an electric current over the connecting wire and these variations are, in turn, by means of the induction coil and magnet at the other end, converted into exactly corresponding vibrations on a plate there, reproducing the sound waves of the voice of the speaker in such a manner as to enable the receiver to understand. The current of the connecting wire is a light one, and the circuit is completed, not by a return wire, but by a ground wire brought into contact with the earth. This contact is usually made by attaching the wire from the negative pole of a single cell battery in each telephone to a gas pipe or water pipe running down into the earth. In the single trolley system, the electricity used to operate the motors under the cars is conveyed to them by a single wire overhead suspended over the middle of the track, along the under side of which runs a trolley wheel on a trolley pole, attached to the car, making electric connection between the overhead wire and the motor of the car and
allowing the current to pass through the motor and on to the track whence some of it returns directly to the dynamo generator at the power house. A large part of the electricity leaves the track, however, and, by other and various paths, also finds its way through the earth back to the generator. In addition to the overhead trolley wire, which is supported by guide wires from poles erected on the sidewalk, usually at regular intervals, there is what is called a feeder wire strung along on these poles for the purpose of keeping up the required quantity of electricity on the trolley wires. On the street where there are telephone wires, and electric railway wires, there general course must be parallel. This situation generally causes the trouble complained of and the way in which it is brought about is two-fold. First, the escape of the electric fluid from the rails, which is called "leakage", near where the wire from the telephone is connected with the earth brings upon this earth connecting wire of the telephone varying currents of electricity of much greater quantity than that necessary for the telephone current, and produces upon the magnet and induction coil an effect which results in vibrations of a very different character from those produced by the
human voice, and makes a noise like the buzzing of a saw. Second, a similar noise is made by induction. It is a physical fact of much importance in electric mechanism that, where two wires of two circuits are parallel to each other, and there is a current of varying intensity on one of them, this will produce in the other, in the opposite direction a current of electricity of similar variation. The insulation of the wires has no effect to reduce the current produced in this way. The amount of induction depends upon variation in the current, the distance of the wires from each other and the length of the parallelism of the wires. The current upon the trolley wire and the feeder wire of the railway is quite variable both quantity and intensity owing to the drain upon the store of electricity by the moving and the stopping of the car. Nor is the electricity as generated, exactly uniform in its flow from the dynamo. The result is, that wherever the telephone wire is parallel with the trolley wire and the feeder wire a current whose variations correspond with the variations of the electrical current on the electric railway wires, and this acting upon the induction coil and magnet, produces vibrations of the plate which makes the buzzing sound. It is not
possible, in listening to the sounds produced by the electric railway, to say whether it is the result of induction or "leakage". Expert evidence attributes the disturbance about one half to induction and one half to "leakage". This of course, is only a rough estimate, and the fact may vary much in particular instances.

If the telephone company were to make ever one of its lines a complete metallic circuit with a return wire parallel with the outgoing wire, the disturbance from induction and "leakage" would be completely removed. It is obvious that if the circuit never came in contact with the earth the electricity which goes into the ground from "leakage" could not reach the telephone wire, and so no disturbance could arise. It is also well settled that if the two wires of the circuit are parallel and of the same length, no effect will be perceptible from induction by a third parallel wire of another circuit, however variable may be the current of that wire. This is because the induction, which actually takes place upon each of the wires of the circuit results in currents of equal intensity and variability in opposite directions, which, being on the same circuit, exactly neutralize each other.
It is also practically conceded, that if instead of a single trolley wire and an earth return, two trolley wires were used one for the positive and the other just the negative current, the difficulties would be as completely obviated as if the telephone company used a metallic circuit. In such a system the electricity is carried from wire down through one trolley wheel and trolley pole to the motor of the moving car and returns from the motor to the wire by means of a second trolley pole and wheel.

The reason that the single trolley is used on nine tenths of the roads in the United States is, first, that it is perhaps one fourth cheaper, its outside construction and, second, in single track railways, of which there are many more than double track, where it is necessary to have many switches and turnouts, the complications of the wires overhead increase much more rapidly with a double trolley than a single trolley. On high authority the single trolley is recommended for single track roads and the double for double track roads.

The telephone company contend that they have erected their poles and wires under public authority, and are using their instruments to fulfill a demand made by the
public and are doing a profitable business and insist that they should be protected from any interference to their circuits that will cause them any serious damage. They insist that the railway should use a double wire,—a double trolley system—and ask that they be enjoined from using the earth for their return current. "The railway asks if the telephone people, 'Want the earth!' for their exclusive use and insist that they too can use the return wire and by the use of the McClure device,—which consists in a large wire carried into the disturbed district with which are connected all the return wires of the telephone." This change can be effected at less expense than the single trolley system railway can be changed to the double trolley system, and they contend further that it is not a case in which the courts should interfere, but that it should be left to the development of electric science to provide a remedy. These conditions have been repeatedly discussed before public bodies from the common city council to a committee of the Senate of the United States.

These questions have arisen for litigation only during the last four or five years and have seldom demanded the attention of a court of last resort. The decisions of
the inferior courts have considered the matter at some length and although at variance, they indicate the manner and importance with which the rights of the respective parties have been considered in the different jurisdictions.

One of the earliest cases arose in the Court of Common Pleas, Summit County, Ohio,—Central Union Telephone Co. v/Sprague Electric Railway Co. The peculiarity in the facts, in this case was that the defendant Railway was operated by the Sprague system of Electric Railway which will not permit the use of a return wire to complete the circuit. So it was impossible for the telephone company to get relief by forcing the railway to use the double trolley system. An injunction was refused.

In the Rock Mountain Bell Telephone Co. v/The Salt Lake City Railway Co., in the Third Judicial District Court of Utah. December, 1839.—Zane J., refused an injunction on the ground that the telephone company could protect itself by the use of the McClure system of return wires for the telephone circuit, which although expensive, was not as expensive as the installation of the return circuit for the railway and appeared to furnish a more perfect service. He said the court would not en-
joined the use of the earth by the defendant for its return current, so long as the plaintiff continued to use it, especially as it did not appear to be established that it was practicable for the defendant to give it up.

In April, 1890, Chancellor Gibson gave an eloquent opinion in favor of the electric railway in the East Tennessee Telephone Co. v. Knoxville Street Railway Co., in the Chancery Court of Knox Co. in Knox County, Tennessee. His decision was based chiefly upon the principle that the people of Knoxville, who authorized the operation of the railway, had rights superior to any telephone monopoly to the earth and air for electrical purposes.

A typical situation arose in the case of The City and Suburban Telegraph Association v. The Cincinnati Inclined Plane Railway Co., in the Superior Court of Cincinnati, February, 1890. Plaintiff Company under authority of and grant from the city authorities operated since 1873 a system of telephone communication in the city of Cincinnati, using the earth as a return circuit for the electric current. In 1883 the city authorities gave the defendant street railway company the permission to erect poles, wires etc. necessary to operate its electric street railway and in conformity therewith...
it constructed, in 1889, its electric road and since then has operated the same using the earth as its return circuit. More than three months before this electric plant was put into position, plaintiff notified the defendant that the use of the single trolley system would interfere with and injure the use of the plaintiff's telephone plant and the defendant company assured the plaintiff company that the system was an improved one that would give rise to no trouble. After the operation of the electric street railway was begun, it was found that, by the use of the single trolley system and of the earth as a return circuit, the operation of the electric street railway greatly interfered with the operation of the telephone. Inducing into the telephone wires erected on the same street, currents of electricity, which made it impossible to use those wires for telephone communication, causing irreparable damage to the plaintiff. It was held by a divided court that the street railway company will be enjoined by injunction from using the single trolley system for operating its street railway. Taft, J. in the opinion says:— "On the whole, I am of the opinion that the legislature conferred the right upon the defendant to use any other motive power than animal, whenever the Board of
Public Works should consent. The Board did consent, on October 24, 1883, that the defendants should use either a cable, compressed air, or electricity. It has chosen electricity and has procured the necessary authority to erect its poles and string its wires.

Such being the condition of the franchises which the plaintiff and defendant are entitled to enjoy, considered each without reference to the other it becomes necessary to inquire, first, whether any loss has been inflicted on the plaintiff by the defendant, and if so, how it has occurred; second, whether such loss, if any, is justifiable by defendant's franchise so as to be damnum absque injuria. This involves the question whether the Legislature, after having given the plaintiff the right to construct its telephone system, on faith of which right it has expended large amounts, can confer a franchise on another, the exercise of which will impair the plaintiff's franchise as heretofore enjoyed.

Is it a loss for which the defendant is liable? The contention on the behalf of the defendant is, that because it has full power to operate by electricity under the law, the loss resulting to the plaintiff is damnum absque injuria, and if the plaintiff wishes to avoid the
loss, it must adopt safeguards in the shape of a metallic circuit to avoid the difficulty. To this the plaintiff replies, that by virtue of its grant, it acquired, before the defendant had a right to use electricity as motive power, a vested interest in the telephone system as it now operates it, with a grounded circuit, and that not even the legislature of the state could take away from it or injure this franchise on the faith of which it has expended so much capital and labor. Under the constitutional provision that all laws for the formation of corporations may be altered or repealed (Sec. 2 Art. 12) it would be in the power of the legislature to grant a right to other corporations for a public use, to so use the street as to require the plaintiff company, if it wished to continue in the telephone business, to change its system, and that without any right of action against such corporation. However this may be it is very clear that no intention on the part of the legislature to abridge the granted rights of one corporation by a new grant to another will be recognized by the courts, unless such intention plainly appears in the law. Unless the Legislature intended to make such modification clearly appears, either by express words or by necessary impli-
cation arising from the impossibility of enjoining the second grant without such modification it will not be inferred. But it is said that this principle can have no place here, because the right to occupy the street for the purpose of travel, that is by a street railway, is a superior right to that of using for telephone communications.

When the telephone company is granted the right to use the streets, its right is as well founded as that of the street railway company, again the absence of express legislative direction to the contrary, there is to be no yielding to any other. After rights have been acquired by the outlay of capital and labor, there must be express legislative sanction, at least, to warrant a court in finding a use of the street to be an interference with public travel, which was not so when it began.

Coming now to apply the principle just under discussion to the case at bar the learned court in the Cincinnati Inclined Plane Ry. Co. v. The City and Suburban Telegraph Association (supra) says, for ten years, the plaintiff has exercised a franchise of occupying the streets along defendant's line with its pole and wires conducting a telephone business with a single wire circuit with an earth return. This mode of return was uni-
versally employed when it began, and is today in general use. It has constructed a valuable plant, many parts of which will have to be changed at great expense if it is to adopt the only system which will obviate the difficulty it now encounters from the operation of defendant's railway.

In conclusion the court said, we find that defendant is inflicting a legal injury upon the plaintiff in the nature of a nuisance from which has already arisen loss, and which must inevitably cause loss in the future, constantly recurring. It is said that the damage is not irreparable because the plaintiff can expend money and avoid it; and, in the same way, can arrive at its exact loss and that, therefore, its remedy is not by injunction but at law. Neither of these claims can be sustained. The most frequent exercise by a court of equity of a power of injunction, is to prevent a continual recurrence of injuries from nuisance. The ground is that the plaintiff could not be put to multiplicity of suits and endless litigation.

As to the ascertainment of damages, it is by no means true that in each suit the entire cost of introducing a metallic circuit or a McClure device would be the
measure of damages for this sort of interference, and the
very reason for going into a court of equity is to get in
to a forum where all the injuries can be considered to-
together. The authorities are overwhelming that for such
injuries the proper remedy is by injunction. The order
of the court vested the defendant be enjoined perpetually
from the use of the system of electric railway propul-
sion as now operated by them, or any other which will oc-
casion similar disturbances to those now caused by de-
fendant's single trolley system.

In this case there was a very able and lengthy dis-
senting opinion read by Hunt, P. J., in the first instance
he showed that the parties are in the lawful exercise of
their franchises so their relations toward each other are
only to be determined. He cited authority showing that
telephone poles and wires are not consistent with the use
of the highway. Cincinnati & Spring Grove Ave. Street
Railway Co. v. The Village of Cumminsville, 14 Ohio St.
526. In which Raney showed that the use of such
highway for the purpose of carrying passengers over the
same, in this particular manner, differs in nothing from
the common right of carrying them by coaches and omnibus-
es; and everything needing a grant or the further authori-
ity of law, is the right to place and maintain in the highway the necessary conveniences or the new description of carriages. It does not exclude or seriously interfere with the original modes in which the highway was used, but simply adds another in furtherance of the same general object". If the Legislature had intended to abridge the use of the public highway for public travel by any legislation relating to telephone companies such language has neither been used nor can it be inferred by any reasonable interpretation. The distinction is apparent and it can hardly be claimed that the same principle would apply to the grant in furtherance of the public use of the highway and one which, under the very statute under which it is created, is made subordinate to public convenience. Any claim to a vested right on the part of the plaintiff either because it acquired its right of way and constructed its plant on the faith of the statute of the state granting it the necessary powers or because of a large expenditure of money in its equipment or operation can not be successfully maintained. This would be in effect a claim, as has been stated, that by virtue of the grants, it acquired, before the defendant had the right to use electricity in the propulsion of its cars, a vest-
ed interest in the telephone system as it is now operated with a ground circuit, and that not even the legislature could take away from it nor injure this franchise on the faith of which it has expended so much capital and labor.

Since it is the duty of the state to provide highways for the public convenience and development of the resources of the state, the Legislature has power to compel the plaintiff, if it wish to continue in the telephone business, to so change or modify its system as to permit the public use of the highway of another corporation under a proper grant and not without any right of action against such corporation. Ry. CO/V. Ry. Co., 50 O. St. 604.

If then the two corporations are legally upon the highway, the whole contention arises from the fact that both employ the grounded circuit of electricity.

The legal question involved in this case would be settled by determining by how far a person making a lawful and careful use of his own property, or of a franchise granted to him by the proper municipal or local authorities, is liable for injury incidentally caused another.

It is the accepted rule that so far as persons op-
erating under legislative grants are concerned that something more than mere incidental damages to another must be proved; something, in fact, in the nature of an abuse of the franchise, or an invasion of legal rights to entitle the party to the extraordinary relief afforded by an injunction.

Although this question has been seldom adjudicated in the courts of last resort, the case of the Hudson River Telephone Co. v. the Watervliet Turnpike and Ry. Co. in 135 N. Y. 595, October, 1892, seems to be in point. The learned court says, in regard to the manner in which the disturbances complained of can be overcome, "It is found that this disturbance can not be avoided by the defendant without a complete change of the system adopted, and the use of motors which are more expensive, more dangerous and less useful and efficient. It is obvious, that to require such change to be made would be to grant to the plaintiff, by decree of the court, that which the legislature has expressly and intentionally withheld. We are not prepared to hold that a person, even in the prosecution of a lawful trade or business, upon his own land, can gather there by artificial means a natural element like electricity and discharge it in such a volume
that, owing to the conductive properties of the earth it would be conveyed into the grounds of his neighbor with such force and to such an extent as to break up his business or impair the value of his property and not be held responsible for the resulting injury. But the question before us does not require a determination in this form. The use which the plaintiff is making of its grounded wires, is a part of its system of telephonic communication through the public street and a necessary component of the service it maintains there under the permission of the state and subject to the condition that it shall not incommode the use of the streets by the public. It is one indivisible franchise and is in its entirety subordinate to the lawful uses which may be made of these thoroughfares for public travel. The defendant's mode of conveying passengers is of this character and the plaintiff can no more justly complain of its loss from this source than it could if, by the jarring of loaded vehicles passing up and down Broadway its delicate instruments were displaced and their beneficial use impaired or destroyed.

In Cumberland Telegraph and Telephone Co. v. The United Electric Railway Co. 42 Fed. 276, May, 1890, Judge
Brown in a well prepared opinion said;-- "The substance of all the cases we have met with in the examination of this question -- and we have cited but a small fraction of them -- is that when a person is making 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 to be the best; -- but he is not bound to adopt expensive devices, when it lies in the power of the person injured to take use himself of an effective and inexpensive mode of prevention." Hoyt v. Jeffers, 36 Mich. 101, unless we are to hold that the telephone company has a monopoly of the earth not only as against the assignee, but as against all forms of electrical energy which, in the progress of science and invention, say how after require its use, we do not see how the bill can be maintained."

It appears from this review of the cases that the contest between the electric railway and the telephone companies over the use of the street has not been definitely settled by the courts. It seems likely that the settlement will be made through the ingenuity of invent-
ors, rather than by the efforts of the lawyers and judges. It is certain that the public convenience will demand that the streets shall be used for both purposes, and that some way will be found by which this may be done. It is certainly true, as the courts generally have held, that no one mode of public service has the right to a monopoly of the earth or the air in the line of the streets by the use of electricity, and the power of injunction will only be exercised so as to avoid present injury to existing property.