BENEATH BUSY STREETS.

The Electric Underground Conduit Railway in New York City.

First of Its Kind to Be Operated Successfully in the New World—How It Is Done—Its Overhead Trolley.

The first practical electrical underground conduit railway in this country is now in operation in New York City, connected to the great subterranean system of the Metropolitan Traction company. The public can now travel from the Battery to 145th street with one change, from the cable car to the electric car, at West 116th street.

The underground electric system employed differs radically from all other systems of electric underground conduit railways both in the construction of the conduit itself and the method of taking the current from the conductors to the motors. It has been operated more or less experimentally for the last month, and its success has justified the sanguine predictions of the contractors and engineers who effected its installation.

The introduction of this system upon the surface lines of the city is the result of the determination of the Metropolitan Traction company to give New York a satisfactory electrical system of traction which would not be the subject of that peculiar capital prejudice which has acted to debar it from the advantages of the overhead trolley system. Consolidation of the opposing results in the selection of a conduit system designed and manufactured by the General Electric company, and the long stretch of road on Lenox avenue was chosen as the scene of the experiment.

In formulating the project the Traction company determined upon the most conservative lines, and estimates to reduce the consequence of failure to the minimum of damage which would inevitably arise from any mishaps in the service. The plan therefore contemplated the construction of the line as if for a cable road, in other words, should the electric system prove unsuccessful, the electrical portion could be torn out, and the cables and pulleys of the regular cable system introduced into the conduit without loss of time and at comparatively small expense.

The Lenox avenue line is a double-track road, starting at the car house at 145th street and running directly south to 116th street, into which it turns and proceeds as far west as Manhattan avenue. It turns here and runs as far south as 108th street, along which it is carried to the junction of that street and Columbus avenue. The district which this line will serve is at present somewhat sparsely settled; but the facilities of transit which it will afford will probably result in the rapid development of a new residence section for New Yorkers on both sides of the Harlem.

The power house is located on 140th street, a few yards west of Lenox avenue.

Steam is supplied from two Babcock & Wilcox water-tube boilers to the horizontal cross-compound 650 horse-power Allis-Corliss machines. To each of the engines is coupled a General Electric 400 K.W. dynamo of standard construction, but wound for 550 volts instead of 500 volts, as is the usual practice in railway work. This machine is placed between the high and low pressure sides of the engines.

From the generators the cables run to the switchboard and thence to a subway under the sidewalk on 145th street, extending as far as Lenox avenue, where they are introduced into the five-inch iron pipe running parallel with the conduit. For the present the line will be operated directly from the power house, but feed wires will probably be placed in the pipes and will be joined to the mains at the necessary points, and the line will then be divided up into sections.

The construction of the underground contact system is simplicity itself. The plough suspended from the car truck passes through the slot in the center of the track and presses against the flat surface of two iron conductors running the entire length of the conduit. These conductors are placed each three inches on each side away from the center of the slot to avoid electrolytic effects of any drip which would otherwise reach them, and are of channel iron four inches deep and thirty feet long. They are suspended from the ceiling of the conduit by means of insulators devised for this special purpose, and are at a depth of thirteen inches below the ground slot. Each conductor is sufficiently rigid to require suspension at the ends and centers only. The ends are united in the manhole and conductors are placed at the center; inspection and repair are thus rendered comparatively easy.

A modification of the system of suspension of conductors is introduced for a length of about one hundred yards of single track on 125th street between Lenox and Seventh avenues. At the junctions, instead of iron slots suspended from the ceiling of the conduit, the conductors are supported by a soapstone pillar, provided with an iron cap furnished with brackets, to which conductors are bolted, and continuous connection is secured by means of a piece of flat copper strips riveted to the webs. The soapstone blocks are set in iron boxes secured in the manhole.

Every twelfth manhole is connected with the power house by telephone. Quick-break electric switches are located at intervals in these manholes, in order that any section of the line may be cut out in case of trouble in operation. At the track switches each conductor is provided with a flaring nose to facilitate the entrance of the plough into the conductor. The manholes in which the switches are placed are constructed of brick with walls three feet in concrete foundation. The floors are laid with oak bolted down to and covered with cement for carrying off water. Wooden covers for drainage are fitted into these walls to keep out the water. The conduit was laid on the grade of the street, but with sufficient pitch to permit any water flowing into the conduit to find its way into the manhole, located every thirty feet, and thence into the sewers.

The current does not return by means of the rails, as is usually the case with the overhead alloy. This is a distinct feature and advantage of the new system. Each conductor bars are one of the working circuit. The current is led into the positive conductor and returns over the other or negative conductor. The current merely rises on one side of the plough, passes through the controllers into the motors and after performing its duty returns by the other side to the opposite or negative conductor.

The shape of traveling contact arrangement is also essentially novel. It consists of two pieces of iron, one on each side of the plough, supported on spring leaves, which cause them to press outwardly against the two conductors. The plough is suspended from a longitudinal bar bolted to cross-beams set upon the truck, and is underneath of two sheets of steel laid over one with a piece of fibre. The two sheets of fibre are then brought together, enclosing strip copper conductors connected at the top to the motor cables, and at the bottom traveling on the inner sheets of steel sheet. There are two sets of the plough and two sets of supports for the plough which carry the sliding contact pieces. A heavy sheet of fibre continues downward and serves to separate these contacts.

The motors employed are the standard general electric 800 machines, modified by K2 controllers, and the cars which are used on the line formerly those used on the Broadway cable line. They are lighted by nine incandescent lamps arranged in groups of three each.

This system seems to offer the best solution yet discovered for electric traction on city streets without interfering any popular sentiment from what is called the trolley difficulty. It is free from the objectionable features characteristic of other methods attempted elsewhere. Instead of a plough filled with wheels running under or over wires strung in the street, neither of any of the other methods have been adopted experiments to secure a workable underground conduit electrical system, a surprisingly simple method of contact is adopted. This new system is cheap and easy to install, can be kept in repair at small cost, and can be inspected without difficulty.

The introduction of this system in New York, where the crying need for rapid transit is almost equaled by the determination not to admit the overhead trolley, is only a start. Its satisfactory operation, safety and economy, when compared with cable or horse traction, will probably result in its general adoption upon the surface roads, and another step toward rapid city transit will be made.

The Irish Conference.

The News was favored on Saturday with a call from Elder C. A. Callis, of Coalville, recently returned from a missionary work in Ireland. Elder Callis left Salt Lake City on April 12, 1893, and arrived home on July 13, 1895. He labored in England, in the Liverpool conference eighteen months, when he was appointed to the presidency of the Irish conference, which position he occupied during the remainder of his mission. Elder Callis reports that the Elders have met with considerable success in preaching the gospel, principally to people in the interior of Ireland. At the last semi-annual Irish conference there were fifty-fifty baptisms to date, and there have been others since then. The Elders are feeling well in their labors, and the prospects of further good results in that part of the mission field are encouraging. Elder Callis spoke in grateful terms of the kindness and hospitality he had received while laboring amongst the Irish people.

RETURNED FROM THE EAST.

Farm and Financial Prospects Better Than for Years—Excursions to Utah and Idaho.

After spending some time in the East, Mr. C. E. Wantland, the well known railroad land agent, has returned. He reports the feeling of Eastern business men in general to be good, as everything looks very favorable at present. Crops are looking better than they have for years; this being more especially the case with wheat and corn. This will prove a great boon to the farmers, as many of them who had to mortgage their farms where their crops failed will be able to liquidate that indebtedness and thus be set on level footing once more.

Railroad lands that have recently been thrown open for settlement are rapidly being entered upon, and what was lately an open prairie will soon be dotted with homes of thrifty tillers of the soil.

On the Wyoming ranges there is plenty of feed, and sheep and cattle are doing well—while the owners are feeling jubilant over the increase in prices of lead, mutton and wool.

The Union Pacific is arranging for an excursion to Utah and Idaho in the hope of bringing many homeseekers out this way and thus imparting the lands bordering on the railway line.

In regard to the silver movement, the necessity of the western people turning out and furnishing money to push the fight is becoming more apparent every day, as the gold bugs are on the alert and will do what capital and influence can do to down the cause of the white metal.

Brigham City Items.

The concert recital given last evening in the Opera House by Miss Ida Snow and Madam Ada Colville was an artistic treat. Miss Snow's vivid descriptions of her travels in Italy were given with a pleasing grace and eloquence. The lady has a charming personality and a well cultured voice. Her Shakespearian recital was exceedingly received. Miss Colville quite captivated the audience with her beautiful voice. The lady has just recently returned from Paris, having studied there for the last two years.

A. SHOW.

OGDEN.

OGDEN, UTAH, JULY 22, 1895.

Ladies Organize.

A county convention of Weber county Republican women will meet at the city hall on Saturday, October 5, being four months and a Sunday. A county league was organized with the following officers: Mrs. Dr. Emma Wells, president; Mrs. Dr. Dyer, first vice-president; Mrs. F. J. Kiesel, second vice-president; Mrs. Louisa Mazer, secretary; Mrs. J. S. Bailey, treasurer. Each ward organization furnished one member for the county central committee.

Citizens vs County Court.

A meeting of citizens is called for Tuesday evening, at the city hall, to take into consideration the action of the county court in decliding to expend money in building an addition to the county court house, when the county has no money. Bills cannot be issued and money hard to borrow.

Notes.

J. A. Butler, formerly a car cleaner in Ogden, was killed yesterday. He was working on a section and while riding on a hand car an extra engine from Ogden to Pocatello struck the hand car. Butler was struck in other manner and received fatal injuries. The body was taken to Logan, the wife residing near Cache Junction.

The Rich Springs house (said formerly owned by the Union Stock Yards) burned this morning. They intend to move to Wellsville to rebuild the house.

Water mains quarding in numerous instances necessary modeling in the interests and continued today.

Wallace's circus came in into Pocatello on Saturday, and in the city will spare money for their use today.

PLEASANT GROVE.

PLEASANT GROVE, JULY 21, 1895.

Elder Hayes's Illness.

Elder William L. Hayes, who has been laboring in the Southern states the last two years as a missionary, was stricken down with fever about a month since and has been very sick since. His relatives have been very much worried about his condition, but hopes are now entertained that he will recover. Elder Hayes has been in the employ of a prominent house in Salt Lake City, and he was stationed with the Elders. His intention was to visit many of the places of interest in the South. Mrs. Amy Hayes, a sister-in-law of Elder Hayes, has gone to the bedside of her son, and he will accompany him home when he is able to travel.

Later.—We understand Brother Hayes has started for home.

Notes.

At a recent election of Messrs. Thorne Brothers & Co., merchants, business, Mr. L. F. Lewis was chosen president, for board of directors. Mr. Lewis is a business, capitalist and of the institution will soon have to fill a mission to the Southern States.

Herman Green, a lad about 15 years old, was severely kicked by a mule on Thursday while following a road scraper. He has been in a critical state but hopes his symptoms are now better and it is believed he will recover.

Friends of some young men here who left for the National Park a few weeks since have been quite anxious for their safety on account of the severe request of the Indians in the north country.

Harvest is on and crops are good. Water is becoming very scarce and orchards and gardens are suffering as a consequence.

No preparations are being made to celebrate Pioneer Day here, and the people will have a "quiet celebration" of it.

Artemus Holman Jr., who accidentally shot himself in the knee a short time ago, is getting around again. "Art" says "his mule kicking with pistols for him."

Dallas Creek style of the young folks heating up on hay racks for bathing in Utah lake is still in vogue as the best mode of travel.

B.

SALTAIR TRAINS on Page 8

Reader, did you ever take SIMMONS Liver Regulator, the "King of Liver Medicines"? Everybody needs take a liver remedy. It is a simple, old-fashioned liver that impedes digestion and causes constipation, when the waste that should be carried off remains in the body and poisons the whole system. That dull, heavy feeling is due to a torpid liver. Biliousness, Headache, Malaria and Indigestion are all liver diseases. Keep the liver active by an occasional dose of SIMMONS Liver Regulator and you'll get rid of these troubles, and give life to the whole system. For a laxative Simmons Liver Regulator is BETTER THAN PILLS. It does not gripe, but weaken, but greatly enlivens and strengthens.

Every package has the Red Z stamp on the wrapper. J. H. ZEILIN & CO., Philadelphia.

Is Your Blood Pure

If it is, you will be strong, vigorous, full of life and ambition; you will have a good appetite and good digestion; strong nerves, good sleep.

But how few can say that their blood is pure! How many people are suffering daily from the contamination of impure blood, scrofula, salt rheum, rheumatism, catarrh, nervousness, dyspepsia, and

That Tired Feeling.

Hood's Sarsaparilla purifies, vitalizes and enriches the blood. Therefore, it is the medicine for you.

It will give you pure, rich, red blood and refreshing sleep.

It will overcome that tired feeling, create an appetite, give refreshing sleep and make you strong.

Hood's Sarsaparilla
Is the Only
True Blood Purifier

Prepared only by C. I. Hood & Co., Lowell, Mass.

Hood's Pills cure all liver ills. 25c.

OUTING GOODS!

Make an outing, which depends upon your outfit and the place where you take it. Wherever you take yours you should have an Al outfit selected from our stock. We can supply you with everything from A to Z on the list. You'll make the biggest mistake this season if you procure your outing outfit before calling at the headquarters in Salt Lake City for outing goods. The quality, style and value of everything we carry puts all competitors far in the rear.

SHIRTS MADE TO ORDER.

ONE PRICE.

J. P. Gardner

136-138 Main Street.

Horses Kick

is self-evident. It is their most vigorous form of protest against the abuse of Spoil Nuisances, prevention very often leads to their ultimate destruction. Protect your horse with some of the Celebrated and unequaled preventatives.

This is what happens. One part tobacco and others is should be avoided, the other goes into the Celebrated and unequaled preventatives of the Celebrated and unequaled preventatives.

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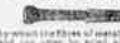

by which the fibres of wool are separated and can come to grind good with the fingers. The end of a nail can be easily distinguished by the rough edge along the edge near the point.

Putnam Nails

are exclusively Hot-Forged and Hammer-Polished, produced by the old-fashioned hand process. Each nail is a work of perfection of workmanship, together with a sharper, tougher, and more durable Spike, Stronger or Brook and in

Absolutely Safe.

Patronize the nail in your neighborhood. If their agent does not keep them, write to the PUTNAM NAIL CO., Portland, Maine. If they are slighted, or if you want a sample, write to the Manufacturers.

Mention this paper, stating kind of nails wanted, and we will send a sample free, in stamps or coin.

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For sale by Z. C. M. I., Clark, Eldridge & Co., Western Hardware Co., Salt Lake Hardware Co., and Geo. A. Lowe, Salt Lake City, Utah.

JOHNSON-PRATT DRUG CO.

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SAFE DEPOSIT BOXES FOR RENT

THE

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CORNER MAIN AND SO. TEMPLE Streets, Salt Lake City.

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Safety deposit boxes in our burglar proof vault for rent at very low rate.

Open for deposits Saturday night until 8 o'clock.

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Drafts and Sells Exchange, makes Telegraphic Transfers on the principal cities of the United States and Europe, and all points on the Pacific Coast. Issues letters of credit available in the principal cities of the world. Special attention given to the collecting of time and demand accounts made on reasonable or lowest rates.

Particular attention given to collections throughout Utah, Nevada and adjoining territories. Accounts solicited.

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