HAMILTON STREET RAILWAY DIARY

HAMILTON RADIALS

C. H. RIFF

Hamilton Spectator

HAMILTON CANADA TUESDAY SEPTEMBER 26 1905

FATAL ACCIDENT AT OGG'S CROSSING ON THE RADIAL

Car 15 From Burlington Crashed Into a Rig Driven By H. J. Dynes at 8.45 Last Night

Miss Nash, Who Was in the Rig, Was Instantly Killed and Mr. Dynes Escaped With Slight Injuries

It Is Said That Mr. Dynes Mistook the Headlight For That of an Automobile

Ogg's crossing, the point where the Radial railroad crosses from the stone road to private right of way, was the scene of a fatal accident at 8:45 last night, when car No. 15, in charge of Conductor A. McCully and Motorman Brandle, ran into a buggy, killing Miss Frances Louise (Dolly) Nash, 100 Wellington street north, and injuring H. J. Dynes, of Quebec city. The horse was also killed and the buggy badly wrecked. At first it was supposed that Dynes' leg was broken, but the doctors say it is not. A coroner's jury is investigating the accident.

The car left Burlington last evening at 8:10, and during its run down the Beach picked up a few passengers. After leaving Ghent's crossing, which is about a mile from the scene of the accident, the car had about 25 passengers aboard, three of whom were in the smoking compartment at the front end of the car. A few yards the other side of where the turn is made is a sand-bank, and it is the custom of motormen when coming to the city to shut off the controller and allow the cars to take the turn on its own momentum. The car was going about twelve miles an hour at the time of the accident, and Motorman Brandle shut off the controller at the sand-bank. Standing in the front vestibule and straining his eyes through the window, he did not expect an accident, and was waiting for his car to complete the turn before turning on the power. As the heavy car dashed around the curve Brandle was startled to see a top buggy and horse shoot out directly in front of the car. The brilliant searchlight in front showed everything, and before he had time to realize that the buggy was there the car crashed into it. There was a splintering of wood and glass and the motorman's hand was cut. The debris fell over the fender wheel and he was enabled to stop the car. The car struck the front wheel squarely. The body of the buggy is not damaged much, but the wheels are broken. The [illegible] on the side.

Coroner Woolverton opened an inquest at the city hospital at 11.30 this morning and Constable Atkin summoned the following jurors: Charles Gardner, foreman; Alex. Dynes, Joseph Kirkpatrick, Wm. Coffee, Samuel Atkin, James Robb, J. C. Begg, Wm. Burke, Joseph Aurson, J. Armstrong, R. Jackson, Robert Pollington, M. Kennedy, James Scott and Peter Colvin.

The jurors viewed the remains and at 2.30 this afternoon visited the scene of the accident. The evidence will be taken at the police court room on Thursday night.

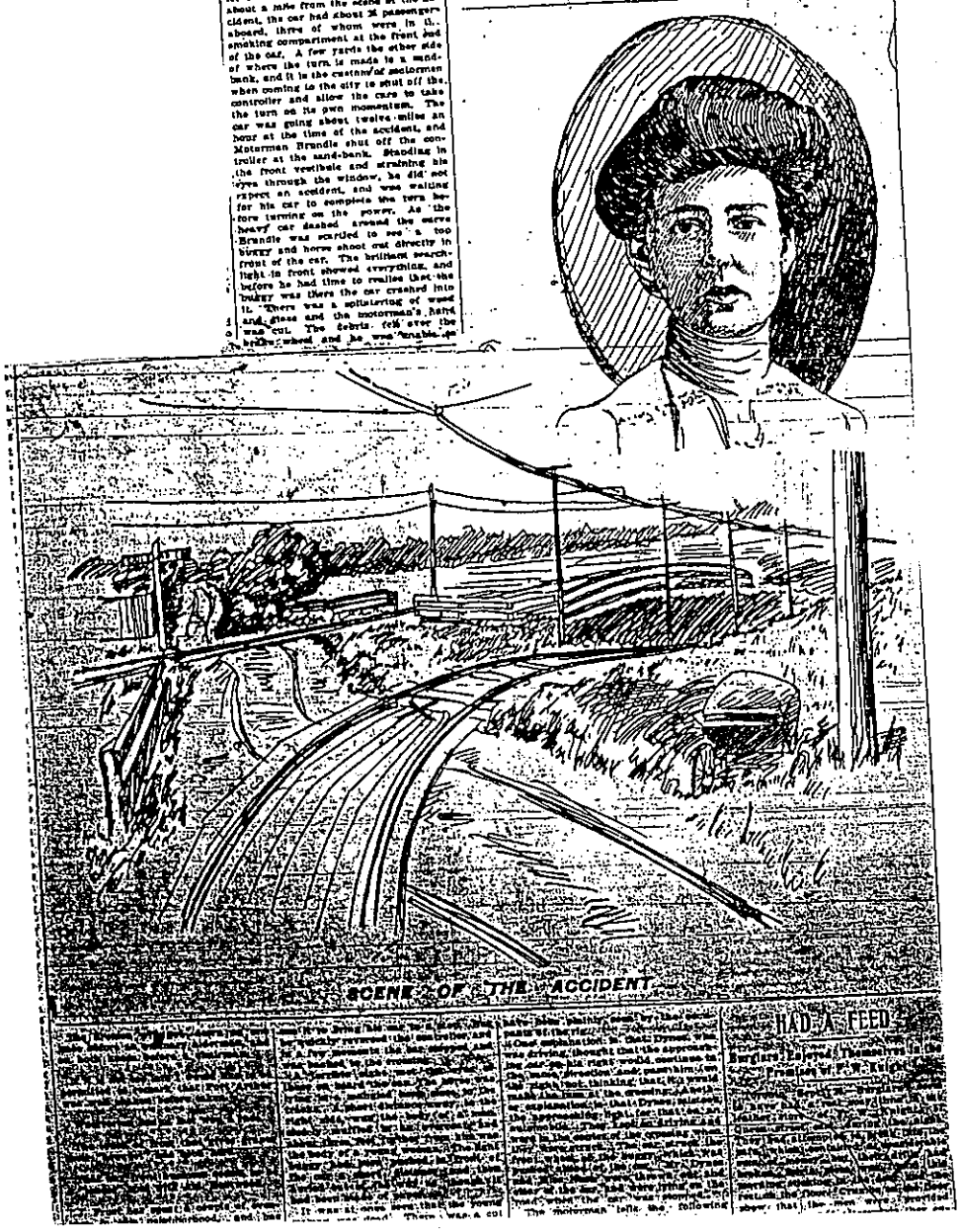
Miss Nash was the youngest daughter of Mr. and Mrs. David Nash, 100 Wellington street north. She was 23 years of age. The funeral will be held on Thursday afternoon at 4 o'clock.

Although his leg is not broken, Dynes received a serious cut on the leg, and it will be some time before he is able to be around. His face is badly scratched. He resides in Quebec, and is in the city visiting relatives. At the present time he seems dazed and is badly shaken up, being unable to give a connected story of the sad accident. He told some people this morning that he did not know just where the accident occurred. He said he was driving along and that he saw the approaching light, but mistook it for the headlight of an automobile, not paying much attention to it. But beyond this he can give no account. Dynes is about thirty years of age.

Mr. Dynes hired the horse and rig from Liveryman Carson about 8 o'clock last night, saying that he was going to drive to the Beach to see his cousin, the proprietor of Dynes' hotel. From the layout of the land the approaching car could easily be seen. The headlight on the car is of the searchlight sort, and its rays can be seen for a mile away. It is like a blinding glare.

The scene of the accident has always been considered dangerous. The Radial tracks are at the side of the road, and the rails make a broad turn to make the private right-of-way. As they were driving to the Beach, the occupants of the rig should have been able to see the approaching glare of the headlight for at least a mile away. There is no obstruction in the eye and the illumination on the ground and in the sky would be observable even around a curve. But there was no curve to hide the light, which must have been visible for a mile.

The motorman tells the following story: He was standing in the front vestibule of the car, when he noticed a buggy coming out of the side road. He thought that the approaching car was right would continue to the same direction and passing him on the right, but thinking that this would make the horse go to the crossing, he made an explanation to that Dynes, seeing the approaching light, for the first time, was in the center of the crossing when the car struck him. The car struck the first wheel of the buggy, which was pushed along for 100 feet, when the horse fell and the car was thrown off the track. The car was stopped within 50 feet of the place where the car was thrown off the track.



SCENE OF THE ACCIDENT

September 26 1905

HAMILTON CANADA TUESDAY NOVEMBER 21 1905

COULDN'T STOP THE CAR ON THE STEEP GRADE

Freight Car Crashed Into the Passenger Car Vineland at the Red Hill on the H.,G.& B. About 5.35 Last Evening

Nine Persons Hurt, But Fortunately the Injuries Are Not Serious —Fred Hamilton Is the Most Seriously Injured

Both Cars Were Badly Smashed and It Is a Miracle That Somebody Was Not Killed—Close Call For Motormen

THE INJURED

FRED HAMILTON, hardware merchant, city—Back hurt and otherwise injured.
DR CLARK, dentist, city—Injured internally. Reported rib broken.
GORDON COTTERILL, Winona—Face cut and limbs scalded
M. H. OVERHOLT, Jordan—Shoulder dislocated.
LUTHER COPE, motorman freight—Ankle sprained.
PETER GIBSON, motorman, passenger—Shaken up.
MURRAY SMITH, Grimsby—Leg bruised.
MRS. COULSON, Grimsby—Injuries not serious.
WALTER GREAVES, Stony Creek—Several ribs broken; badly burned.

In a collision between the 5:10 H., G. and B. electric car Vineland and freight car 22 at the Red Hill, a short distance west of the crossing, yesterday afternoon, nine persons were injured. Fortunately, no person was killed, although the injuries of Fred Hamilton, hardware merchant, are regarded as serious. Dr. Clark, dentist, escaped with a broken rib, and the other injuries are not such as to cause concern. The cause of the accident was the inability of the freight crew to stop the car. The freight was heading for Hamilton and was pulling two C.P.R. freight cars. The regular passenger car was behind the freight cars, and they should all have stopped at the eastern summit of the Red Hill to allow the Vineland to back on the siding. But the freight crew was unable to stop the three cars, which dashed

not hurt, although badly frightened, and is at work to-day.

It was a fortunate thing that Motorman Gibson, of the Vineland, shouted to the passengers in the smoking compartment to clear out. This smoking compartment is at the front end, and the seats run parallel with the car. There were some passengers in the compartment at the time of the collision, and if they had all been there when the crash came there would probably have been some deaths. As it was, however, they had time to clear out to the rear, and the majority of them escaped with bruises.

Dr. Clark was in the compartment. He was scrambling away when the collision occurred and was knocked down and one rib broken. The passengers were knocked about the car and over and under the seats. But to-day they are all happy that they are alive.

Within ten minutes of the accident, word reached Hamilton, and a wrecking crew, headed by Manager Waller, immediately set out. The ambulance was ordered by Agent Waller and Con-

allow the Vineland to back on the siding. But the freight crew was unable to stop the three cars, which dashed down the hill and collided with the approaching Vineland a short distance west of the road crossing. There was a bad wreck and it was not until 7 o'clock this morning that the track was cleared.

At 5:10 yesterday afternoon the Vineland started from Hamilton, carrying between 50 and 60 passengers. Traffic is rather heavy on the road at this time and the car was about filled. A. C. Cole, conductor, and Peter Gibson, motorman, were in charge of the car, and their orders were to pass the freight and regular passenger from Beamsville at the gravel pit switch.

There are two switches at the Red Hill—one at the western summit, where the regular crossing of cars takes place, and the other at the eastern summit. This latter is called the gravel pit switch and is merely a side track on which the cars run and then back out again to the straight track. The Vineland, then, passed the western regular switch and proceeded down the western grade, the crew intending to pass the other cars at the gravel pit.

On the other side of the hill, the other cars were coming. Freight 22, pulling a coal dump and box car, both the property of the C.P.R., was in front, while the regular passenger car from Beamsville was in the rear. This freight car is of 200 horse-power and was humping along in fast style. Luther Cope was motorman and Wm. Dunsmore was conductor of the freight. There were no other employes on this electric train.

Approaching the Red Hill, the freight crew intended to stop and remain on the straight track until the Vineland came up from Hamilton, and backed on the gravel pit switch. But when the Red Hill was reached, Cope was startled to find that he could not stop the three cars. He did everything, reversing the power. He shouted to Dunsmore to put on the brakes of the two trailers. The three cars were traveling at a high rate of speed at this time and the conductor scrambled to the top of the two freight cars and put on the brakes. But it was of no avail, for the three heavy cars continued on their way, and reaching a steep down grade had added impetus. And all this time the two men knew that the Vineland was in front of them.

During the struggle on the freight cars, the Vineland was approaching from Hamilton, and was traveling down the western summit at good speed. Motorman Gibson had the car under control. When some distance east of the bridge, he was startled to see the heavy freight cars shoot around the curve on the eastern summit, and come tearing down the grade. Gibson had but little time to stop his car, but he reversed and did everything in his power to make the Vineland go backwards. It was of no avail. The freight was tearing along to them. Gibson shouted to the passengers in the smoking car to jump to the rear end, and they had hardly time to do so when the crash came.

It was a terrific crash. The Vineland and the freight came together head on. The Vineland was partly derailed, and so was the freight. Of vestibules there was little left, the cars were on a slant, the two freight cars were badly used up, and altogether there was a bad scene of wreckage. To make matters worse, the cars were partially suspended in the air on a six or eight foot strip, for the grading is high there. On either side the ground slopes precipitately away.

It is a wonder that one or all of the cars did not roll down the embankment. Had the Vineland done this, there would have been loss of life. Fortunately, the four cars remained on the grade, although some of them were off the rails. When the crash came, Conductor Dunsmore was on the freight car, endeavoring to put on the brake, and was thrown off and rolled down

word reached Hamilton, and a wrecking crew, headed by Manager Waller, immediately set out. The ambulance was ordered by Agent Waller and Constable English drove to Bartonville. It was a dark night, and the constable had the utmost difficulty in finding the place. Dr. Rennie drove down with him.

Mr. Hamilton was taken to the house of a farmer named Smith. His injuries are considered the most serious of all. He couldn't move when the ambulance reached him and was in pain during the ride to Hamilton. He was taken to Dr. Rennie's residence and this morning it was announced that he had spent a fairly good night. His back is injured and it is feared that there are internal injuries.

Dr. Carr was also on the scene and he did what was necessary to alleviate the sufferings of the injured.

The crew and passengers of the regular car from Beamsville did what they could to help matters and as soon as possible the wounded were placed on this car and transferred to their several homes.

Although the line was blocked, traffic went on just the same. The passengers were transferred at the point of the accident. The wrecking crew remained on the scene all night and the right of way was clear at seven o'clock this morning.

The two motormen escaped with slight injuries—Gibson with a shaking up and Cope with a sprained ankle. The two conductors were not injured at all, although Dunsmore had a roll down the embankment.

Freight car, 22 is of 200 horse power and is a heavy car, also being considered very fast. The two C.P.R. freight cars were a coal dump, and a box car. Both these cars are fitted with the usual hand brake, the grip being a wheel. The brake of the freight car is also of the hand-brake variety. The officials of the company state that they find these brakes the most satisfactory, the grip and contact being particularly good. There was a searchlight on both cars.

The H., G. & B. officials are not prepared to say at present just what the damage is. The Vineland is the latest addition to the rolling stock of the company and was considered the best car in the lot. It was finished in rose wood and leather and was built at the company's shop at the station. It was first used to convey Lieut.-Governor Sir Mortimer Clark to the Stony Creek battlefield on the occasion, over a year ago, of an entertainment of the Women's Wentworth Historical society. It is badly damaged, as are also the freight motor and the two C.P.R. cars. The officials of the company were very courteous to the public, not withholding any information.

Red hill has always been considered a dangerous crossing, and some time ago there was talk of another route. The grade is steep on both hills and there is a bad turn on each side.

Gordon Cotterill and M. H. Overholt were to-day brought to the city hospital. Mr. Overholt's shoulder was dislocated, while Cotterill, besides having his face cut, was also scalded on the limbs.

One of the freight cars pulled by the H., G. & B. freight was loaded with sand, which was spread all around the scene of the wreck.

November 21, 1905

DID THEY TRY TO STOP THE CAR

Evidence of H. G. & B. Trainmen Given at Investigation Into Red Hill Accident

When the Car Reached Top of Hill the Wheels Began to Skid Along, Rails Being Slippery

Injuries Received By Walter Grieve Not Sufficient to Cause Death, the Doctors Say

The inquest into the death of Walter Grieve, of Stony Creek, who died as the result of injuries received in the H., G. and B. accident on Monday, Nov. 21, at the Red Hill, was held last night at Stony Creek, and after hearing the principal witnesses, was adjourned until next Monday night, in the hope of securing the testimony of a man named Nash, who, it is said, has some evidence worth while regarding the speed of the freight car, while traveling on the top of the eastern hill, before the motorman lost control.

The witnesses were Dispatcher Orr, Motorman Luther Cope, of the freight; Conductor William Dunsmore, of the freight; Doctors Edgar and Green, who performed the autopsy. Mr. Orr told of the orders he had given to the crew of the freight, which was approaching from Stony Creek, to wait at the gravel pit siding for the Vineland, going east from Hamilton about 5:30. This was a usual occurrence, and both crews understood their orders.

Motorman Cope, who was the chief witness, said that the freight—which consisted of freight car 22, with a sand car, and a box car behind, both belonging to the C. P. R.—was going slowly on the top of the eastern hill, on the level, with orders to wait at the gravel pit for the Vineland. While running on the level, his car was under control. But when the freight reached the peak of the hill he put on the brakes, and the wheels began to skid along the rails. The rails seemed to be slippery or greasy. He yelled to Conductor Dunsmore to put on the brakes on the two cars in the rear, and in the meantime he tried to reverse. When the brakes were applied to the two cars in the rear, their wheels skidded, too, and the freight went down the hill at a terrific pace.

Conductor Dunsmore gave corroborative testimony, telling of the efforts to stop the freight—for both men knew that the Vineland was coming down the other side of the hill, and there would be a crash—and of the failure to check the speed.

Drs. Edgar and Green had an argument with Crown Attorney Washington over the injuries of Grieve. The doctors said that the organs of deceased had been diseased, and that his injuries, in themselves, were comparatively slight. Mr. Washington asked them what was the cause of death. He was told uremic poisoning, and tried to prove that the accident was the cause, but the doctors said that death would probably not have occurred if Grieve had been in a healthy condition.

On next Monday night Nash will testify, and Peter Gibson, the Vineland car-motorman, will also give testimony, if able to be around. There is not expected to be any evidence of an important nature.

DECEMBER 1
1905

WERE IN COLLISION

Hamilton Spectator

Radial Car and Grand Trunk Engine Come Together at Ferguson Avenue Crossing This Morning

June 21 1906

What might have been a very serious accident happened this morning on the radial railway at the corner of Wilson street and Ferguson avenue, when a G. T. R. shunting engine ran into a radial car that was passing the G. T. R. tracks at that point shortly before 9 o'clock. It was the second car of the string that arrives every morning at the radial station at 9 o'clock, and fortunately the greater number of the passengers, children attending the Collegiate, had got off the car before reaching Ferguson avenue. If the car had been crowded, as often happens at other times of the day, someone undoubtedly would have been seriously hurt. As it was the passengers received quite a shaking up, two or three being knocked off the car.

A G.T.R. engine was engaged in shunting cars just north of Wilson street and the Radial people say that the semaphore was turned against the engine. In corroboration of this they say that the cars could not have crossed the tracks if the semaphore had not been against the engine, as the semaphore connects with a derailing device that would prevent the Radial cars from approaching the G.T.R. tracks.

The switch, however, was open for the Radial cars to cross. Clyde Green, who has investigated the matter, states that the engineer on the G.T.R. shunting engine should have known better than attempt to cross Wilson street with the signal against him. Mr. Green says that the engine was standing still as the first car crossed Ferguson avenue and started up just as the second car was crossing. Both the car and the engine were going very slowly and the engine shoved the front portion of the car off the tracks, breaking two of the wheels. The Radial people have a watchman always at this crossing to look after the semaphore.

JUNE 21
1906

Spectator

Twenty Pages
With Magazine Section

AUGUST 25 1906

NUMBER 199

TWO CARS COLLIDED ON RADIAL RAILWAY

Motorman Fred Barnes Was Seriously Injured and His Recovery Is Doubtful

Claude Jasper, the Other Motorman, Escaped With a Badly Injured Knee

What may prove a fatal accident occurred this morning on the Radial railway, when two cars collided just beyond the canal bridge. Motorman Fred Barnes is at the City hospital in a critical condition, while Motorman Claude Jasper is suffering from injuries to his knee.

The accident was due to the neglect of some one to give proper attention to signals and orders, and the outcome was the injury of two employes of the company. At 6:10 this morning Motorman Fred Barnes and Conductor H. Hayward left Hamilton for Burlington, with car 140. There were no passengers aboard. Three cars had left Burlington at 6 o'clock, two of which got away well on time. Car 130, being the last to leave, was in charge of Conductor Tom Hughes and Motorman Claude Jasper. The two preceding cars carried flags for the car following, and passed the car from Hamilton this side of the canal. The motorman on the second of the three cars carried a flag for the car behind him, and also signaled to Barnes that there was another car following him, but in the face of this Barnes ran his car by the signals, flags and crossing orders, and came into collision with car 130 a short distance north of the canal.

The result of the collision was that Barnes was so badly injured that he had to be taken to the hospital on a special car run out from Burlington.

At the hospital it was found that Barnes was seriously injured about the head, and it was decided to perform an operation, in the hope of saving his life. A portion of the skull had been crushed in and was pressing on the brain, for which trepanning was deemed necessary. The operation was performed by Dr. Cockburn, assisted by Drs. Gillrie and Hess.

Claude Jasper, the other motorman, had his knee injured, but not seriously. He, too, was taken to the hospital, where his injuries were attended to.

The vestibules of the cars were badly wrecked, but otherwise the cars were not much damaged.

The third car from Burlington carried one passenger, but he and the two conductors, Hayward and Hughes, escaped uninjured.

Barnes resides on Gore street, just east of the Radial railway offices.

AUGUST 25, 1906

WITH NO FLANGE

Why 9.10 Radial Jumped the Track Yesterday Morning

Wonder Was That Car Did Not Go Off Long Before

An accident which fortunately did not result seriously, but which might have caused injury to the passengers, occurred about 9:15 yesterday morning, when the 9:10 Radial car to the Beach ran off the track at the corner of Mary and Wilson streets. The car was traveling at a fair rate of speed. When it struck the sharp curve at the corner, the front wheels refused to stay on the track, with the result that the car was given a sudden lurch, the front truck left the rails entirely, crossed the road in the direction of the King Edward school, and bumped on to the cement sidewalk, where it stopped. The front wheels of the truck were on the sidewalk, while the rear wheels were in the ditch. The rear truck did not leave the rails at all. Naturally, such a predicament caused what passengers there were somewhat of a scare, but no person was injured. It took two hours to get the car back.

There is no mystery concerning the cause of the accident. One wheel of the front truck was minus the flange for three-quarters the circumference of the wheel. It so happened that this flange was needed to make the curve, but, most of the flange being missing, the wheel had nothing to keep it on the track, and accordingly bolted, pulling the rest of the car with it. Of course, the company does not admit that it was running a car with one wheel practically minus a flange.

FEBRUARY 4
1907

The Making of an Electric Railway

How the Ancaster-Brantford Line is Being Cut Through Solid Rock Up the Mountain Side

IT is now a common occurrence for Hamiltonians to hear and almost feel distinct and mighty shocks in the direction of the mountain out Ancaster way, and those people who pay any particular attention to them merely remark that it is only the blasting on the Brantford and Hamilton railway and let it go at that. Behind the blasting, however, there is an infinite amount of work, and with shovels and picks, steam drills and other appliances, 200 men are working on the grades and cuts on the mountain, doing their best to get the right of way completed by a stipulated time.

WORK AT NIGHT

It is an interesting study to watch these men and walk over the completed grade, from where it starts at Garth street until the summit is reached almost opposite Dundas. A Spectator reporter and artist traversed this ground on Wednesday of last week and were surprised at the amount of work being done. There are 150 men working, and a large portion of this number works at night, light being supplied at the two stone cuts by the machine which discharges the dynamite. One noticeable feature of the grade is that almost to the mountain top it is as straight as a bee line, without the slightest suggestion of a curve. A man, standing on the summit, can see directly to Garth street along the grade. Close to the top, however, the road takes a turn between deep walls of stone and heads in the direction of Ancaster. This was one of the boasts of Gen. Taylor, Hon. C. D. Haines' solicitor, and this boast seems to have been justified.

For a short distance west of Garth street, there is nothing particularly noticeable. The line runs a short distance north of the steps on that street, and for a hundred yards west the mountain slope has merely been leveled and cut to the width of the right of way. This particular portion of the line will not be difficult to build, as the cuts, for the most part, will be shallow. A small amount of filling in will have to be done, however, as a portion of the slope is of the rolling variety.

THE FIRST BRIDGE

At the Chedoke ravine one comes upon the first scene of heavy work, where a score or so of men are busily engaged laying the foundation for a bridge over the ravine. It presented a busy scene when it was visited by the reporter on Wednesday. A big steam cement mixer was engaged in turning out its product, which was quickly wheeled in barrows to the bed of the creek and there laid in place. The ravine at this particular place is about 30 feet deep, and the water for the mixing is pumped from the creek.

WILD FLOWER BANK

After leaving the ravine, higher ground was struck, and the ascent of the actual grade was begun. The next thing encountered was a ponderous steam shovel, which had been digging its way through a high bank and which at the time of the visit, was apparently resting from its labors, the workmen being busily engaged moving it a short distance. At this particular spot, the ground, a short distance away, looked as though it was covered with newly fallen snow. It was not snow but tender, fresh wildflowers, growing there by the millions, and these tender indications of a kind nature seemed out of place with the work of industry all around. A short distance further west is another very deep ravine. Men were engaged in filling this in.

This spot is about in a line with the golf links. The grade all the way up is 2¼ per cent, which means a rise of two and a quarter feet in every 100 feet. Walking along this particular portion of the grade, one gets a good view of the splendid links and the smooth, grassy sward. The height of the right of way from the level appears to be considerable, although, as a matter of fact, it is not as much as it appears.

CUT AND FILL

From the second ravine to a point further up, the road is as smooth as pavement, and the grade appears to be about perfect. This is far from the fact, however, for the good condition of the road is caused by the various carts and horses which are passing over this particular portion of the line, carting dirt from the scene in the picture to the ravine mentioned. This is one of the secrets of railroad building, for sometimes it is a difficult job to get fillings in material for deep cuts and ravines, and when the material can be taken from the right of way it considerably reduces the amount of work.

THROUGH SOLID ROCK.

From this first obstruction to the mountain summit the hardest work is being done. For a small portion of the remainder of the right-of-way the workmen are digging through earth, but by far the greater portion consists of rock—solid rock—which has to be hewn from the mountain side. There are two cuts, one about 15 feet and the other about 30 feet. There is considerable labor attached to cutting the side of the mountain, and much dynamite is used. Judging by the precautions used in discharging the explosive, there should be little chance of any of the workmen being killed. After the holes are drilled and the cartridges placed, some workman yells "Ooee" loud and long. This is the preparatory warning, and the men working drop their shovels and picks, unhitch the horses from the carts, and lead them up or down the right-of-way to a safe distance away. Again comes the call "Ooee," and the scattered workmen raise their arms to indicate that everything is safe. The swift explosion follows, with smoke, rocks and dirt ascending in the air. Six blasts in quick succession shook the ground while the reporter was present, and after they were all over "Ooee" sounded, again to indicate that all was over for the time being. One thing noticed in this connection is that some of the foreigners seem to have a terror of the blasting, and, on the first signal, run far up or down the right-of-way, while other workmen take it coolly and barely move out of the danger zone, preferring to remain at their horses' heads and quiet the startled animals. As the reporter passed the scene of the blasts, he was considerably surprised to see fully fifty sticks of dynamite lying loose on the right-of-way apparently being dried out in the sun. These innocent looking things, with their yellow paper wrappers were not unguarded, however, for one of the workmen stood by, keeping his eye on the dangerous stuff.

A DEEP RAVINE.

The blasts mentioned took place at the first stone cut, which Contractor Dickenson says is about 16 or 17 feet high. A considerable portion of the mountain face has been blown away, and the various strata of the solid rock present different hues. This wall of rock runs for fully 100 yards, and terminates at a deep ravine, the depth of which can be judged by one of the accompanying pictures, where a small handcar is seen about to empty a load of stone down the declivity. There is no obstruction on the outside of the right-of-way at this cut, and passengers in the cars will be enabled to have a splendid view of the Dundas valley.

THROUGH SOLID ROCK.

The most interesting cut, however, is close to the summit and on the opposite side of the gully shown in one of the pictures. Here a path has literally been cut through solid rock and the cars will be shut in on both sides by the tall cliffs. Up to this point the right of way has been as straight as a beeline, but here it makes a curve and heads in the direction of Ancaster. The walls of stone are twenty feet high and the temporary track seems far below. At the end of this cut, several men were engaged with steam drills, hewing out the rock and gradually elevating the right of way until it will come out on a level with the mountain top. At the time of the visit, these men were still about 15 feet from the mountain level and much work had to be done before this cut was completed.

BY MAY 15

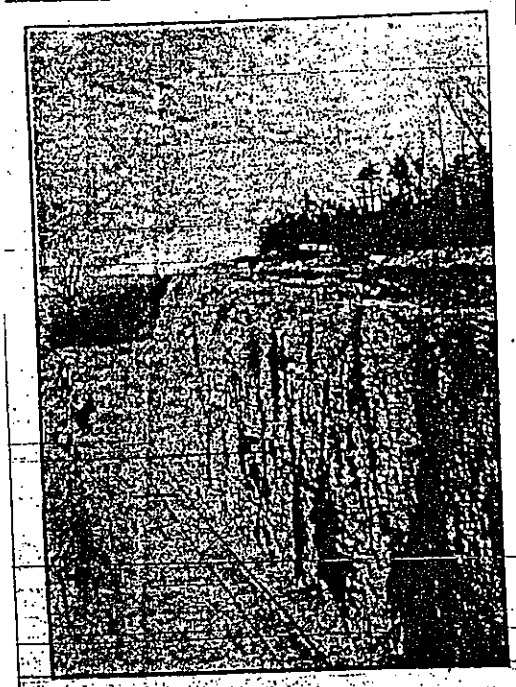
a culvert will be built at the big ravine and most of the gully will have to be filled in. F. H. Dickenson, the contractor, says that the grading on the mountain was to have been completed by May 15, and the men are working hard with that end in view. However, there seem no prospects that the work will be completed by then. From Ancaster the road has been completed to Cainsville, which is about six miles this side of Brantford. The whole line is supposed to be ready for the running of cars by July 1, but it is an open guess if it can be completed by then. However, the mountain grading, with the erection of the bridge over Chedoke ravine and the filling in of the deep ravine shown in one of the accompanying photos will be completed long before July 1, and cars will be run up the mountain, and as far as possible, or at least to Ancaster, even if the whole road is not completed, within the time limit.

WHERE THEY LIVE.

Some of the foreigners engaged in the work live in tents situated at various places along the line, but most of those engaged on the mountain grade live at the mountain summit. They have a small village here, with wooden buildings, tents, and a general repair shop. There are several mud-huts, some of which are shown in an accompanying cut. These places, during the cold weather principally, were used as sleeping quarters by the foreigners, three often sleeping in one of these awful places. They are about five feet high, composed of mud, and the roof is covered with sod. These places are now used principally or cooking, several tents having been secured for sleeping purposes.

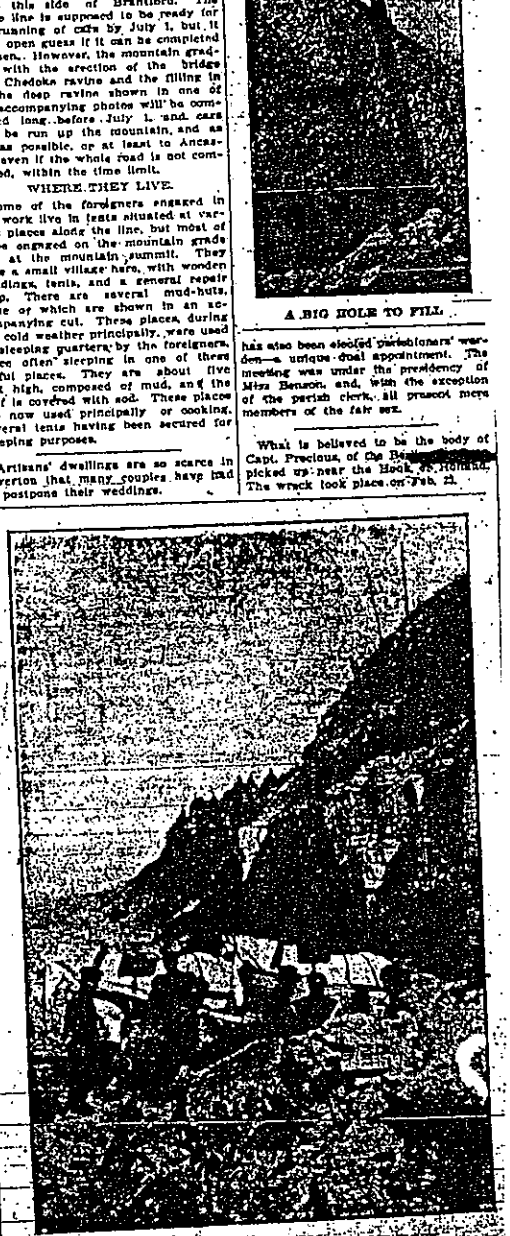
Artisans' dwellings are so scarce in Tiverton that many couples have had to postpone their weddings.

WHERE THE NAVVIES SLEPT ON COLD NIGHTS



LOOKING AHEAD INTO THE VAL

A BIG HOLE TO FILL



CUTTING A WAY THROUGH THE SOLID ROCK

THE MENDIPS AS A MILITARY CENTER

A movement has been initiated which may have an important bearing upon the future of that part of Somerset known as the Mendip plateau. The military authorities have been looking for a suitable locality for a cavalry center, and Lord Roberts and three members of the general staff have extensively examined the Mendip plateau with the idea of its adoption for that purpose. There is every probability of a cavalry depot being established at Priddy.

ECCLESIASTICAL LADIES!

At Penn, Miss Benson has been elected vicar's warden for the sixth successive year, and curiously enough, she has also been elected parishioners' warden—a unique dual appointment. The meeting was under the presidency of Miss Benson, and, with the exception of the parish clerk, all present were members of the fair sex.

What is believed to be the body of Capt. Precious, of the Bel[illegible] picked up near the Hook of Holland. The wreck took place on Feb. 23.

MARCH 11, 1907

SAND FLIES THE CAUSE OF A RADIAL ACCIDENT

Rear-End Collision on the Beach This Morning of a Serious Sort That Was Luckily Attended With Nothing More Than Cuts and Bruises For the Passengers

Passengers on the 7:10 radial car for the city from Burlington were severely jolted this morning, and that some of them were not killed may be set down to the eccentricities of fate. The cause of the jolt was a rear-end collision, and the cause of the collision was a multiplicity of sand flies on the rails.

The 7:10 car left Burlington on time, and, by the time it reached station 24, had gathered a fair load of passengers, the smoking end of the car being crowded, with many passengers standing on the rear platform. All the way along there had been trouble stopping and starting on account of the myriads of sand flies on the rails, making them so slippery that the wheels refused to bite. At 24 the trouble was worse than ever, and no amount of sand applied to the rails seemed to make any difference.

It was while the car crew was working at this difficulty that a big freight car from Burlington shot round a curve just behind, coming at full speed. The motorman on the freight saw the stalled passenger car ahead as he turned the curve, and at once shut off power and applied the brake. It was worse than useless. The car slid over the fly-covered rails even faster than ever, and, setting the brake, the motorman made a wild dash for the rear of his car to be as far away from the smash as possible when it came.

On the passenger car the people on the back platform had time to jump. Those inside the smoker were penned in, and, when the smash came, were bowled over like ninepins. The long side seats in the smoking compartment were driven through the partition into the other part of the car. Every pane of glass was smashed and the roof buckled up till it had a hump in it like a camel. The freight quit moving after it had traveled several feet into the smoker end of the other car, and there it remained, wedged tightly. Not a passenger was seriously hurt, though many of them received cuts and bruises and all were thrown from their seats. One Deering man, who was asleep at the end of the smoker, was landed at the other end on top of a human mass, and his back was slightly hurt.

The affair had its humorous side. A dinner basket shot skyward in the crash, and, as it descended, emptied its contents over the sprawling crowd on the smoker floor. In the basket was a jar of preserves, and this spilled over heads, faces and clothes. When the passengers got to their feet again and saw what seemed to be rich red blood running so freely, they were horror-stricken and it took some of them some time to make sure that they were not horribly cut on some part of their anatomy.

The passengers were picked up by the next car from the city and reached Hamilton about an hour late.

MAY 17
1907

CAR DID IT

8/26/1907

Crashed Into and Wrecked Incline Co's Office

There was a peculiar accident last evening at the James street incline, and that some person was not hurt is a wonder. Street car 115, in charge of a new crew, caused the excitement by crashing into the incline ticket office. The rails run almost to this office, and there is a short distance where there is no rails. The car went humping along up the hill, and the motorman by mistake, it is said, put on more power instead of shutting it off. The care made a jump forward, went off the rails and crashed into the incline ticket office directly in front of it. The office was somewhat wrecked, several boards being knocked off. There is no telling what would have happened to the remainder of the place had not a heavy safe retarded the car's progress. Eddie Pope, the incline secretary, had a narrow escape. There were no passengers in the car.

August 26 1907

June 13, 1910

TWO PITCH-INS.

No One Injured and Little Damage Done, However.

A slippery rail at the corner of King and Emerald streets was the cause of a pitch in between two cars on Saturday afternoon, when car No. 300, of the Radial Company, was bumped by a street railway car in charge of motorman Vancliffe. The accident was no fault of the motorman, who made very strong efforts to stop the car, but the condition of the rail prevented it. The vestibules of both cars were damaged to a small extent.

As a result of misjudging the swing that the cars would take at the corner of King and James street, car No. 403, in charge of Motorman Thomson, and Conductor Sharpe, and Car No. 403, in charge of Motorman Donohue and Conductor Fairwell, collided while turning the corner, and resulted in a number of windows being broken. The passengers in the car were given a bad shaking up, but luckily no person was injured.

JUNE 13
1910

July 15, 1910

—o—

So Engineer Macallum wants the street car conductors to hustle us off and on the street cars in quick time. He wants them to educate us to get a move on. We are expected, I believe, to make a flying leap on the car before it stops, while the conductor hauls us in by the scruff of the neck. In getting off the conductor will expedite matters with the toe of his boot. If too slow he may throw us off. Elderly gentlemen with bay windows will need to go into training, and the old lady who insists on getting off the wrong way will likely have to be carried home on a shutter, for the car can't wait.

—o—

July 15
1910

June 17, 1910

PAY-AS-YOU-ENTER

System Will Be Introduced at Once On Large Cars.

Although the Street Railway Company has given up hope of receiving their nine new pay-as-you-enter cars from the Ottawa Car Company before late in the fall, they still intend to instal the system in four of the largest cars that they possess at the present time. Car 117 has already been overhauled, the vestibule being made larger so as to allow room for the conductor to stand when he collects the fares as the passengers enter, and it has been painted and renumbered 403. Three other cars, Nos. 4, 118, 119, will be overhauled at once.

JUNE 17, 1910

July 14, 1910

With a view to further improving the railway service on some of the congested routes, City Engineer Macallum will suggest to Manager Coleman the advisability of the company educating people to move faster when boarding and alighting the cars. In comparison with Toronto and other large cities where the heavy traffic demands a rapid service, the people move with almost twice as much speed as they do here, especially on the side lines. The new car stops have already made a noticeable improvement in the service all over the city, and Mr. Macallum believes that an educational campaign by the company's employees to make people move more quickly when entering or leaving the cars would clip another minute or two off the time it takes each car to cover the individual

July 19, 1910

CAR CRASHED INTO UPTOWN STORE WINDOW

Happened at Midnight, Fortunately.

Motorman Lost Control on Incline.

One of the most peculiar accidents in recent years occurred at the corner of King and James streets about 11.30 last night, when street car No. 422, in charge of Conductor W. Wilson and Motorman R. W. Bowland, coming down King street at a high rate of speed, crashed into car No. 418, in charge of Conductor George Madden and Motorman G. Gurne. The first named was a special James south car, put on for the accommodation of the Grand Opera House patrons. The car was empty by the time they had reached the corner of Margaret and Main streets, and for the rest of the distance did not have a stop. Travelling at a high rate of speed down King street, the motorman apparently lost control of his car, and this, coupled with the fact that the rails were slippery, on account of the change in the weather, made the accident inadvertable. No. 418 was proceeding slowly down James, and when they reached the corner the motorman expected the west car to stop, as is the usual custom. The north car was by this time half way across, and the fast travelling west car caught it at the side of the front vestibule, and forced it across the road, over the curb and sidewalk into the windows of Trebles store. Had the north car not been there to stop the progress of the runaway a frightful calamity might have resulted. As it was, it seems remarkable that no one was injured. Had the accident happened an hour earlier it would have, in all probability, been accompanied with fatalities. Another peculiar thing was that the car missed the post at the corner. It wedged itself between the post and the store and several of the spikes in the post had to be removed before the wrecking crew could release it.

There were two passengers on No. 418, but outside of a bad scare they were not injured. After sending one car into the window, the runaway kept on the tracks and ran into No. 414, which was about to switch to the other track, sending it down James street for a considerable distance. Outside the damage to the store, that to the cars was comparatively light, considering the seriousness of the collision. Several windows weer smashed in 418, and it was wrecked where it came into contact with 422. The other cars were not damaged, with the exception of the fender. A wrecking crew was sent for immediately, and had the line cleared inside of an hour. The company is investigating the accident.

TIMES
February 15
1912

Electric Railway Department.

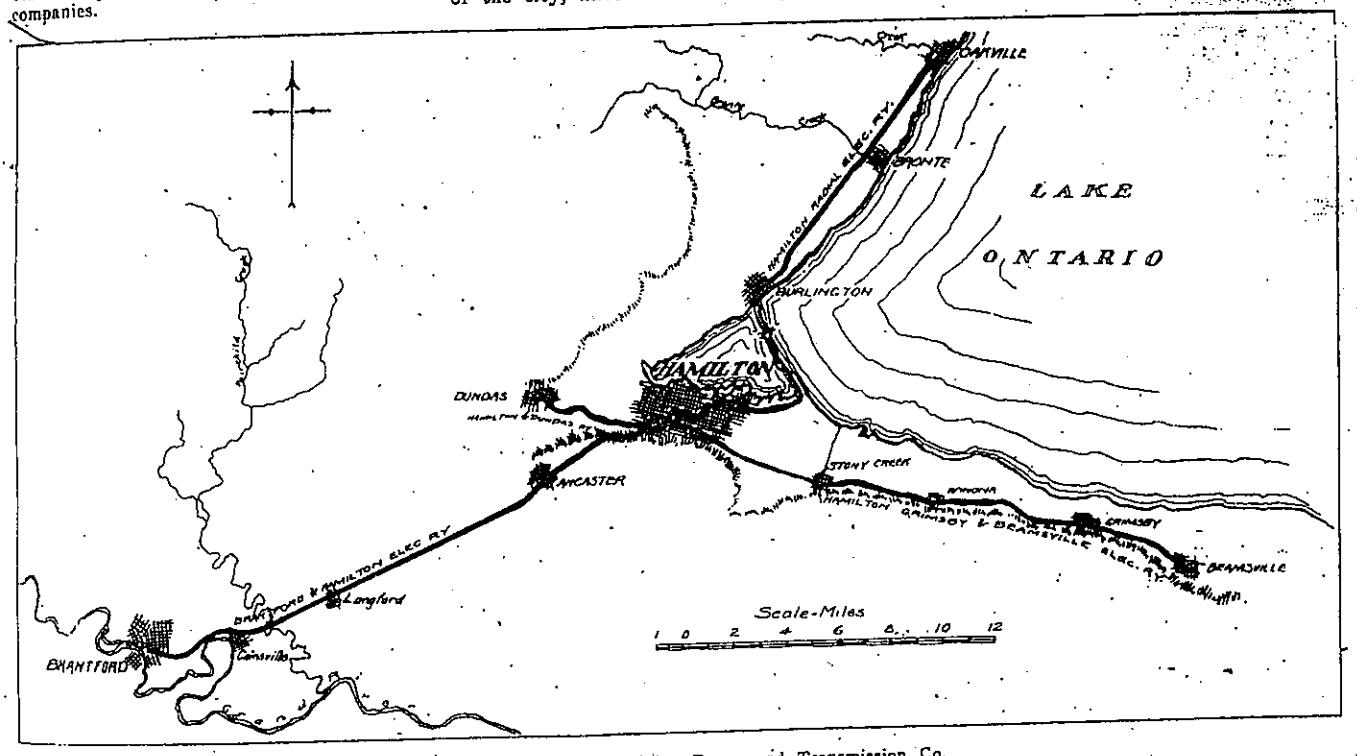
The Dominion Power and Transmission Co.'s Railway System.

The Dominion Power and Transmission Co. owns or controls the whole electric railway situation in and around Hamilton, Ont. The several companies operating electric railway lines, and certain of the electric power and transmission companies had, about 1900, been taken over by a holding company called the Hamilton Electric Light and Cataract Power Co. This company was expanded in its scope by the incorporation of the Hamilton Cataract, Power, Light and Traction Co., under an Ontario charter, Feb. 5, 1903, the new company absorbing all the interests of the other company with its several subsidiary companies.

way situation in Hamilton and vicinity. The completion of the Hamilton terminal building shortly after the incorporation of the new company, enabled the several subsidiary companies to move their offices to this central point, and while the original companies are still retained in their initial form, the holding company acts as the administrative company for them all.

The Hamilton Street Ry. operates on all the electric railway lines in the city on which a purely local business is conducted, and is a unit apart from the radial lines, which, while operating over the lines of the street railway company in the centre of the city, have for the most part their

cline Ry. line runs up to the foot of the mountain on James South, returning as far north as the crossover just north of King St., a total return distance of 1½ miles. From the same crossover, the Wentworth St. line runs along King East and up Wentworth St., the latter a single track line to the foot of the east end incline railway, a return distance of 3¼ miles. The remaining line is that on York St., which crosses over at the corner of James St., running out York to Dundurn Park, a round trip distance of 2¾ miles. These are all the purely local lines owned by the street railway company, but over the radial line the King East and Barton line



Radial Lines of the Dominion Power and Transmission Co.

The Dominion Power and Transmission Co. was incorporated by Dominion charter, Jan. 22, 1907, to absorb the Hamilton Cataract, Power, Light and Traction Co., a move made necessary by the urgent demands for an increase in the financial capacity of the latter company, which had become inadequate to meet the expansion in the company's business, and contemplated extensions. As four fifths of the old company's stock was taken over, the new company was in every way a successor to the former one, only on a much larger scale. The electric railway and related companies taken over from the Cataract Co. in this merger, included the Hamilton Radial Electric Ry. Co., Hamilton Street Ry. Co., Hamilton and Dundas Street Ry. Co., Hamilton Electric Light and Power Co., and the Lincoln Electric Light and Power Co. In addition, the company acquired the direct ownership of the Brantford and Hamilton Electric Ry. Co., and the Hamilton Terminal Co., both of which were then building, and the control of the Hamilton, Grimsby and Beamsville Electric Ry. Co., giving complete control of the electric rail-

own lines, acquired in the early days before the present amalgamation. The routing of the several city lines, of which there are six, is shown in the accompanying map of the city. The six lines are as follows:—G.T.R. and James South, James North and King West, King East and Barton, Wentworth St., Incline Ry., and York St. The G.T.R. and James South line, leaving the G.T.R. station, runs south on James St., west on Herkimer St., and around via King West to James St., and thence back to the station, a total round trip distance of 4¼ miles. The James North and King West line might be termed the reverse of the last mentioned route, following James St. south from the boat wharf, along King West, and around the loop via Herkimer St. to James and back to the wharf, a total distance of 5 miles. The King East and Barton line follows a U route, along King East from Sherman St. to James, and thence north to Barton St., travelling east to the other terminus at Ottawa St. The total round trip distance is 10½ miles, the longest route of any of the city car lines. The remaining three lines are stubs. The In-

operates alternate cars from the point where the radial line crosses Barton St., out through the industrial area, to the large plants of the newer industries that have been established in Hamilton of recent years. This line is called the Deering section of the King East and Barton line, on account of the fact that the Deering plant of the International Harvester Co. is the largest plant served on the division.

The traffic on the street railway lines is particularly heavy, as Hamilton is so laid out along the foot of the mountain as to make the distances from east to west considerable. From the fact that the city depends for the most part on its industries, the street car traffic fluctuates from very light during factory hours, to heavy rushes through short periods before and after factory hours. The heaviest rush hour traffic is from the Deering section of the King East and Barton line, where the bulk of the factories are located. For this rush hour service on this section, it is possible for the company to use the poorest of its equipment, for the bulk of the traffic transported from that section is of the

JUNE 1913

rough, foreign element. During 1912, the street railway lines moved a total of 14,100,000 people. To acommodate this large number, the normal service on the lines consists of 36 cars, which is increased to 46 on the main lines during rush hours. In addition there are held in reserve some 25 for heavy rush hour service, particularly over the Deering line.

The rolling stock consists of a total of 95 passenger cars, 44 of which are double truck. The latest types of both single and double truck cars used on the lines are shown in the accompanying illustrations. The equipment has been considerably increased of late by the addition of quite a number of these two types of cars, which are of the very latest type of construction. The additional equipment consists of three sweepers and a sand car.

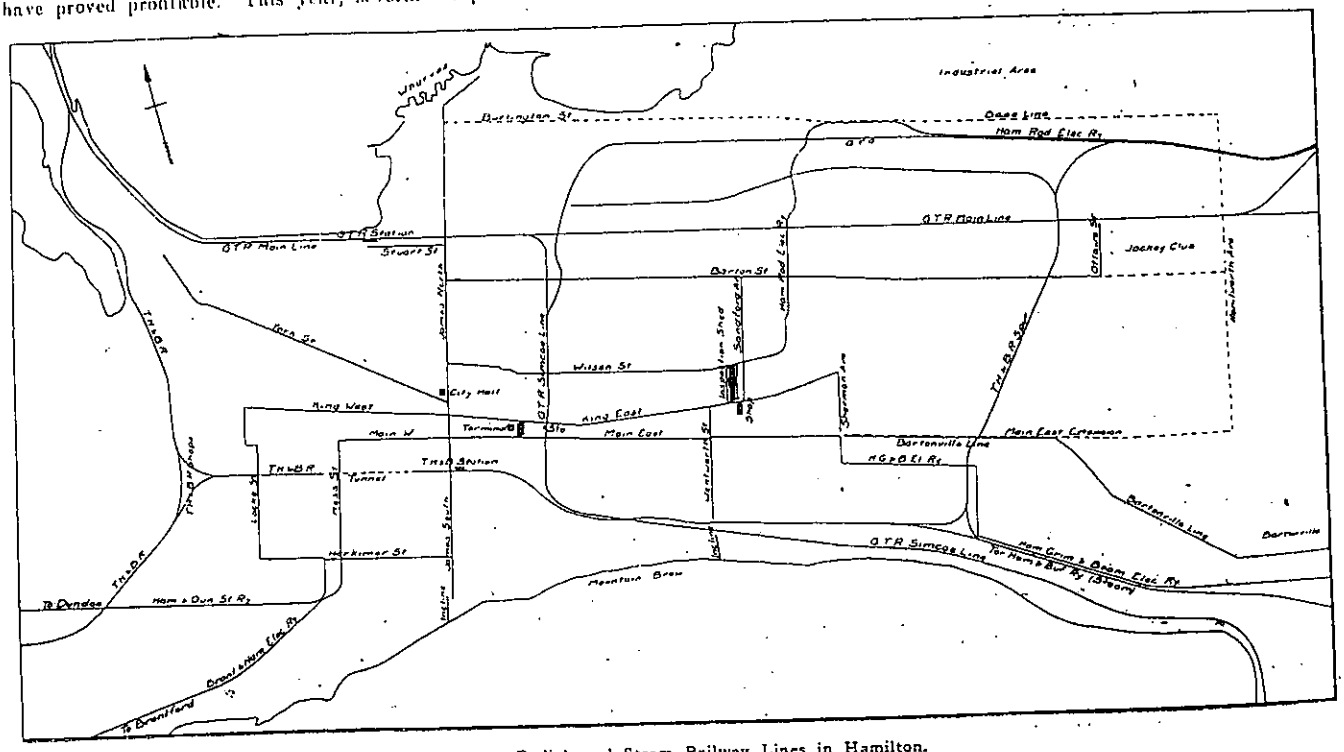
For several years, no extensions have been made to the city system, as the lines as then existing covered such a wide territory that additional mileage would not have proved profitable. This year, several extensions are contemplated, one of which is at present under way. This latter, the main one of the additions, is to be a double track line from James North, near the waterfront, along Burlington St. and the base line, paralleling the radial line in the industrial area to Kenilworth Ave., the terminus of the extension. It is also proposed to extend the Barton St. line from its present terminus at Ottawa St., along in front of the Jockey Club, also to Kenilworth Ave., and similarly with the King East line from the terminus at Sherman Ave., along Main East to Kenilworth Ave. These three extensions are to be joined up by a connecting line from the base line to Main East. These extensions are taking in the sections of the city that are growing most rapidly, the development in the east end being quite phenomenal.

The company's shops are not very extensive. The repair shops are on the south side of King East and Sanford Ave., and across the street, on the north side, is the inspection shed. Another shed on Stuart St., near the G.T.R. station, a former horse car barn, is used for storage purposes, housing summer cars in winter, and vice versa. All the daily movements are from the other barn. The inspection shed is shown herewith. It is a brick building, with reinforced concrete column and roof construction, 160 ft. long, and 4 tracks wide. Along the east side are separate rooms, a central one containing the heating apparatus, consisting essentially of a 60 h.p. boiler for heating the shop by the vacuum system. The four through tracks have pits in the shop section, the east pit having 4 drops in addition, for the removal of motors and wheels. Covered storage space for cars in daily service is not deemed necessary. To the rear of the inspection shed, the 4 tracks extend to Wilson St., this space to the rear being used for storage purposes. In addition to these four through tracks, there are three additional ones on the west side, and one on the east side, one on each side being a through track. The side rooms of the inspection building contain carmen's room and local repair room for light running repairs. A small building to the west of the main building contains the fender making and repairing department. From King East, the cars enter the shed and yard from a single ladder track from King East, and can be drawn from the storage yard along the single service track along Wilson Ave. to the rear of the yard. This line leads along to the street railway operating office at the corner of James North and Gore St. There is also another single track service line from the rear of the yards on Sanford Ave. to Barton St., which serves as a cut off in running the cars into the industrial area from the car sheds in the rush hours, and means a saving of considerable dead mileage.

The repair shop, across from the inspection shed, is an old building, containing two through tracks from King East, terminating in a turntable at the rear, over which the cars can be turned out into Sanford St. or into the paint shed, which is in a building to the rear and west of the main shop. The main shop has two pits under the two through tracks. Along the side of this erecting portion of the shop is the machine shop. Over the top of the machine shop is the winding room, reached by an elevator, where repairs to the armature and field coils are attended to. On the other side of the erecting shop, over the top, is the woodworking department. While the whole shop is very congested, and the equipment small, the work turned out is unusual. In these shops, many of the older cars have been completely remodelled, and heavy repairs are constantly being put through. A complete new car has even been constructed. The present understanding is that the shop will not be in service for any great length of time for its present work, as a complete new shop is projected, the details of which have not as yet been developed.

The radial lines emanating from Hamilton are four in number, covering the principal districts around the city. Each of the separate companies maintains its own separate existence financially, but in all other respects there is no distinction among the several lines operated by the Dominion Power and Transmission Co. Two of the companies operate under Dominion charters, and the other two under Ontario charters, which introduces a peculiar element into the operation of the lines, as each pair comes under different railway jurisdiction.

For the purposes of furthering the usefulness of the consolidation of the different lines, a central terminal station was built immediately after the formation of the new company, owned and operated by the Hamilton Terminal Co., a subsidiary company, in which are located all the officials of the main company, and the offices for the lighting and power business conducted by the company in conjunction with its railway interests. It is a large four story and basement structure of considerable architectural beauty, and was described in Canadian Railway and Marine World at the time of construction. It occupies a central position on King East, not far from the Gore at the corner of King and James. On the east side of the terminal building are four tracks extending through from King East to Main East, the



Street, Radial, and Steam Railway Lines in Hamilton.

first street to the south. This latter street is the main artery for radial cars, three of the lines branching off from this single track cross town line. The main floor of the terminal building contains a commodious waiting room with ticket clerk and other facilities such as would be found in any well appointed steam railway station. The cars for the several lines come into the tracks at the side of the station. The company owns the Tempe Theatre, a vaudeville house to the rear of the terminal station, which is a very productive traffic drawing project.

All the several lines house their equipment in the yards mentioned earlier, where all the repairs to the cars are made as well

Typical Double Truck City Car.

Typical Single Truck City Car.

Each line owns a certain proportion of the radial rolling stock, although the cars owned by the different companies may not be operating on the lines of that particular company, the separation of the cars being merely for convenience in car accounting, the distribution of the cars over the lines following the exigencies of the service.

The Hamilton Terminal Co. owns 6 passenger cars, 1 freight car, and 1 combination snow plough and freight car. These cars are used as a surplus supply of rolling stock to relieve the line requiring the additional equipment for any particular emergency. All the passenger cars owned by the several radial lines, as well as the terminal company, are of the heavy interurban type, double truck, and of a very solid construction throughout. Several different designs are in service, but in general details they are very much alike. They are all equipped with straight air. The freight motor cars are not equipped with the automatic air brake system for service in handling steam line freight cars in trains over the system and in interchange work.

THE HAMILTON AND DUNDAS Street Ry. is one of the principal lines running out of Hamilton. It has an Ontario charter. On leaving the terminal station it follows Main St. to James South, and then along Herkimer St. to the country highway, which it follows into Dundas. The traffic handled is almost exclusively passenger, and, in consequence, the equipment only includes three double truck passenger cars. The total passenger traffic last year was 707,500. A large number of people employed in Hamilton live in Dundas, giving heavy morning and evening loads. Apart from this heavy through traffic, there is a great deal of local traffic picked up, as the line passes through suburbs of the city not as closely served by the city lines. The H. & D. line also passes through a growing settlement between the two termini called the West Hamilton survey, which also augments the local traffic. The line runs 18 cars a day each way. The total length of the line between termini is 7 miles, with 5 principal intermediate stops. As there are no important self contained settlements intervening, no stations along the line are required, but at the Dundas end there is a complete station, with agent and usual station facilities. The line follows the highway throughout its full length.

THE HAMILTON RADIAL ELECTRIC Ry. carries the heaviest business of any of the radial lines running out of Hamilton. This company operates under a Dominion charter. For a number of years it was operated as far as Burlington, and about 1908 was extended to Oakville. The rolling stock consists of 7 double truck passenger cars and a freight car. The traffic over this line is almost exclusively passenger, particularly in the summer when Burlington Beach is in full swing. Leaving the terminal station and travelling east along King St., the cars turn north on Sanford Ave. at the car shops, and finally on their own right of way to the base line on a double track line. It is proposed in connection with the new local line now under construction along the base line that there be a central boulevard along the street on which there will be four tracks, two each for local and radial lines. Leaving the city limits on the base line, the line continues on a double track, following its own right of way as far as the southern approach to the Beach, when it again goes on the highway. Passing the full length of the Beach, it crosses the canal on the highway bridge, and then on to Burlington, this latter portion from the bridge being single track line, as that is the end of the heavy summer beach traffic. From Burlington, the line follows its own right of way through a prosperous farming community, and through the village of Bronte to Oakville, the eastern terminus. The single track portion of the line at the time of construction was graded all the way, for the subsequent addition of a second track. Up to the present, the traffic has not warranted this addition. Between termini, there are 9 main stops, with numerous intermediate flag stops. The Oakville terminal is a complete station, with agent.

The total length of the line is 21½ miles, over which there are operated during the winter 18 cars a day each way. During the summer the heavy beach traffic creates different conditions, which are met by the addition of a special service as far as the Beach. It is over this line that the heaviest traffic is carried. The summer service is half hourly, and while the cars cannot operate in trains, they frequently leave in sets of 4 and 5, running on very close headway. The total passenger traffic on the line this last year was 1,165,000. Practically no freight is handled over the line.

THE HAMILTON, GRIMSBY AND Beamsville Electric Ry. is one of the oldest units of the system, operating under an Ontario charter obtained in the 90's. It extends from Hamilton to Beamsville, 22 miles, through the populous fruit district of the Niagara peninsula. This territory includes the towns of Stoney Creek, Winona and Grimsby, as well as the summer resort at Grimsby Beach, the line touching all these points. The original line was built before the day of separate rights of way for electric lines, and in consequence operates along the highways. The speeds of operation possible on the other lines is not possible here, as the highways along which the line passes contain many curves and sharp turns.

The company owns 6 passenger and 5 freight cars, and during the past year carried 687,500 passengers. But it is not for the passenger traffic alone that this line is particularly valuable, great as it is, but more especially for the heavy freight traffic that is developed. The fruit traffic during the summer, from June on through into the winter, is particularly heavy. In addition, in the early spring, the shipments of nursery stock from off the line are considerable, and the volume of traffic is such as to keep the company's freight motors in constant service.

Inspection Shed and Storage Yards.

This line has a direct connection with the C.P.R. and T.H. & B.R. at Kinnear, in East Hamilton. The principal outside connection for freight originating on the line is with the G.T.R. at Winona, where the latter company has put in comparatively extensive yards for the handling of the interchange freight.

Between the two termini there are 12 principal stops, and at four of the stations

along the line, Stoney Creek, Winona, Grimsby and Beamsville, there are agents. There are numerous intermediate flag points. 18 cars per day are operated each way, exclusive of the excursion traffic to Grimsby Beach, a distance of 20 miles from Hamilton, which is heavy in the summer.

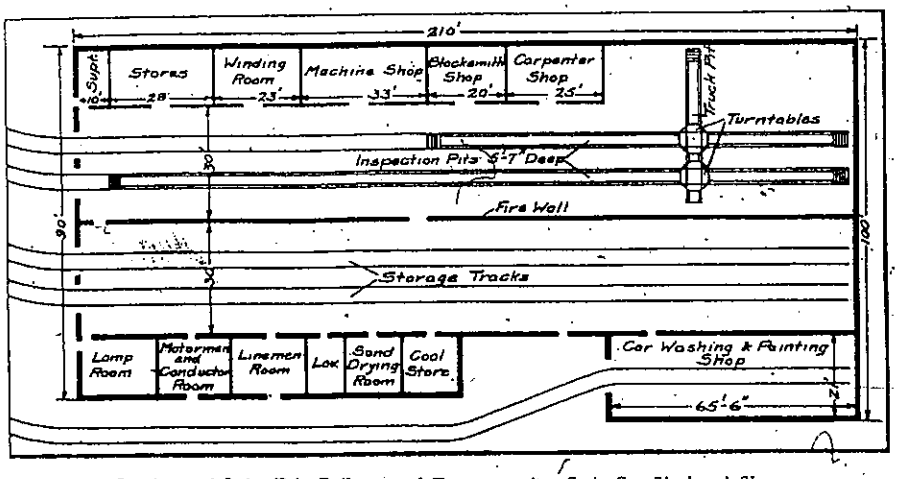
THE BRANTFORD AND HAMILTON Electric Ry. is the newest of the radial lines running out of Hamilton, extending from that city to Brantford, 23 miles. This line leaves Hamilton from the terminal station, going along Main and Hess Sts., and out of the city on its own right of way, which it follows to Brantford, going into that city along the canal in the lower part of the town. The route followed is very hilly, the height of land between the two towns having to be crossed. No places of importance, outside of Ancaster, where an agent is stationed, are passed through. The development along this line has been rather marked, considering the newness of the project. On account of the frequency of the service, a large through traffic between the cities has been developed. This, in addition to the local traffic picked up along the line for both cities, brought the number of passengers carried up to 490,500 last year. The fact that both ends of the line are in prospering cities has been a most important factor in booming the road. But little freight traffic is handled.

Power for all the companies lines, and for distribution in its capacity of power transmitter, is generated at DeCew Falls, near St. Catharines. This plant has a very high head, and with large storage areas under the company's control, a plant of very high efficiency has been developed. Its total capacity is 43,600 k.w., produced in 10 generators, ranging in capacity from 2,500 to 4,600 k.w. each, with 500 k.w. exciter unit. Power is developed at 2,400 volts, 3 phase, and 66 cycles. The original installation use 66 cycles, an odd frequency for modern installations, and in consequence, subsequent installations have had to be the same. Sixty cycle equipment can be used on the system by speeding up.

At the power plant, the pressure is stepped up to 40,000 volts, for transmission to the different points on the line, and for power purposes, the company having about 200 miles of transmission lines. Only the lines for railway purposes will be considered. Between DeCew Falls and Hamilton, there are three distinct transmission lines, two on the height of land, and the third along the lower land. These all come to an open air switching station in Hamilton. At different points along the line, the pressure is stepped down and changed to d.c. in motor generator sets. In Hamilton, there are three substations, two of which contain in each in addition to other equipment, a 2,000 k.w. d.c. set. On the Oakville line, there is a 450 k.w. d.c. set at Burlington, and a 250 k.w. d.c. set at Oakville. On the Brantford line is a 600 k.w. d.c. set at Brantford, and two intermediate sets of similar capacity en route. The Beamsville line has a 600 k.w. d.c. set at Grimsby, and a 300 k.w. d.c. set at Stoney Creek. There are other stations at points along the line for the supply of power for local municipalities and industries.

E. P. Coleman,
General Manager, Dominion Power and Transmission Co., Ltd.

The officials of the company are as follows:—J. R. Moodie, President; W. C. Hawkins, Managing Director; E. P. Coleman, General Manager; G. E. Waller, Gen. Supt. of Railways; W. G. Angus, Gen. Supt. of Light and Power; D. N. Miller, Supt. Street Ry.; F. B. Griffith, Superintendent Interurban Railway Division and Claims Agent; C. K. Green, Superintendent of Construction; J. B. Griffith, Purchasing Agent; and J. O. Binkley, Shop Superintendent.

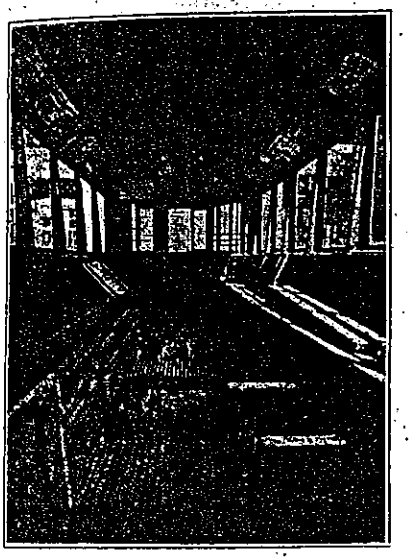


London and Lake Erie Railway and Transportation Co.'s Car Shed and Shop.

The switchboard which the Bell Telephone Co. recently installed in the tower of the new C.P.R. Windsor St. Station, Montreal, has a capacity for 1,200 lines.

Tractor Emergency Car on Dominion Power and Transmission Co.'s Line.

During the past spring a portion of this company's line on the Radial Division, including the portion of the city service that operates to the industrial area in the east end of Hamilton, was flooded by the high water of Lake Ontario. This short section of possibly a quarter mile follows a narrow shore inlet, over which pass two steam railway lines. To obtain the necessary clearance under these



Motor Suspension for Operation Through Water Covered Tracks.

two bridges, it was necessary for the electric line tracks to be set near the water level, and in consequence the high water flooded the line.

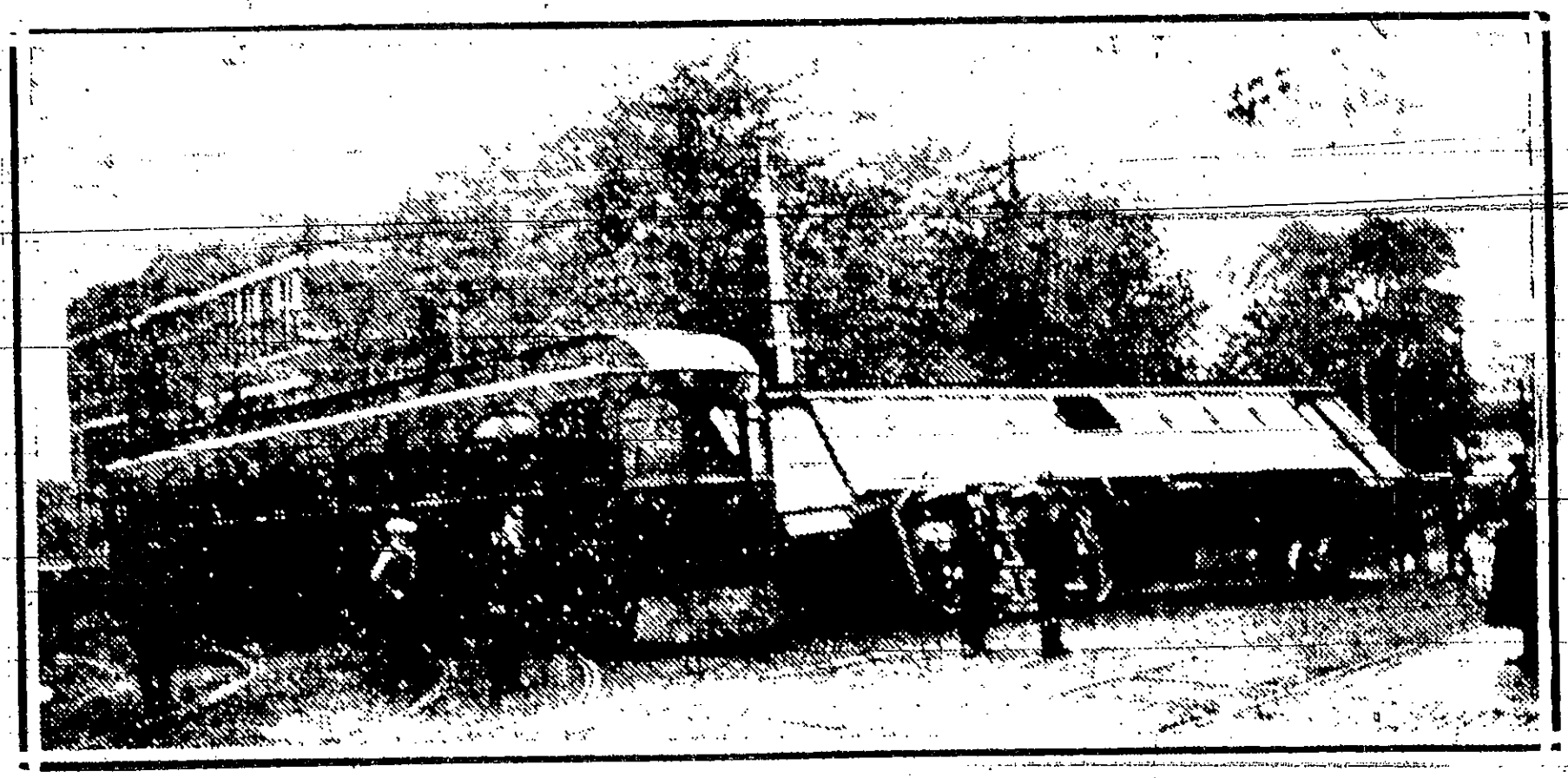
Operation through this section of the line was made impossible to the regular equipment, from the presence of the water, and in order to carry on the service with as little interruption as possible, an old car was partially converted, to act as a tractor for trailer cars through this section, the passengers being transferred at both ends of the short run to the regular cars. Passing the regular cars, with the motors low set as in the normal installation, would lead to numerous burnouts.

The arrangement of the tractor car is shown in the accompanying illustration. It was an old single truck motor car, carrying two motors, which are normally suspended from the truck framing at the casing end and on the axle on the pinion side. In the makeshift arrangement adopted, both motors were disconnected from their rear frame support, and swung up through the floor about the axle support. Along the floor of the car, in front of the side seats, were placed lengths of 3 in. angles, from which the frame of the motor casing was supported by bolts on each side, bearing on small coiled springs. A flexible spring motor suspension was thus obtained, and the motors raised far enough to be clear of water up to about 15 ins. deep.

Citizens of Sydney, N.S., are urging on the Reid Newfoundland Co. the desirability of making its Canadian steamship terminal at Sydney, instead of North Sydney, as at present. It is not likely that such a change will be made, in the near future at any rate.

AUGUST 1913

HAMILTON CANADA FRIDAY JUNE 15 1923



Looking east at the spectacular result of the collision at the corner of Birch avenue and Barton street, last night.

JuNE 15 1923

Crowded Radial Was Heavily Rammed By Street Car

Latter Turned Over, Crushing Top of Jitney

Scores of people escaped serious, if not fatal injury, early last night when a Burlington radial, a street car and a Ford automobile figured in a spectacular collision. The accident happened at the intersection of Birch avenue and Barton street, where the radial line crosses Barton street. Despite the smash, which almost completely destroyed the street car and the Ford, only one man was injured to any extent, and his condition is far from being serious. William Tulley, 284 Cumberland avenue, conductor of the street car, was injured about the back, and suffered considerably from shock. He was taken to the general hospital.

WET RAILS RESPONSIBLE

The cause of the accident is attributed to the greasy rails caused by the drizzling rain that fell around 6 o'clock last night. The radial car, carrying a large number of passengers, and in charge of George Cooks, motorman, and George Hinds, conductor, stopped at the intersection to take on and discharge passengers, and as customary, was flagged across the intersection. Sergeant Clark, of the east end police department, who was a passengers on the radial, halted the traffic on Barton street, and gave the motorman a signal to proceed. All traffic, including the street car No. 403, in charge of Frank Taylor, motorman, 14 Frederick avenue, and Frank Tulley, conductor, slowed down preparatory to stopping, and all stopped safely with the exception of the street car, the wheels of which locked when the air brake was applied.

The car skidded to about 10 feet from the radial which by this time was half over the crossing, and Motorman Taylor, seeing no hope of stopping the car with the air, made a desperate attempt to halt the car by applying reverse power. The wheels whirled backwards viciously, causing sparks to fly, but the momentum of the car was too great, and it struck the radial with considerable force.

Then before the radial could be stopped, it had lifted the front portion of the street car trucks and all, clear from the rails, and carried it to the curb. The rear of the car separated from the rear trucks and with the lifting force from the radial, turned on its side, and crushed under it a jitney that was also stopped for the radial, and which was standing by the curb. The occupants of the jitney, however, evidently saw the smash coming, and just as the two cars struck, they leaped to safety, sustaining only minor bruises in the jump. They were Gaitano Romanelli, driver and owner, 139 Ferrie street east, and Russell Byers, 414 John north, a passenger.

When the dust had settled down a portion of the wrecked street car

(Continued on page 16.)

JUNE 15 1923

tempted to stop altogether. The wheels immediately locked with the air pressure, and I knew then that it was going to be close. My foot automatically reached for the sand projector, and I reversed the motor as far as possible. But the wheels would not take hold on the greasy rails, and the next thing I knew, we crashed, and I was thrown against the vestibule door. I reached over and shut off the power completely, so the car would not be "alive," and turned off the air, then I got out."

Mr. Taylor also suffered considerably from shock, but his courage in sticking to his car undoubtedly lessened the force of the collision, and probably saved serious injury to his passengers and those on the radial. The conductor, Mr. Tulley, was making ready to get off and flag the car across when the crash came. He was badly shaken up, and it was found necessary to take him to the general hospital in the police ambulance. This morning, however, he was resting comfortably and his condition was greatly improved.

REMARKABLE ESCAPES

That many did not lose their lives or suffer serious injuries was indeed remarkable. The radial car was carrying a full load of passengers, but there were protected by the strong sides of the car, which held strongly against the street car. Luckily the street car contained only four passengers, all of whom escaped with nothing worse than a shaking up.

Wonderment was expressed that the occupants of the jitney should escape so luckily, but as the driver explained afterwards, he had an intimation that an accident was going to happen, and he warned his passengers, so that they both leaped to safety when the cars were still a few feet apart.

TRAFFIC IMPEDED

Traffic was demoralized for some time. South-bound radials were halted as was practically all west-bound traffic on Barton street. Constable John Smythe, of the motorcycle corps, was on his way to central station preparatory to going on duty at 7 o'clock, and with Sergeant Clark, he immediately investigated to see that no one was injured, then turned his attention to the directing of traffic. With Sergeants Clark and Lenz and several other constables from the east end station, Smythe remained on duty at the spot for several hours, until the wreckage was cleared away.

Huge crowds gathered to watch the work of the wrecking crew which arrived on the scene in short order. It was found necessary to jack up the street car until it could be replaced on the trucks. It was

NINE STREET CARS BURNED IN BARN FIRE

3 Demolished, 6 More Damaged in Early Morning Blaze

2 OLD ONES ARE GONE

Long-Familiar Small Cars Ruined; Service Will Be Cut For Time

Three cars were completely burned and six others more or less seriously damaged by a fire at the King street and Sanford avenue car barns which was discovered shortly after 1 o'clock this morning. The loss cannot be estimated yet but will probably total around $25,000. It is at least partly covered by insurance.

But for the quick response and efficient work of the fire department, highly praised by General Manager E. P. Coleman and General Superintendent George E. Waller, the loss would probably have been much greater, as there was a strong, icy-cold wind blowing.

BUILDINGS SAFE

No buildings were damaged, as the burning cars were out in the yard west of the sheds on the north side of King street. It was a lucky thing that the fire did not occur inside the sheds, street railway officials commented, as in such a case all the cars might have been completely destroyed.

MAY HAVE BEEN WIRE

While not certain, it is thought that last night's fire started in a car with an electric heating system, which may have had a short circuit. The fire was discovered by the foreman of the night gang in the yards.

Responding in double quick time to the alarm, which was received at 1.15 o'clock, the fire department, under the direction of Chief James and Assistant Chief Aitchison, laid three lines of hose, but used only two lines to extinguish the roaring flames fanned by the freezing-cold gale.

TWO OLD CARS BURNED

Of the cars burned right down to the trucks one was radial and two were street cars, both of the old, small type. The end of one of the big new street cars was burned off and four others were burned or scorched. The ninth car damaged was the snow-sweeper.

As the result of the fire the street railway service may have to be slightly curtailed until the damaged cars are repaired.

Both General Manager Coleman and General Superintendent Waller were at the fire, and said this morning that it might easily have been much more serious had it not been for the good work of the fire department. They were unable to make even a guess of the total loss as yet.

Dec 20 1924

December 20
1924

Hamilton
Herald.

Electric Railway Rolling Stock

New Brunswick Power Co. has rebuilt 4 cars for its electric railway in St. John and has built a work car.

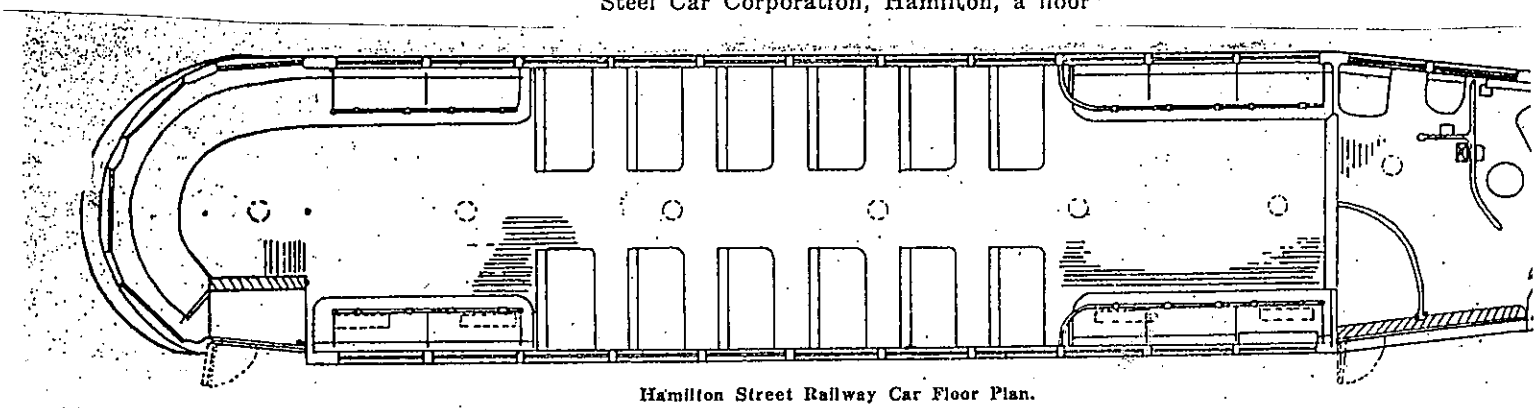
Newfoundland Light and Power Co. has had a standard Birney safety car shipped by Ottawa Car Manufacturing Co. to St. John's.

Ottawa Electric Ry. has received 4 more revamped cars of the 600 class, from Ottawa Car Manufacturing Co., making a total of 25.

Toronto Transportation Commission's 33 six-motor two-car trains, described and illustrated in Canadian Railway and Marine World for June, pg. 315, are being operated on the Harbord and Bathurst St. routes and in Danforth tripper service, and are providing excellent service on those heavy traffic runs.

Hamilton Street Ry.—By the terms of the franchise agreement between the City of Hamilton, Ont., and the Hamilton Street Ry., as given in Canadian Railway and Marine World for June, pg. 316, the railway agreed to have 24 new cars in service before May 1, 1927. They were ordered recently from National Steel Car Corporation, Hamilton, a floor plan of one of them being given herewith. They will be somewhat larger than the railway's present standard car, being designed to be 41 ft. 4 in. long and 8¼ ft. wide over all, with seating capacity for 48. The design of the body, of composite construction, presents several interesting features. The inside lining will be formed of steel side girders, and the outside sheeting will be of Plymetal. The posts will be steel pressings, with wood fillers on the outside. The bodies will be equipped with brass permanent sash. Letter-boards will be of aluminum. Carlines will be of steel, and the roof, of arch type, of wood. The interior will be finished in cherry with light cream enamel head lining. All seats will have spring cushions and backs and will be upholstered in Spanish leather. There will be 6 cross seats on each side of the centre aisle, and longitudinal seats both back and front of the cross seats, and the curved seats in the rear will extend almost completely around the rear vestibule. All operating apparatus in the front vestibule will be enclosed in a neat cabinet, the appearance of the front interior being considerably improved by reason of all piping, etc., being concealed. All entrance and exit passages and aisle will have anti-slip treads to insure safety of passengers. The car floor will be on one level from the front of car body to rear vestibule, and there will be an inside step well at the rear end

illuminated signs on the front of e and one on the side. They will ha matic ventilators, to keep the air all times. The electric equipme include four 510/82 Westinghous hung motors, 35 h.p. each, with gears and pinions, and thermost controlled electric heaters. They equipped with Westinghouse emp load brake, the braking power in automatically with live load, thus adequate braking capacity for an tion of loading. They will ha safety control and interlocks.



Hamilton Street Railway Car Floor Plan.

Hamilton Street Railway's New Cars.

Canadian Railway and Marine World for Dec. 1926, gave, on pg. 656, a preliminary description of the 24 motor cars ordered by Hamilton Street Ry. from National Steel Car Corporation, together with a floor plan. Further particulars to hand show that the cars will be 40 ft. 11 in. long over anti-climbers, 39 ft. 11 in. long over body, 7¾ ft. long over corner posts, 8 ft 3¼ in. wide over all, 7 ft. 8 in. wide inside, 10 ft. 9¾ in. high from base of rail to top of roof, and 18 ft. 2 in. between truck centers. Seating capacity will be 48, with the car operated with 2-man crew, and 49 in one-man operation. Light weight of car will be approximately 34,000 lb.

The underframes will be built up of structural shapes and plates, with ball bearing type center plates, and rolled steel anti-climber sections will be applied at both ends of the underframe. Members will be braced diagonally. The superstructure will include steel frame, with pressed steel posts and steel girder plates forming the inside side finish on the car, and also the load carrying section of the side. Outside sheathing, below the windows, will be of ¼ in. Plymetal, and letter boards will be of aluminum. The roof will be of single arch type, with steel carlines, and with 5/16 in. Haskelite, covered with no. 8 canvas duck laid in elastic roof composition. The ceiling will be 3/16 in. Haskelite, and the ceiling moulding and side finish will be in birch, cherry finished. Stanchions and fittings will be of aluminum. The floor will be in 2 layers, with tar paper between, and with wood slats applied on top in aisle. The lower floor will be laid diagonally and the upper longitudinally. The seats will be upholstered in Spanish leather, with spring cushions and backs. The cars will have 6 center fixtures in the body, 1 light on front vestibule ceiling, 1 for front steps and 1 for rear steps. The body lights will be wired through a selector switch, so that one or more lamps may be cut out. The body of the car will have 22 Consolidated electric heaters, each of 480-watt capacity, under seats. These will be thermostatically controlled. In addition, there will be a 1,200-watt heater in the vestibule, controlled by separate switch. The trucks, of 5 ft. 4 in. wheelbase, will be fitted with 3¾ x 7 in. axles, A.R.A. standard journal bearings and wedges, and 26 in. diam. rolled steel wheels. Motors will be inside hung.

The cars will be equipped with four 35-h.p. 510-A-2 Westinghouse motors each, and K-35-X control, and Westinghouse 10 x 12 in. cylinder air brake complete with compressor and emergency valve. They will also have standard safety appliances, interlocked with the operation of the controller and air brakes and fitted with dead-man control. Equipment will include Consolidated Car Heating Co. high voltage signal equipment, Peacock staffless hand brake, National Pneumatic Co. door fixtures with safety interlocking control, fixed upper sash of cherry, movable brass lower sash, window guards of sanitary electric welded screens in sections and hinged, O. M. Edwards sash fixtures, Dayton window cleaner on motorman's window, Golden Glow headlight, Nichols-Linten automatic tail-light, Hudson and Browning life guards, 8 in. single tap foot type motorman's gong at each end of car, two O. W. Meissner automatic air sanders, Nichols-Lintern ventilators, one route sign above center front window, one destination sign above right front window and one above window at side of car, 18 handholds of disappearing type supported from ceiling over longitudinal seats, Irving safety treads on folding steps, and Mason safety tread on floor, motorman's adjustable seat, and railway standard farebox. The cars will be provided with emergency drawbars, and ends will be so built that Tomlinson couplers may be applied easily. The conductor's seat will be near the front end of the car, opposite the doors. The cars will be equipped with treadle operated rear exit door, and will be suitable for one-man operation if occasion demands.

Electric Railway Rolling Stock.

Hamilton Street Ry. has received from National Steel Car Corporation one of the 24 cars ordered recently, a description of which was given in Canadian Railway and Marine World for January, on pg. 88. Immediately on delivery, it was placed on exhibition at the Dominion Power and Transmission Co. terminal building in Hamilton, with a man in charge to explain details of design and operation, and it was inspected by large numbers of people.

Ottawa Electric Ry. has, as mentioned in Canadian Railway and Marine World for April, ordered 20 double truck, front entrance, p.a.y.e., steel motor cars, from Ottawa Car Manufacturing Co. They will be equipped with 510 A 2 Westinghouse motors, and Canada Car Co. trucks with 26-in. Dominion wheels. They will be similar to the O.E.R. Co.'s standard 800 class cars, which were described and illustrated in Canadian Railway and Marine World for Dec. 1924, on pg. 628, except that they will be equipped with a treadle at the rear end, and will be suitable for one man or two-man operation. They will be fitted with metal sash. Delivery is to be completed by Dec. 1.

MAY 1927
P 287

. . . . As little Charlie and I were bustling through the busy Terminal Station the other day, inter
catching the Beamsville car, I felt an excited tug at my sleeve. 'Oh, Mumsie,' screamed our young h
in high glee, 'look at all the Santa Clauses!' And there, as I looked through the big doors of the electric
pliance show room, I saw that the child was right. All around the stately-looking room was a decoration
up of a host of Santas, each laden with a bulging sack. Over in the corner stood a life-sized Santa—the j
looking old fellow you ever saw. I forgot all about our car, for the moment, as I gazed with fascination
the holly and poinsetta decorations from which twinkled what seemed to be a myriad of little colored
Can't they do wonderful things with electricity these days? . . ."
The Dominion Power Show Rooms are open until 10 p.m. each day until Christmas.

DECEMBER 20, 1927

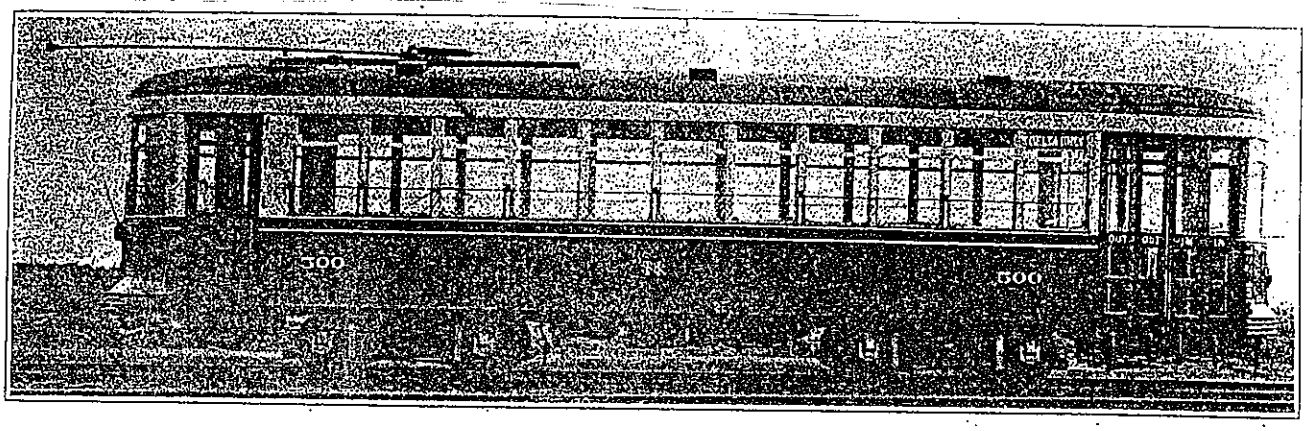
Hamilton Spectator

Electric Railway Rolling Stock.

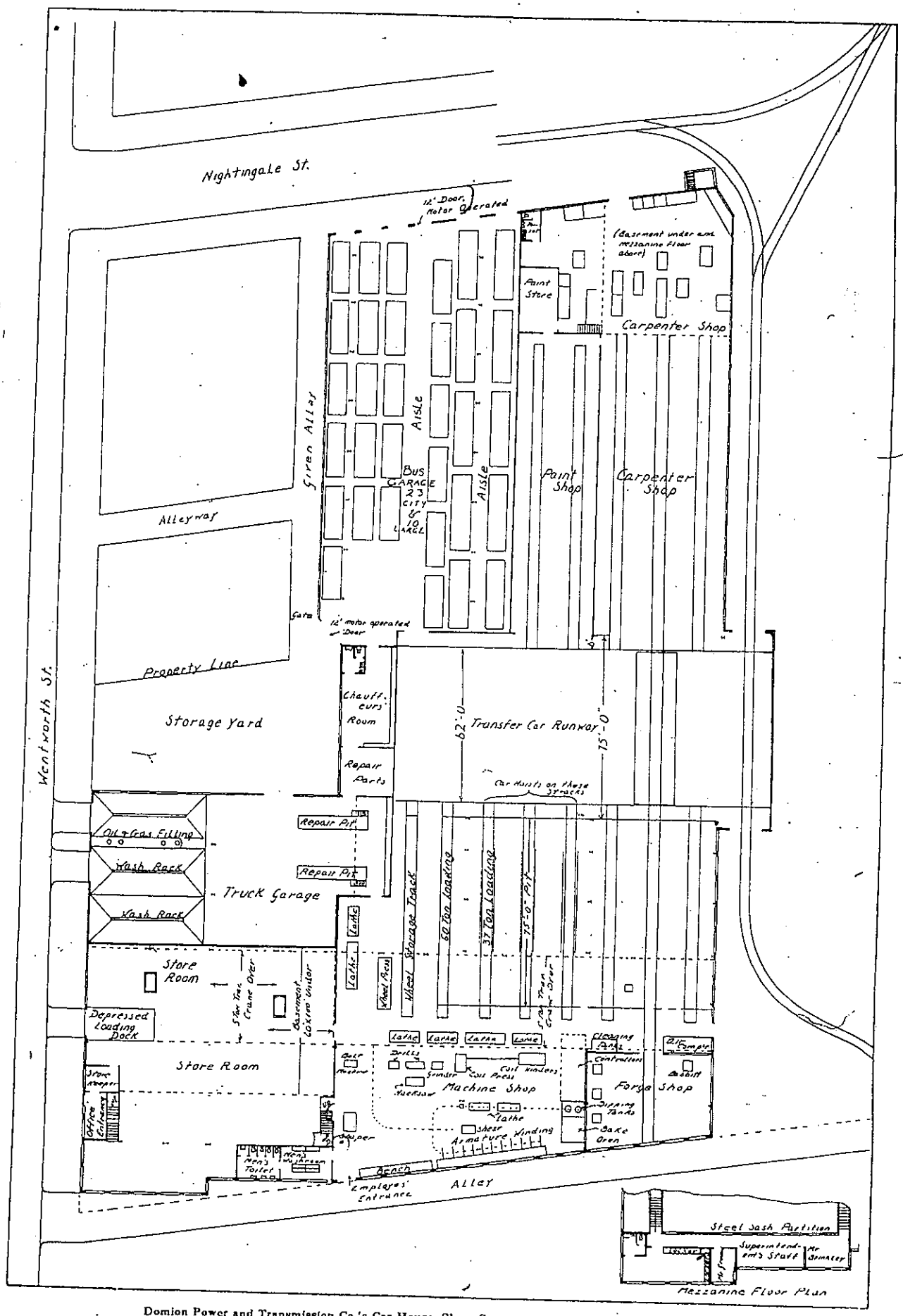
Hamilton Street Ry. has received 23 motor cars from National Steel Car Corporation, completing the order for 24.

Toronto Transportation Commission issued the following statement recently:- "Probably most citizens are under the impression that the T.T.C. steel cars are much heavier than those built of wood, such as the Toronto Railway Co. type. Such, however, is not the case. A large steel Witt street car, 2,300 type, weighs 19% less than the same size car built of wood, similar to the Toronto Ry. cars, type 1,244, 1,308. The large Witt cars, which pull steel trailers as large as themselves, average approximately 50,000 lb. in weight and occupy a street space of 432 sq. ft. The Toronto Ry. wooden cars, which do not pull dead trailers, have an average weight of approximately 47,000 lb. and only occupy 341 sq. ft. of street area. The wooden car, therefore, weighs 137.8 lb. per sq. ft., while the steel car weighs only 115.7 lb. per sq. ft. of street space occupied."

Ottawa Electric Ry. has ordered 85 gross tons, 122 lb., groove rails.



Hamilton Street Railway Motor Car, 500 Series.

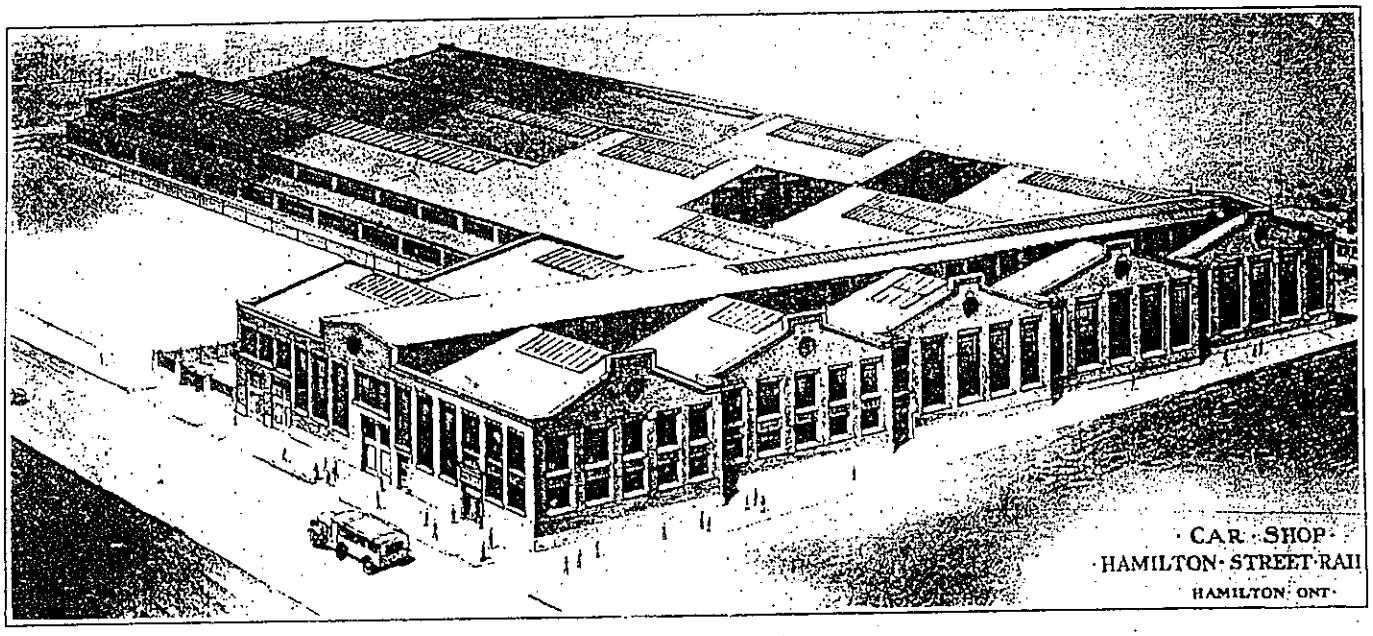


Domion Power and Transmission Co.'s Car House, Shop, Garage, etc., to be built in Hamilton, Ont.

Dominion Power and Transmission Co's New Car House, Shop and Garage.

The car house, shop and bus garage for which the Dominion Power and Transmission Co. has let contracts will be built on Wentworth St., Hamilton, Ont.; will extend to Nightingale St., the location being west of the company's inspection shed on Sanford Ave. North. The new building will have a special driveway to the south to permit visitors to inspect it, and will include a car house, car shop, stores department, construction department and bus and truck garages. The main parts of the building will be of structural steel, concrete and brick; the main entrance, which will be approached from Wentworth St., will be of cement, brick and ornamental stone. The building will have a total floor area of 91,060 sq. ft., distributed as follows:—basement, 9,074; main floor, 77,278, and mezzanine floor over the office section of the main floor, 4,708. The main floor will have an employes' entrance from Wentworth St., the machine and forge shops being to the right, behind which will be the tracks and pits and a 62-ft. transfer runway, with floor 1 ft. 10 in. below the main floor and provided with a 60-ton transfer car to move cars to and from the shop as required. To the rear of this will be the carpenter and paint shops. The machine shop will be provided with a track layout on the floor level, overhead trolley for the lathes, a 1-ton hoist to handle work on the floor and to transfer it to a 5-ton overhead travelling crane. There will be 8 tracks, 7 of which will be 75 ft. long, the other being extended into the forge shop. There will be a wheel storage track, a 37-ton loading track, a 75-ton pit over the two latter, and the first of the remaining 4 tracks will be car hoists. There will be 3 tracks in the carpenter shop and 2 in the paint shop. The carpenter and paint shops will be fitted with benches, storage, etc., and the basement underneath will be provided with a well with cover for lumber, and over it is a mezzanine floor for office purposes. To the left of the workmen's entrance will be office space, and following on to the Nightingale St. end of the building will be the storeroom, to which there will be a depressed loading deck. Then will come the truck garage, which will be provided with 2 washing tracks, 2 repair pits and an oil and gas filler, and then will come a storage yard alongside which will be a storage room for repair parts, and a chauffeur's room. The bus garage will run alongside Given Alley, a short distance back from Wentworth St., and will hold 23 city and 10 large buses, access to it being obtained by two 12-ft. motor operated doors, one leading from the storage yard and the other from the Nightingale St. end of the building. There will be track connection between the transfer car runway and the city lines on which cars may be taken to and from the shops. A ground plan is given on the following page.

We are advised officially that contracts for the building, etc. have been let as follows:—general contract, W. H. Cooper; structural steel, Hamilton Bridge Works; steel sash, Canada Metal Windows; painting, roofing and sheet metal, J. E. Riddell and Son; plumbing and heating, Robert Fitzsimmons and Co., all of Hamilton; painting and glazing, Fred. Roberts, Toronto. Work is to be started at once.



Dominion Power and Transmission Co.'s Car House, Shop, Etc

Electric Railway Department

Car Shops and Bus Garage, Dominion Power and Transmission Co.

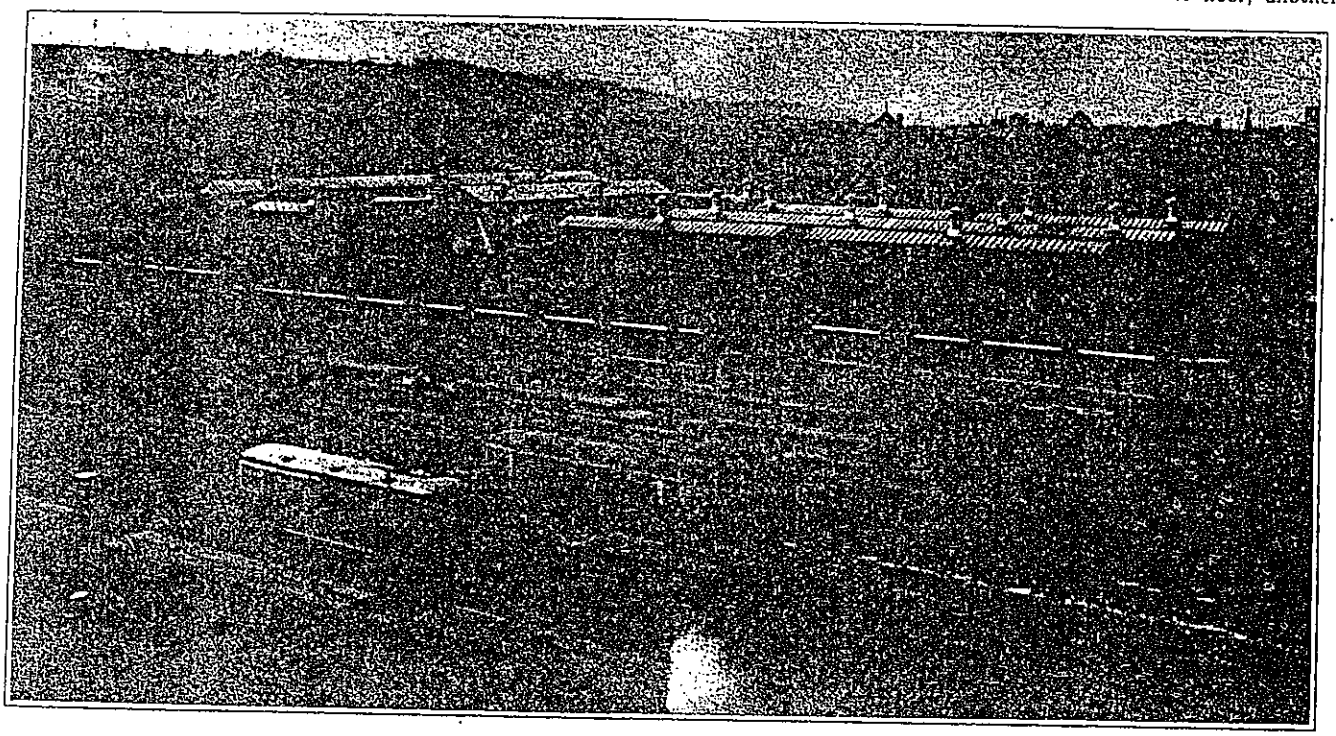
The Dominion Power and Transmission Co. has four subsidiary companies operating electric railways, viz.: Hamilton Street Ry., Hamilton Radial Electric Ry. Co., Hamilton, Grimsby and Beamsville Electric Ry., and Brantford and Hamilton Electric Ry., the cars of all of these companies operating in or into Hamilton, Ont., and, in addition, buses are operated in Hamilton, and between Hamilton and St. Catharines. For some time, the inspection and repair shops and facilities in Hamilton have been inadequate to meet the demands on them, the rolling stock being operated by the various companies consisting of 134 electric cars, 16 city buses, 7 interurban buses, and 15 service trucks. The inauguration of the bus service made the equipment maintenance situation more acute than it had been with the electric cars only to handle. These considerations, coupled with the making, in 1926, of a more favorable franchise agreement with the City of Hamilton than the previous one, influenced the management to decide on the construction of a modern shop and bus garage.

This building, a perspective view and general layout plan of which are given herewith, has been erected at Wentworth St. North and Nightingale St., and is just west of the inspection house in use before the new building was undertaken. The desire was to have the new building located as centrally as possible with respect to the various street car and bus routes, to use as a site property already owned by the company, and to have it connect with previously existing storage yards and the whole electric railway system in such a way that maximum facility of car movement would be secured. It was also desired to have the new facilities laid out so that minimum modification of previously existing storage tracks would be necessary. These needs were met adequately by the site and layout chosen. The company had owned for some years a great deal of the property necessary and was able to acquire certain lots on King William, Nightingale and Wilson Sts., making it possible to close certain portions of King William and Nightingale Sts. The owned and purchased properties were consolidated, and a plot was thus secured on which to place the shop building with access to Wentworth and Nightingale Sts. for buses and with track connections on Wilson St., which in turn provide connections over Sanford Ave. tracks to the belt line at Barton and King Sts. and with Hamilton Radial Electric Ry. at Sanford and Wilson Sts. This involved no change in the storage yard connection with the belt line on King St. The storage yard at the east side of the building was enlarged by building 3 through tracks and 2 stub tracks, and now has capacity for 130 cars.

The car shop and bus garage building is 385½ ft. long and 250 ft. wide at the widest part, the narrowest part being 157 ft. wide. It covers an area of 85,600 sq. ft. or 1.96 acres. It is a one-storey building of fireproof construction. All foundations are of concrete, reinforced with steel where necessary. All exterior walls are faced on the outside with pressed brick laid in dark mortar, and the trim along the Wentworth St. frontage is in cut stone, the balance of the trim being in artificial stone. The inside faces of the exterior walls, and the interior walls, are of brick. Of the exterior walls, 40.5% is window area. All interior walls are painted white, with a pearl gray dado 4 ft. high. In the office portion of the building, the walls are of gypsum slab construction, plastered, painted, and trimmed in chestnut.

The building may be regarded as being divided into four general sections, viz.; office, locker room and lavatory space, general stores space, bus garage, and car repair shop proper. The car repair shop is further divided into machine shop, armature repair shop, forge shop, pit room, paint shop, carpenter shop, and transfer table runway.

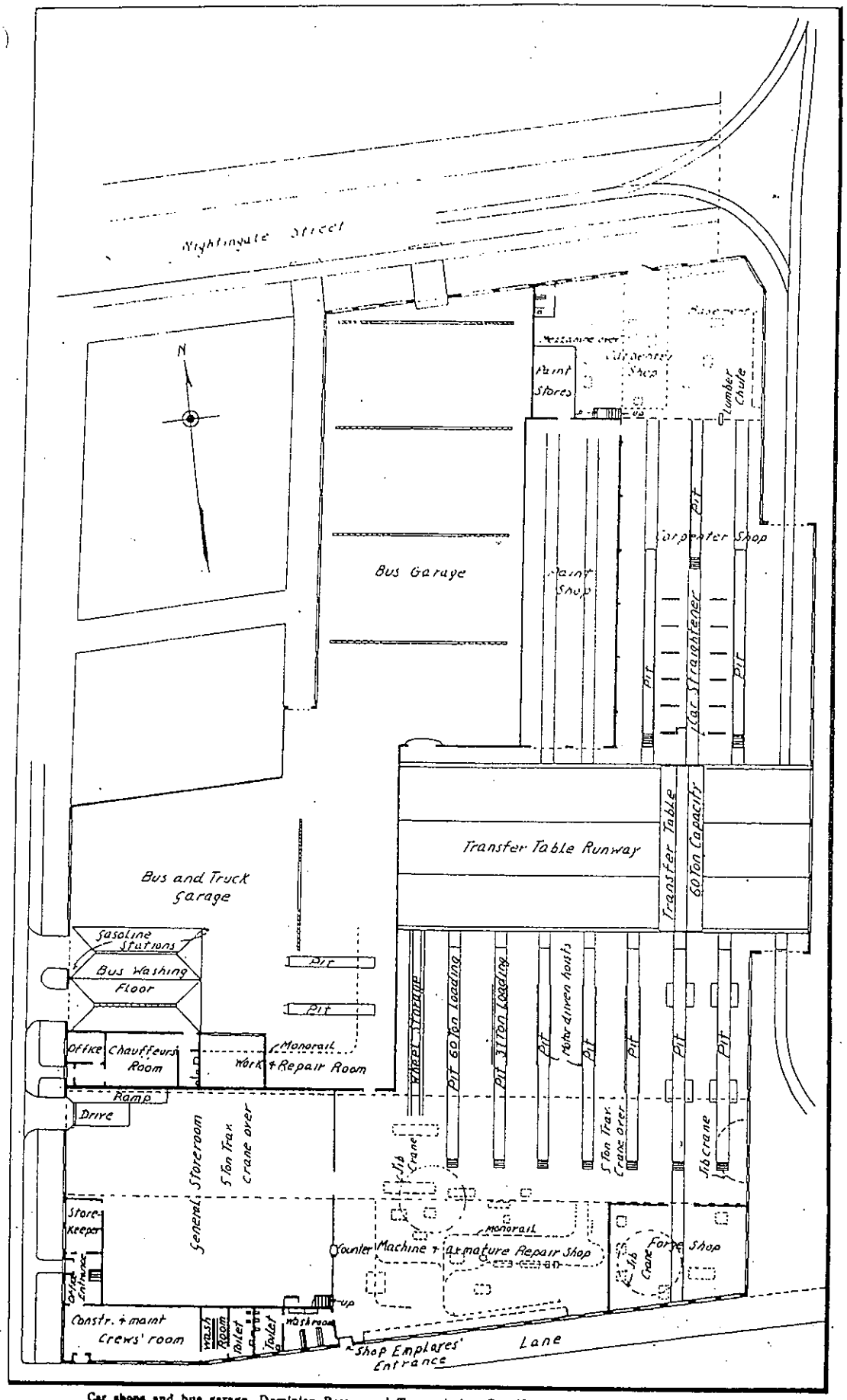
The office entrance is at the extreme southwest corner of the building, on Wentworth St., and the general offices are on a mezzanine floor, with access to them by wide stairs. Below the mezzanine floor are a large room for construction and maintenance crews, and lavatories and locker rooms. In addition to the main stairway to the mezzanine floor, another stair leads down into the shop from the east end of the office space.



Car shops and bus garage, Dominion Power and Transmission Co., Hamilton, Ont.

The general stores space is to the east of the office space, and a fine view of the store room is had from the offices. The stores space is separated from the machine shop by a high fence of heavy steel mesh. The store is served by a 5-ton overhead crane, with runway extending out into the machine shop, and is equipped fully with bins, shelving, etc., for storing material. The storekeeper's office is at the Wentworth St. side of the space. The floor in the stores space is of creosoted wood blocks, laid on concrete slab, and bonded thereto by paving tar. There are similar floors in the machine shop, armature repair shop, pit room and carpenter shop; the floors in the bus garage, paint shop, basement, employes' quarters and in the pits are of concrete, hardened.

The machine shop and armature repair shop are east of the general stores space, and at the south side of the building. Including the pit area, a total area of 19,750 sq. ft. is occupied by this section. All machines, including wheel lathe, wheel



Car shops and bus garage, Dominion Power and Transmission Co., Hamilton, Ont. General Arrangement.

press, lathes, shapers, drills, bolt cutters, cylinder grinder, etc., necessary for the efficient carrying on of car and bus repair work, are installed. The 5-ton crane, mentioned above as serving the storeroom and with runway extending into the machine shop, operates right across that shop to the extreme east side of the building, in addition to which a monorail, with two 2-ton electric hoists, is installed, together with a jib crane. The armature shop is at the extreme south side. There are 8 stands for armature repairs, work benches, etc., and the large window area in walls and ceiling make working conditions ideal. A steel dip tank in a concrete receptacle is provided, and a Brantford bake oven is set on special Nonpareil composition flooring, and equipped with General Electric heating equipment. Tank and oven are served by monorail and hoist. West of and adjoining the armature repair space is space for the repair of air brake equipment, farehoxes, and controllers, and space is also available in the northwest portion of the machine shop area for the manufacture and assembly of track special work. The employes' entrance is at the south side of the machine shop.

The forge shop is in the southeast corner of the building. A track runs into it from the transfer table runway. It is equipped with 4 Canadian Blower and Forge Co. down draft forges, a Bertram air hammer, gas preheater for melting out bearings, etc., and 2-ton jib crane with electric hoist, the crane operating through 360 degrees.

In the pit area, north of the machine and forge shops, are 7 tracks running west from the transfer table runway, in addition to staggered tracks at the extreme west side, for wheel storage. The

2 easterly tracks are used for wheel changing, and are served by a 1-ton jib crane with hand operated hoist. The third track from the east is equipped with a car hoist for long and heavy interurban cars, which has 3 posts on each side and is operated by a 40 h.p. motor. The fourth and fifth tracks from the east are equipped with hoists for lighter city cars, and have 2 posts on each side and are operated electrically, individually. The sixth track from the east has provision made for installing one of these hoists if and when necessary. The westerly running track, the seventh from the east, is designed for heavy loading, to enable the handling of carloads of wheels from the transfer table to the machine shop. Two tracks are equipped with wheel pits and removable sections of rail.

The pits under these tracks are 4 ft. 10 in. deep, amd are arranged so that all combine with one another to form one large pit under the whole area. They are remarkable for their cleanliness and for the good lighting afforded, making for first class working conditions.

The transfer table, running from east to west, was made by the National Steel Car Corporation, Hamilton. It is 62 ft. long and of 60-ton capacity, and operates on 4 single rails. The electrical equipment was installed by the D. P. and T. Co.'s staff. The drive is by a G. E.-1,000 40 h.p. motor, the same as used for the car hoists. The table has a steel frame and a 3-in. Georgia pine deck. It is equipped with a winch and cable to take cars in and out of the paint shop. Current is transmitted through a third rail arrangement, with the rail in a trench below the table, the contact being through an angle shoe, access to which is provided by a pit at the east end of the runway. An electrically operated vertical rolling door is provided at the east entrance to the runway, of the same type as at the west side of the general stores space.

The northeast section of the building is occupied by the carpenter and woodworking shops. A through track from outside the building runs through the east bay of the carpenter shop to the transfer table runway, in addition to which there are 3 tracks in the carpenter shop, each with a pit, all pits being about 70 ft. long. On the middle of these tracks is a car straightening device, the wings, of which there are 6 on each side, being at 10 ft. centres. In the woodworking shop, at the extreme north end, are the various machines for woodworking, such as bandsaw, woodworking lathes, planers, rip saws, jointers, etc. Under this portion of the building there is a basement for lumber storage, with a lumber chute extending down from the woodworking shop into it. There is an opening in the floor at each machine in the woodworking shop, through which sawdust, shavings, etc., are taken to a 16-in. pipe leading through the basement to a collector on the exterior of the building, the flow being induced by a fan driven by 15 h.p. motor. At the west side of the woodworking shop is a mezzanine floor, for pattern stores and the carrying on of seat repair work and upholstering.

The paint shop is between the carpenter shop and the north part of the bus garage. It is served by 2 tracks, and is equipped with cast iron uprights with wings for scaffold support. At the north end is the paint store room, which has no glazing and is separated from the paint shop by a fireproof door. In addition to being equipped with direct heating system, to keep down the dust, the paint shop is fitted with a complete exhaust system, with a fan driven by a 5 h.p. motor on the mezzanine floor adjoining the woodworking shop.

The bus garage portion of the building, which occupies a considerable part of the whole, has a total floor area of 35,770 sq. ft., and provides ample office and working space, and capacity for the storage of 45 vehicles. Entrance is by 2 doors on the Wentworth St. side. A door at the north end, and another opening on the lane at the west side, provide exits to Nightingale St. Just inside the entrance doors, special floor drainage facilities are provided to facilitate bus washing, and wash racks are installed, in connection with a 2,000-gall. storage tank for hot water. There are 2 repair pits at the south side of the garage, and, nearby, an oil storage space, this space and the pits being served by a monorail with a 1-ton hoist. In the southeast corner of the garage are a repair room for working on parts, a room for bus drivers, and office, together with lavatories. The entrance doors of the garage are of the vertical rolling type, operated electrically. Interior gasoline supply is provided at 2 points in the garage, near the entrance doors, the supply system being of the Aqua Oil Service type, with the gasoline tanks, two of 10,000-gall. capacity each, situated some distance north of the building. The floor of the bus garage is ramped, at the north side of the transfer table runway, so that a bus may be placed on the transfer table.

The air compressor supplying air for the whole plant is placed at the north side of the transfer table runway, at its west end. It has 10 x 12 in. cylinder and is driven by a Westinghouse 40 h.p. motor. An auxiliary compressor of smaller capacity is located nearby. Both compressors are of Ingersoll-Rand manufacture.

Heating of the building is effected by unit heaters, with motor driven fans placed in strategic locations. There are two 200 h.p. Kewanee boilers in the original inspection house across the yard from the new building, and steam from these is piped to the building through a 10-in. overhead main supported on steel framework, to supply the heaters, which are of the Canadian Blower and Forge Co.'s Aerofin recirculating type. The fan motors are Westinghouse ¾ h.p. type. There are 3 heating units in the pits at the south side of the transfer table runway. The direct heating system, with steam radiators, is used in the paint shop. In the bus garage, where the indirect system is used, the unit heaters are arranged so that they may recirculate the air in the room, as in the rest of the shop, or draw fresh air from out of doors, in which case the accumulation of fumes from bus engine exhausts is expelled effectively.

The crane, monorail, car hoists and transfer table are operated on d.c. current, at 550 volts; all other equipment is operated on a.c. current at 220 volts.

Car inspection and washing will continue to be done in the old inspection house, which was built in 1910, and which is well equipped for its purpose. Several changes have been made in the boiler plant there, to secure greater efficiency and to facilitate coal handling. A modern cinder handling plant, and a very efficient sand drying system, have been installed. A greenhouse, for flowers and plants to be transplanted to various parts of the company's property, is being erected between the old and new buildings.

In addition to serving the needs of equipment maintenance, the offices and store room in the new building have capacity for the track work and line department forces, and the general offices include an office for the Superintendent of Construction and the Shop Superintendent, the main office providing for both their staffs. The store room's area is 8,410 sq. ft., and houses all the material for the company's line operations, as well as for the shops. Of the store room's total area, 4,000 sq. ft. is served by the 5-ton overhead crane, which also serves an area of 6,000 sq. ft. in the machine shop.

The new building is notable for the extreme brightness of its interior. The main supports are steel columns of H section, and the roof is carried on trusses of structural steel throughout. This roof is of reinforced gypsum slab laid on steel purlins, and the interior brightness referred to is in great part due to the large skylight area contained in the roof, a total of 10,820 sq. ft. The skylights are of ribbed wired glass fitted into and held by formed members of solid copper sheet, all flashing and entrance heads to the downspouts also being of solid copper. The large sidewall window area also contributes to the brightness of the building interior. The whole layout, with the well planned division of floor space, the location of the modern equipment provided, and the compact arrangement of facilities, doing away with possibility of lost motion, is suggestive of efficiency in carrying on repair work, and the building itself, both inside and out, indicates solidity and permanency.

The building was erected and the facilities installed under the supervision of Geo. Waller, Manager, Railway Department, Dominion Power and Transmission Co., with C. J. Porter, Construction Engineer, D. P. and T. Co., in direct charge of the work, assisted by F. S. Gardiner, Assistant Construction Engineer, J. O. Binkley, Superintendent of Shops, being in direct charge of machinery and equipment installation. The architects were B. H. and F. Prack, Hamilton and Pittsburgh, Pa., who were represented on the work by F. H. Lelue. The general contractor for the building was W. H. Cooper, Hamilton, other contractors being as follows:—structural steel, Hamilton Bridge Works Co.; gypsum roof, Ontario Gypsum Co.; roofing and sheet metal, J. E. Riddell and Son, Hamilton; steel sash, Canadian Metal Window Co., Toronto; wood block flooring, Jennison and Wright Co., Toledo, O.; Kalmein and rolling doors, T. Irwin and Sons, Hamilton; painting and glazing, F. Roberts, Toronto; plumbing, heating and sprinkler system, R. Fitzsimmons Co., Hamilton; electrical work, Culley Electric Co., Hamilton; gasoline tanks, piping, etc., Aqua Oil Service, Inc., New York; linoleum for office floors, T. Eaton Co., Toronto. The trackwork was installed by Hamilton Street Ry. forces. Laying out of the building on the ground did not commence until Aug. 19, 1927, and excavation work began on the following day. The building was completed and the various units of it equipped and in operation on March 1, 1928.

STREET CAR STRUCK BY FREIGHT ENGINE

Motorman Received Signal From the Flagman

Only One Passenger Was Injured in Smash

April 26 1929

An accident which might easily have had most serious consequences occurred last night at Irondale, when a railway engine ran into the side of a street car carrying a number of passengers, turning it over on its side. John Petrick, 591 John street north, a passenger in the car, was found in an unconscious condition and was taken to the General hospital by Constable Howson in the police ambulance. His condition is improved to-day.

William Fulton, 171 Niagara street, flagman at the Irondale crossing, informed the police that at 8.10 o'clock he gave the signal to proceed to the motorman of street car No. 521. As the car crossed the railway tracks that lead into the yard of the Steel Company of Canada it was struck squarely on its right side by locomotive No. 11, in charge of Jack Reid, engineer, and Edgar Allan, conductor. The locomotive is owned by the Steel Company of Canada and was being used in shunting of freight cars in the yard. At the time of the accident it was carrying four loaded cars.

Gave Signal

The engine had just backed across the tracks when the crossing watchman gave the signal for the street car to proceed and the engine started forward again. The fact that the train was proceeding slowly was likely the reason the accident was not a more serious one.

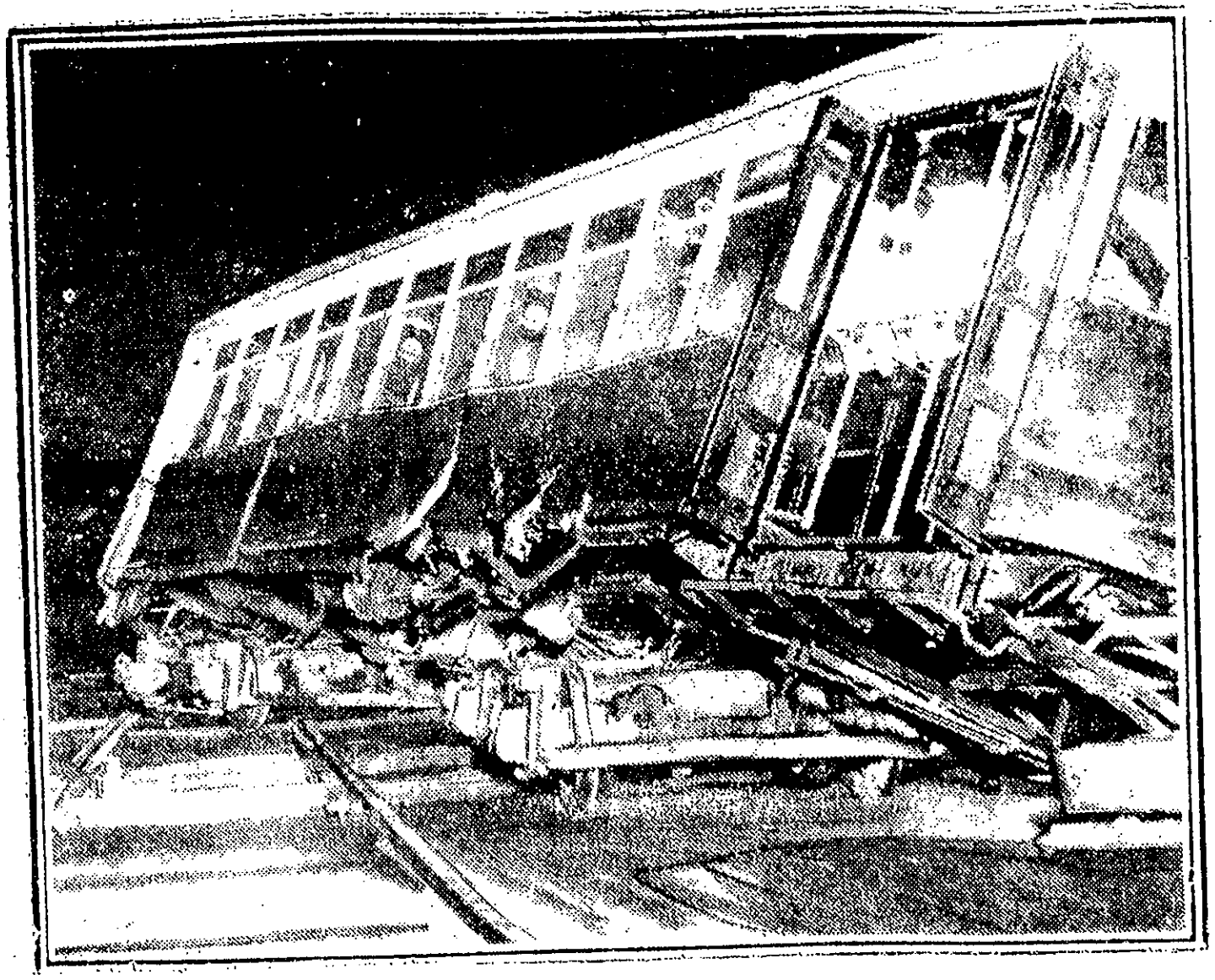
The street car was turned over on its side by the smash and a number of windows were broken. The passengers were badly shaken up, but only one, Mr. Petrick, was removed to the hospital.

S. Clark and A. Clark, motorman and conductor of the street car, informed the police that there were 15 passengers in the car at the time of the accident.

April 26 1929

SOO STE. MARIE, CANADA, TUESDAY, APRIL 30, 1924

STREET CAR HURLED FROM TRACK BY TRAIN



A picture showing a street car hurled from its trucks by the impact of a [illegible] engine striking it broadside on in Hamilton, Ontario, recently. The passengers were badly shaken up but only one was seriously injured

LAST CAR RUNS ON OLD ROUTE

Radial Service Discontinued to Grimsby Tuesday

Passenger On First Car Rode For Last Time

From Our Own Correspondent

Grimsby, July 2.—Constable James Wentworth, a passenger on the first radial car to travel to Beamsville 35 years ago, was a passenger on the last car to make the trip on Tuesday night. When the car neared Beamsville several others boarded it and made the last trip. Among them were S. J. Wilson, M.L.A., W. D. Fairbrother, clerk of the village of Beamsville and a former H.G. & B. employee. Omar Cosby, an employee of over 20 years; Frank Johnston, a conductor for 22 years; James Steven, motorman for over 19 years; Constable Juhlke of Beamsville; David Thompson, district manager of the company; L. B. Tufford, district foreman, and many others. The crew to bring the last car in was Hec Page, motorman, and Conductor Ostressor.

When the car arrived in the village, several others were present to note the passing of the radial line, which in years gone by has meant so much to the district. To mark the event a flashlight photograph was taken at the end of the line, showing the last car and some of the old employees.

Out of Employment

Men who have spent the best years of their life in the employ of the line are thrown out of employment with a month's salary as bonus. Sam J. Freure has worked with the company for the past 31 years; Frank Johnson, 22 years; Omar Cosby 20 years; James Steven 19 years; Harry Barnes, 24 years; John Franklin, 11 years; George Terryberry 10 years. These are but a few of the employees who have had long service and who are now out of employment.

The passing of the line means a great deal to the entire district.

There has been considerable speculation as to whether or not the Hydro would take up the rails from the main streets of Beamsville and Grimsby. While nothing definite seems to be known in this connection, it is rumored that the rails will be left right where they are, at least on the pieces of road which are paved.

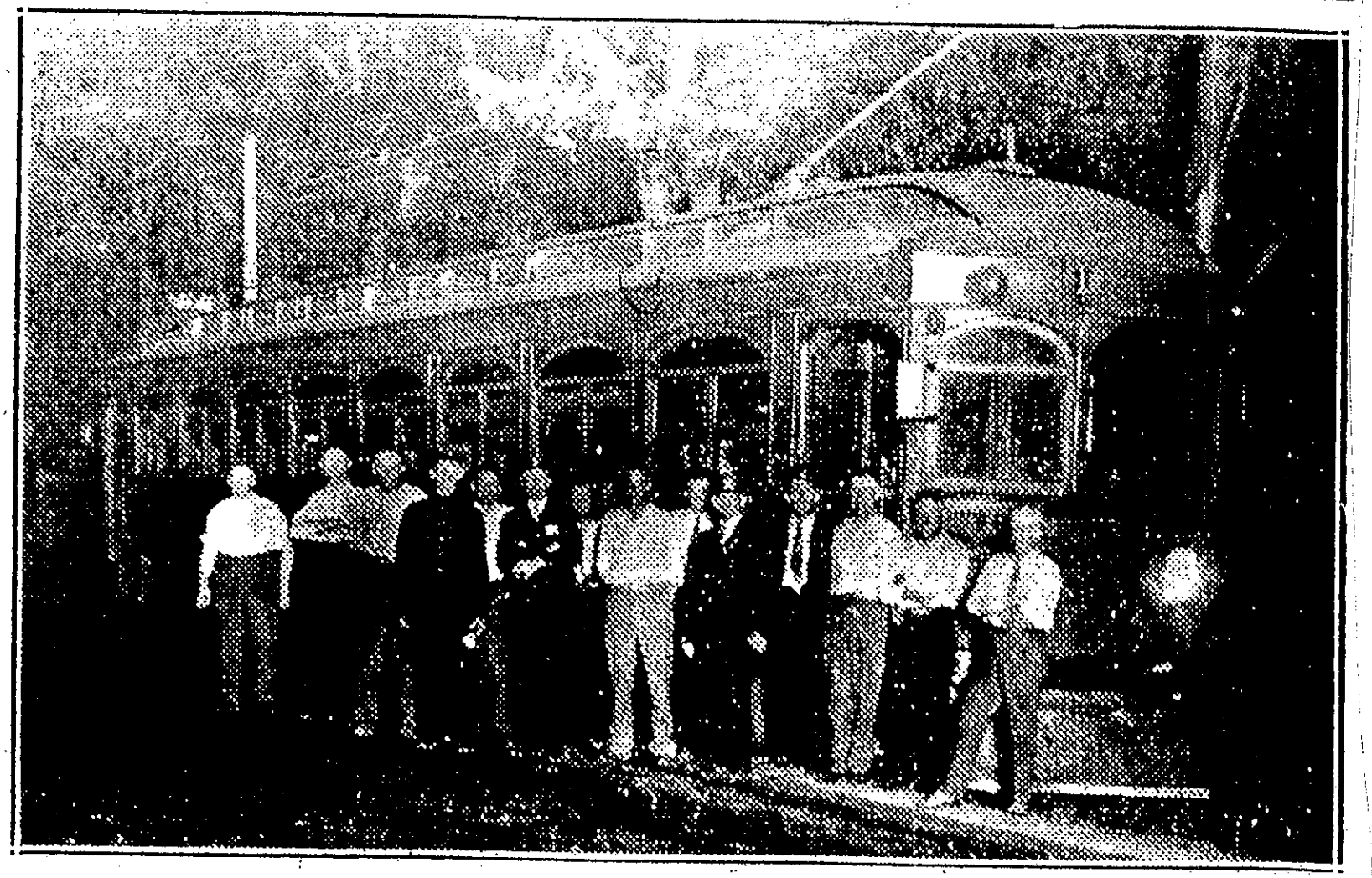
Some radial cars are at present being stored in the Beamsville car barns.

Old Times Recalled

One of the older employees recalled yesterday the fact that just seven years ago yesterday car crews were pressed into service to help handle the crowds at the terminal station so that the cars could get in and out. Also just a few years ago three and four cars were required on each holiday and Saturday run to accommodate the hundreds who came from the city to Grimsby Beach and district. The coming of the motor car and bus has changed the old order of things and the radials are no more.

June 2
1931

THE LAST CAR ARRIVES



A flashlight view taken at the end of steel in Beamsville showing the last car to go over the line with passengers. Beside the car are shown: S. J. Wilson, M.L.A.; Chief of Police Juhlke, of Beamsville; Earl Spencer; Constable Wentworth, of Grimsby; Albert Dipper, Omar Cosby, W. D. Fairbrother, W. Greenfield, W. Ostressor, James Steven, Hector Page, L. B. Tufford, foreman of the district; Frank Johnston and David Thompson, manager of the district for the Dominion Power company.

JULY 2 1931

Hamilton Street Railway Matters.

The Ontario Legislature has passed an act, Statutes of 1932, chap. 57, respecting Hamilton Street Ry. Co., which provides that the agreement dated Oct. 20, 1931, between Hamilton Street Ry. Co. and the City of Hamilton, set forth in the schedule to the act, is confirmed and declared to be legal, valid and binding upon the parties thereto. The act went into force on the day it was assented to, March 29. The agreement mentioned was brought about by circumstances detailed in Canadian Railway and Marine World for Nov., 1931, pg. 722, and in preceding issues, and originated in a desire by Hydro-Electric Power Commission of Ontario, which owns the H.S.R., having acquired it from Dominion Power and Transmission Co., to operate 1-man cars on the Burlington, James St. South and belt line routes. The Ontario Railway and Municipal Board issued an order permitting operation of 1-man cars on the two first named routes, and on the belt line route after Jan. 2, 1932, but the city appealed against the order, and there were further proceedings before the Board. Without further action by the Board, however, the agreement mentioned above was entered into, its terms having been based largely on suggestions advanced by H.S.R. employes. The H.S.R. franchise agreement with the city provides that the company shall pay the city 4% of its gross earnings each year. The agreement provides that 2-man operation should be continued on the belt line route throughout 1932, the company to pay the city only 2 2/3 % of its gross earnings for the year. The excess cost of 2-man operation over that of 1-man operation will be about $60,000 for the year, and 4% of gross earnings is about the same amount. As the company is paying, this year, only 2/3 of its usual gross earnings tax, its payment to the city for the year will be only about $40,000. The employes accepted an adjustment in their working rules saving the company $20,000 for the year; thus, the excess cost of 2-man operation is being borne 1/3 by the city, 1/3 by the company and 1/3 by the employes.

It was announced by Mayor Peebles of Hamilton, at the close of a city board of control meeting, March 31, that G. E. Waller, Manager, Hamilton Division, Ontario Hydro-Electric Rys., in charge of operation of the Hamilton Street Ry., had asked for a conference with the board to discuss street railway matters. A conference was arranged for April 1, but had to be postponed, one of the reasons having been the inability of W. R. Robertson, General Superintendent, Ontario Hydro-Electric Rys., to attend. A meeting was held, April 5, but in the absence of the Mayor, who was in Ottawa in connection with the Toronto, Hamilton and Buffalo Ry. grade separation matter, and of one of the controllers, very little progress was made. In addition to Messrs. Robertson and Waller, the H.S.R. was represented by F. S. C. Evans, of the Hydro-Electric Power Commission of Ontario Legal Department, and others. Messrs. Robertson and Waller stated that in spite of every operating economy having been instituted, still further measures would have to be taken, and suggested as a last resort a reduction in service. It was stated that the number of passengers had declined 20,000 a day since 1929 and 13,000 a day since 1930. The management stated that between $30,000 and $35,000 a year should be saved from the service reduction they had in mind. The discussion was taken up largely with overdue payments from the company to the city, for the last quarter of 1931 and the first quarter of this year, on account of gross earnings tax. The service reduction proposed was designed to provide a 6-minute service on the belt line from 7 p.m. to midnight, the service at other hours to remain a 5-minute one, the expected saving being 44 man-hours. On the Burlington-James South route a saving of 16 man-hours a day was proposed, on the Wentworth St. route one of 15 man-hours a day, and on the Gage Ave. bus route a saving of 24 man-hours a day. The total saving proposed was 99 man-hours, which would affect 12 regular men. At the time the proposal for reduced service was advanced by the company, there were 212 regular platform employes and 46 extra men, a total of 258; three resignations had been received, and the management stated that following the reduction in service there would be 201 regular men and 54 extra men, with no men being deprived of employment on account of the service reduction.

The Mayor was quoted as saying, April 7, that he thought that the company could not reduce its service on account of the agreement of Oct. 20, 1931, by which the city granted a reduction in gross earnings tax, but he added that he would consult the City Solicitor before making a definite statement. On April 9, he was quoted as saying that he was not so sure that it had been provided in the agreement that the company could make no reduction in service.

A further conference between the company's officials and the board of control was held, April 11, when Mr. Waller stated that the concessions, which had been granted by the city under the agreement referred to above, do not compensate the company for the loss caused it by the necessity of continuing 2-man car operation on certain routes. On the Mayor observing that it was probably for that reason that the company is seeking more concessions, Mr. Waller replied negatively, saying that the company has the right to reduce the service. The Mayor retorted that the franchise agreement says that the city must be given an adequate service, to which Mr. Waller replied that if the service was adequate in 1929, it is far more adequate now, the present traffic not justifying the present service. Following some conversation as to financial returns, in which Mr. Waller stated that the company's earnings are far from adequate, the Mayor stated that when the H.E.P.C. of Ontario had tried to sell the H.S.R. property to the city for $4,000,000, no loss had been shown, and a controller claimed that the company's proposed service reduction was merely a retaliatory action against the city for refusing to buy. In answer to a question by Mr. Waller as to whether the city would be willing to buy at $2,000,000, the Mayor was reported as saying that he would not touch the property even if it were a gift, adding that it is a decaying business. Another controller asked whether, in the event of the city refusing to allow the reduction, the company would apply to the Ontario Municipal Board. Mr. Waller replied that the company has no reason to go to the Board, his attitude having been that the company has the right to reduce the service, and it being the city's place to appeal to the Board if it is not satisfied. The Mayor asked whether, in the event of the city allowing the service reductions to be made, the company would agree to allow the re-establishment of a jitney service. Mr. Waller said:—"Surely you do not want them back?" The Mayor replied affirmatively. Finally, the board of control decided to recommend to the council that the company's request for approval of a service reduction be refused, and that the city appeal to the Ontario Municipal Board in the event of a reduction being made without civic permission.

In regard to the Mayor's question as to independent jitney service, Mr. Waller was quoted as stating subsequently that the franchise agreement under which the H.S.R. operates forbids jitney competition, and that, in his opinion, no one could be serious in advocating return of the jitneys. He was also quoted as saying that the company was engaged in the preparation of a complete service schedule to be presented to the board of control, and that no service reduction would be made until further discussion with that body.

Taxation of Public Owned Utilities.—During April there was considerable discussion, participated in by Mayor Peebles of Hamilton, and the three Hamilton members of the Ontario Legislature, as to the advisability of the city seeking authority to tax the Hydro-Electric Power Commission of Ontario, and the Hamilton Hydro-Electric Commission's properties within the city. The Mayor contended that the properties of the public utilities should be taxed in the same manner as those of privately owned companies, but the members of the Legislature adhered to an opposite view. In giving reasons for his views, the Mayor emphasized that they are not to be considered as indicating that he, and/or the city, are antagonistic toward public ownership of utilities, his belief that taxes should be imposed being based on purely business and economic considerations.

Heavy Rainfall on Vancouver Island.—British Columbia Electric Ry. management, at Victoria, has advised Canadian Railway and Marine World that during the 24-hour period ended Feb. 26 last, 7.44 inches of rain was recorded at Jordan River power house, the highest rainfall since records have been kept. The Bear Creek reservoir gauge, some 9 or 10 miles above the power house, registered 8.13 in. during the same time. The record for that point is 10.34 inches in a day, which fell some eight years ago. Local roads and bridges suffered a certain amount of damage, but crews were kept busy and serious floods were prevented.

Guelph Radial Ry.—Operations for the first three months of the current fiscal year, to Jan. 31, are reported to have resulted in an operating deficit of $1,597.16, the addition of taxes, interest, sinking fund requirement, instalment on purchase cost, etc., making the total deficit $15,132.18.

Hamilton Street Railway Service Reduction.

G. E. Waller, Manager, Hamilton Division, Ontario Hydro-Electric Rys., wrote the Mayor of Hamilton, Oct. 5, stating the Hamilton Street Railway management's intention to reduce electric railway and bus services, and its reasons for its decision. Mr. Waller stated that there had been so many rumors and misstatements of fact, in connection with the matter, that he felt it would be in the interests of all concerned that Hamilton citizens should know what is transpiring in their transportation industry. He pointed out that the H.S.R. revenues had been affected by restricted industrial activity, as had those of every other industry, and that, in addition, the street railway had felt severely the effect of unfair competition, first from the jitney and then from the cut rate taxicab, which have made inroads into the revenues of the organized transportation company and left it to carry the less profitable part of the load. The essential unfairness of this kind of competition lies in the fact that it undermines a service, which it is incapable of replacing in its entirety. The H.S.R. is being operated primarily to provide a safe, efficient and satisfactory service, its equipment, tracks, shops, etc., compare favorably with those of any other electric railway of like size in North America, and additions and improvements will be made upon restoration of normal business conditions. He submitted a statement showing a large decrease on the street railway, in number of revenue passengers carried and revenue, with a much smaller decrease in car mileage. In June, 1929, there were 1,644,107 revenue passengers, revenue was $103,068.91, and car miles were 259,660; in June, 1930, number of revenue passengers was 1,448,952, revenue was $92,586.23, and car miles were 252,170; in June, 1931, revenue passengers were 1,261,105, revenue was $81,086.36, and car miles were 238,360; in June, 1932, revenue passengers were 1,092,355, revenue was $68,956.26, and car miles were 233,627. The decrease in revenue from June, 1929, to June, 1932, was 33%, the number of revenue passengers carried having declined 34%, but the service, as shown by the car mileage operated, decreased only 10%. In regard to the bus traffic, the statement showed that in June, 1929, revenue passengers were 324,294, revenue was $28,436.30, and bus miles were 115,705; in June, 1930, revenue passengers were 280,203, revenue was $25,617.55, and bus miles were 119,243; in June, 1931, revenue passengers were 265,357, revenue was $24,186.01, and bus miles were 120,632; in June, 1932, revenue passengers were 242,895, revenue was $20,420.94, and bus miles were 116,731. The number of revenue bus passengers decreased 25% from June, 1929, to June, 1932, and bus revenue decreased 28%, but there was a slight increase in the service given, as shown by the number of bus miles operated.

Mr. Waller then gave details of the service reductions proposed to be made, as regards electric railway cars on Westdale, Burlington-James St. South, Aberdeen Ave., Incline, King West-York and Belt Line routes, and as regards buses on Cannon St., Gage Ave., Balmoral Ave., Mountain and Bartonville routes. He said that on Jan. 1, 1933, additional 1-man car operation is to start on certain routes; that negotiations had been entered into with the employes with a view to establishing temporarily a 5-day week, to obviate the necessity of laying off any trainmen on account of the proposed service reductions. He mentioned that the reduction in the trainmen's wages had been 10%, compared with 20% reduction in cost of living since 1926. He stated that the advent of the additional 1-man car operation will mean an increase of 5c an hour to the employes who become 1-man car operators. He said that the management's dealings with its employes had been of a harmonious nature in recent years, and that it wants this condition to continue, and to publicly thank the employes for their co-operation. He concluded by saying:—"We want to provide a satisfactory service, and bespeak the co-operation of the citizens and civic officials to bring about this end. The changes in service referred to will be put into effect at an early date."

A press report of Oct. 11 said that employes were opposed to the adoption of a 5-day week, but we were advised officially, Oct. 17, that the local street railwaymen's union had the matter under consideration and had not reached a decision. Our advice also stated that there is an 8-hour day in the shops, 9-hour in the track and line department, and an 8-hour day for the car operators. No change in working hours for employes other than the car operators is being considered.

A Hamilton press report of Sept. 29 stated that Yellow Taxicab Co. had introduced a system whereby people hailing vacant cabs going in the direction of the center of the city may, if the vehicle is empty, ride for a 10c fare. It said that the City Clerk and Secretary of the Police Commission, after a study of the city bylaws and agreements involved, had contended that there was nothing out of the way in this. It said that the city bylaw governing cabs and other vehicles stipulated that the tariff for the first mile or less shall be 50c and for each subsequent quarter of a mile 10c, saying also "it shall "not be lawful to ask for or demand "or to receive any less fare should there "appear to be any organized attempt "on the part of a number of owners or "drivers so to do." The report also said:—"In any case, the city is not obligated to enforce the privileges enjoyed by the street railway company, but the latter has the right to appeal to the courts should it feel that unfair competition is being offered."

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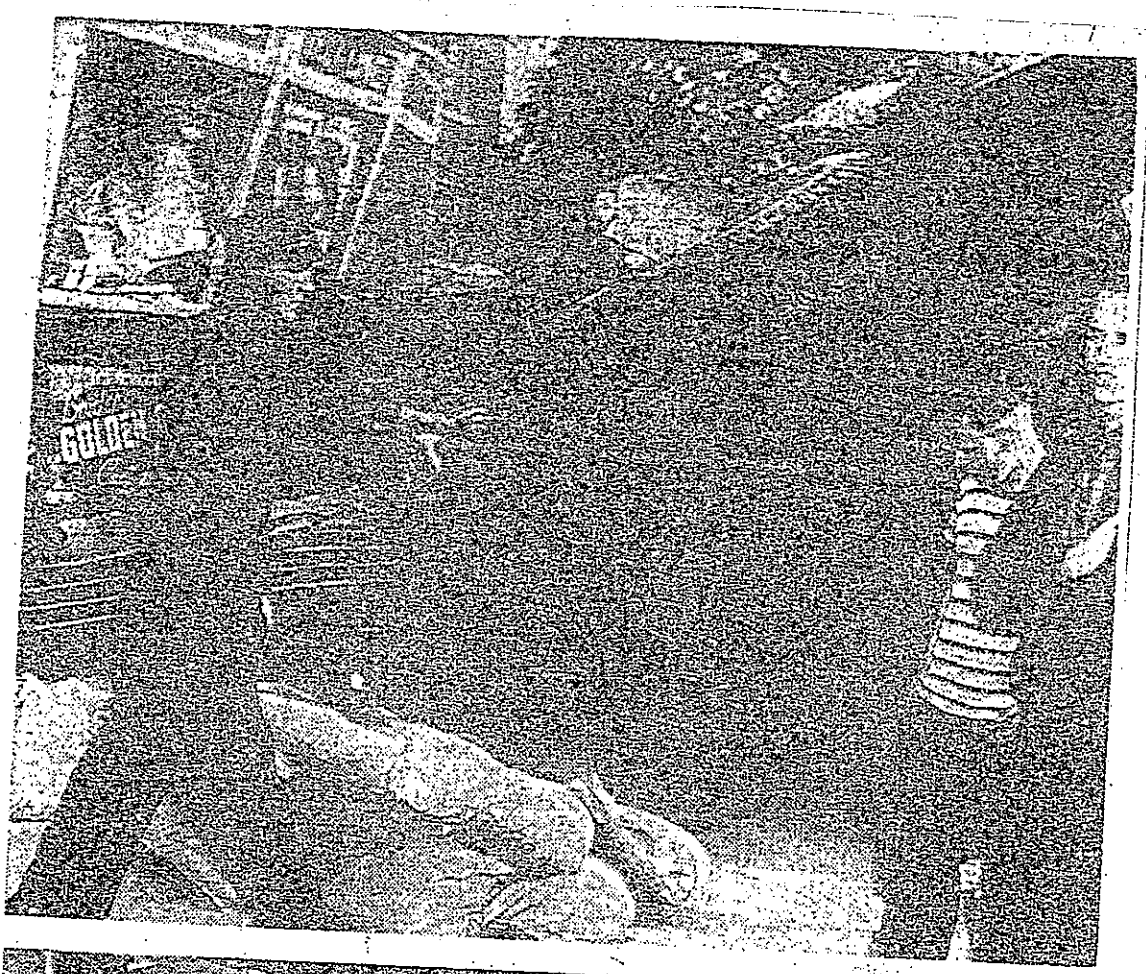
electric railways was 7.7% less than in 1930. These figures were compiled by American Electric Railway Association from reports furnished by 12 properties, operating 1,311 single track miles of electric railway and 1,027 miles of bus route.

The Canadian and U.S.A. electric railways grouped together, 204 companies reporting out of 225 operating 24,030 single track miles of electric railway and 12,189 miles of bus route, had a 13.08% decrease in traffic, in August, compared with Aug., 1931. In preceding months this year, decreases, compared with corresponding months in 1931, were:—Jan., 11.09%; Feb., 7.54%, ~~or 10.73%~~ on a daily average basis; March, 10.97%; April, 11.73%; May, 12.37%, June, 13.95%; July, 16.23%. In the complete year 1931, traffic for the properties as a whole was 9.7% less than in 1930. There were decreases in traffic in August this year, compared with Aug., 1931, in all geographical divisions of the U.S.A., as follows: — New England states, 17.14%; states north of the Ohio and east of the Mississippi Rivers, 11.22%; states south of the Ohio and east of the Mississippi Rivers, 19.47%; northwestern states, 21.90%; southwestern states, 20.57%; Pacific coast states, 11.78%; other territory, 17.65%.

The Association, in commenting upon these figures, states that electric railway traffic recovered somewhat in August from the low level shown by the figures for July, but adds that the improvement was more apparent than real, it again being a case where the distribution of working days in the calendar makes accurate comparison on a monthly basis almost impossible, leading the unwary to conclusions which have no basis in actual conditions. July traffic this year was abnormally low in comparison with that for July, 1931, due to an extra Sunday in the 1932 month as well as to the 3-day week-end holiday over the 4th of July this year, compared with a 2-day holiday in 1931. On the other hand, August had an extra working day this year, compared with Aug., 1931, making the comparison between the two Augusts favorable to the 1932 month. In only the U.S.A. Pacific coast states was improvement in August such as to suggest that it was a real one and not wholly influenced by calendar conditions. The decrease in August was only 11.78% in those states, compared with 17.13% in July, and 15.68% in June; in fact, the August decrease was the smallest since March. The Association suggests that the Olympic games in Los Angeles probably had much to do with this relatively good showing.

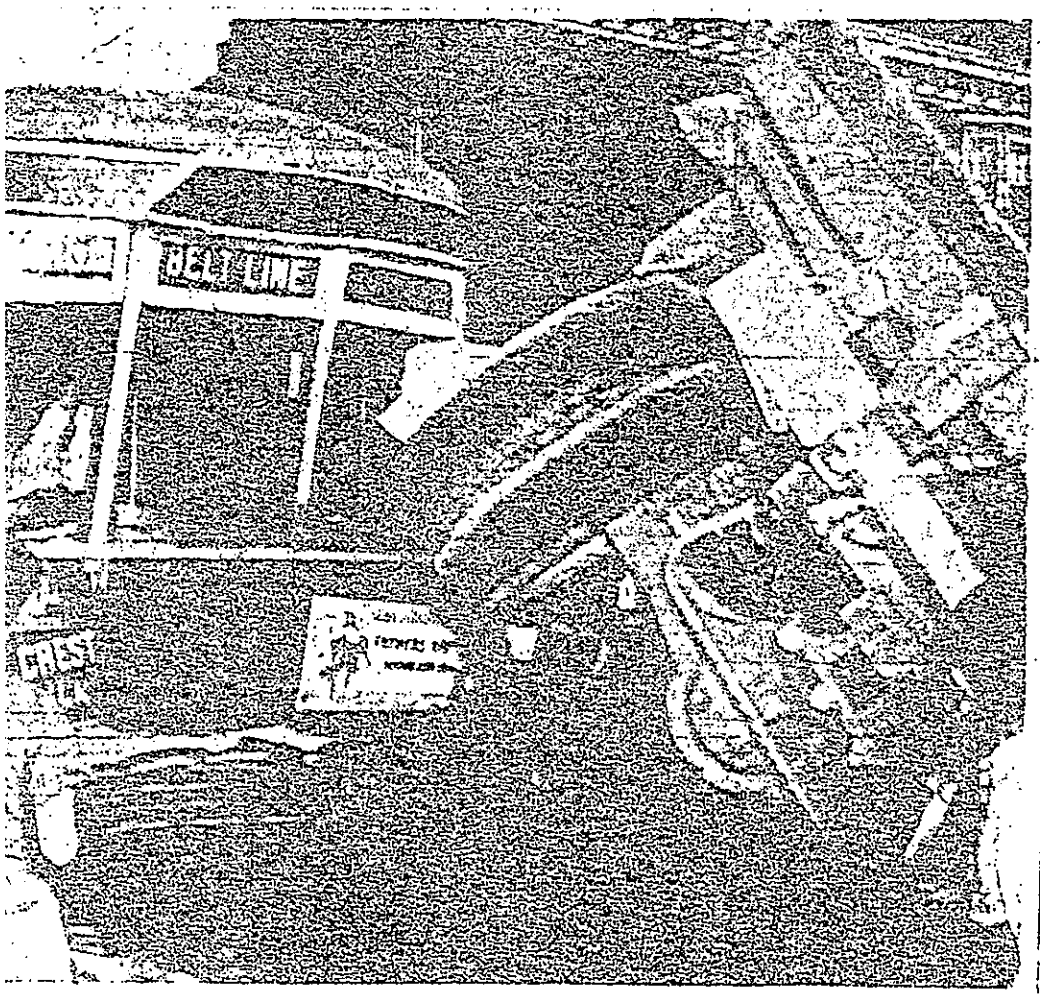


—Globe and Mail.

Trolley-truck collision at John and Barton Sts. in Hamilton tied up belt line traffic for half an hour yesterday. Two persons suffered minor cuts and several were shaken up. Constable at top gestures to onlookers to stand back; below is a general view of scene. Truck was carrying 7 tons of fertilizer.

TORONTO GLOBE

MAY 18 1949



'CK CRASH HALTS TRAFFIC—East and west-bound traffic on at John Street was tied up for an hour, last evening, after a street heavy truck carrying seven tons of chemical fertilizer. Bags of the red over the intersection. The photograph shows how the truck was Two persons were injured and several shaken up.

Tram-Truck Crash Sees Two Injured

Scores Of Passengers Shaken Up In Smash

Two persons were injured slightly and scores of others were badly shaken up last evening when a Belt Line street car collided with a truck loaded with seven tons of fertilizer at the corner of Barton and John Streets.

The truck was turned over on its side and bags of fertilizer were scattered in all directions. The driver escaped injury.

The injured included Samuel Wong, of Toronto, a passenger in the tram, who sustained a laceration on his right arm which required six stitches to close, and Andrew Gibson, 25 Beland Avenue, operator of the street car who escaped with a cut right hand. Damage to the tram amounted to about $80 police reported.

Truck Had Stopped

Constables David Booker and Peter Provan, who investigated the accident, reported that shortly after 6 o'clock a truck driven by Cornelis Nos, RR. No. 1 Ancaster, was proceeding south on John Street loaded with seven tons of fertilizer. Upon reaching Barton Street the truck stopped but the driver seeing a crowd of people off the curb presumably to board an approaching Belt Line car started to move forward again.

The tram, according to the police, was carrying a full load of passengers, and the operator did not intend to stop as another Belt Line car was coming behind the street car but the truck almost in the middle and the latter vehicle tipped over on its side scattering bags of fertilizer about the tracks and roadway.

The street car operator put the car into reverse in an effort to avoid the contact.

The truck blocked both east and west-bound tracks and traffic was practically at a standstill for almost an hour. Several hundred people gathered at the corner soon after the crash.

MAY 18
1949
Hamilton Spectator

Six Injured When Tram Hit By Train

June 26

H.S.R. Street Car Forced Off Tracks

A collision between an east-bound Burlington street car and a freight train just east of Ottawa Street sent six persons to Hamilton General Hospital late Saturday afternoon suffering minor injuries.

Injured were:

Reginald Carter, 28, of 55 Picton Street West, operator of the street car, abrasions to the left hand and face.

Mrs. Edna Scott, 19, of 249 Kenilworth Street North, possible fracture of the left elbow.

Charles Bendell, 34, of 3 Stirton Avenue, apt. three, abrasions to the left hip.

Mrs. Mary Scott, 56, 30 Manchester Street injured right wrist and left ankle.

Mrs. C. Hodges, 25, of 22 McAnulty Boulevard, lacerations to face.

James A. Dysart, 28, of 65 Ipswich Road, injuries to the left leg and wrist.

Rips Car Side

The train was shunting scrap into the Dominion Foundries and Steel Company yards when the mishap occurred at a spur crossing the H.S.R. tracks east of Ottawa Street. The front of the train ripped into the street car's side, driving the trolley off the tracks.

Reginald Carter, operator of the street car, told police that he misunderstood Yardmaster Fred Rolland's signal to stop. Although the semaphore signal at the crossing indicated stop, the street car operator said that he mistook the hand signal by the yardmaster as a sign to go ahead.

Said Speeded Up

The street car rolled ahead towards the spur. Mr. Carter told police that he saw the train approaching and applied the brakes. Nothing seemed to happen then, the operator said, and when he saw that a collision was unavoidable, he speeded up so as to miss striking the front of the car where the passengers were.

Engineer Allan Smith received the stop signal from the head-end brake-

(Continued on page 8, column 8)

JUNE 26
1950

SIX HURT WHEN TRAIN RAMS TRAM — Six persons escaped serious injury in the tangled wreckage of this Burlington street car Saturday afternoon after the car had been struck by a freight train east of Ottawa Street. The impact ripped open the side of the car, driving it off the track.

A Special Meeting Held Last Night After Long Discussion It Carried

Terminal Station Project Comes Up and a Big Surprise Is Sprung

The city council last night by a vote of 15 to 4 accepted the recommendation of the joint committee to give the Hamilton, Waterloo and Guelph railway a right of way through Dundurn park. There were two amendments passed. Ald. Eastwood moved, seconded by Ald. Dickson, wanted the report of Engineer Wingate referred back, as they claimed that it was not complete enough and not what the council expected in the way of being comprehensive. They were alone in these contentions and were alone in seeing the feeling of the council after seeing the feeling of the council. Ald. Dickson asked to have it withdrawn. Ald. Macleod and Lewis had an amendment which met with more favor. This was in effect that the question of giving Mr. Patterson a right-of-way through Dundurn park be referred to the vote of the people. They had weighty and lengthy arguments in advance in support of this contention, the chief being that as it was necessary to buy Dundurn by the vote of the people it was equally necessary that the people should have a say in all matters that affected it. Those advocates overlooked the fact, till Ald. Witton reminded them of it, that it was locally necessary that the people should vote on the question of the purchase of Dundurn. The granting of a small strip for a right of way through the park to a railway was a very different matter and Ald. Witton intimated that the aldermen who were anxious to put the question directly to the people were afraid to take the onus on themselves. The amendment of Ald. Macleod and Lewis got seven supporters, but three of these, Ald. Dickson, Nicholson and Clark, flopped over when the vote on the original motion was taken, and Ald. Stewart, Macleod, Church and Lewis were an insignificant minority. Ald. Sullivan and Sweeney were the only members of the council not present. Ald. Lewis took up the time of the council in spite of the pleadings and protestations of many of the aldermen and analyzed, dissected, scrutinized and criticized every portion of Engineer Wingate's report till the aldermen got a bad attack of the fidgets and the back benchers went to sleep.

Other matters disposed of were the granting of the extension asked for by the Hamilton, Ancaster and Brantford railway; the terms of the new assessment of the Hamilton Steel and Iron company; the terminal station by-law, which got as far as the committee of the whole; and unimportant amendments to a debenture by-law.

Prior to the meeting of the council the joint committee of finance and board of works considered the amendments made to the terminal station by-law. A surprise was sprung on the committee by Mayor Biggar who presented a letter he had received in the afternoon from Solicitor Royce, of the Toronto and Hamilton railway, in which that company expressed a wish to assume part of the cost of building a terminal station.

When the joint committee met the application of the Hamilton and Guelph Junction railway for a right of way into the city was presented by Mayor Biggar, who explained the various steps that had led up to the present state of affairs. E. W. J. Grant, for the company, explained that the object of the railway was to serve the factories in the city and particularly those in the eastern portion. The line would be straight and extensively used the traffic would be handled by electric locomotives that would be operated at night or at any time the council might fix. It was decided that the question was too important a one to settle in the short time at the disposal of the committee, and a special meeting will be held on Monday night next to consider the application. The joint committee decided, on Mayor Biggar's motion, to recommend to the council that the Hamilton and Guelph Junction railway hereby respectfully makes application for permission to construct and operate by electric power within the city limits a straight track, upon the following terms and conditions, viz.: [illegible] Mr. Patterson's application for a right of way through the park, the proposed [illegible] Mr. Royce, on behalf of the Toronto and Hamilton railway, wrote the mayor that the company would be willing to assume part of the cost of building a terminal station, provided the city would make the repairs with the material supplied by the city. Col. Gibson, however, promised that on King street from the station to Hanford avenue the company would put vitrified brick between the tracks, provided the city would lay Trinidad asphalt on the other portion of the street. After a number of points had been argued between the aldermen and the officials of the company, Mayor Biggar interpolated the remark that in consultation with Mr. Royce that afternoon the solicitor of the Nicholls railways had expressed a desire to participate in any arrangement the city might make with the terminal station people. Mayor Biggar produced the letter which had been written by Mr. Royce, Col. Gibson, which I believe they mean business, but not just yet. I have never heard anything of this proposition till now. My company has never been approached by them, and I think it would be unfair to block our project at this stage on account of this letter. They have known for months that we have been contemplating building this terminal system and they had plenty of time to come to us and enter into some arrangement, but they never have.

The clause in the by-law which gave the city certain rights to dictate the terms on which other roads should have rights on the radial tracks was fought by Col. Gibson, who objected to the Toronto & Hamilton, or any other road getting dominant rights over the radial lines into the city of Hamilton. This he considered would be manifestly unfair.

CLAUSE STRUCK OUT.

Col. Gibson urged to have the clause struck out, but as there seemed a doubt as to whether the Ontario railway and municipal board had the power to deal with a company operating under a Dominion charter, the mayor suggested that a rider be added that the company agree to let the board settle the terms of an arrangement with any such company in any event. Col. Gibson would not agree to this. He thought it was playing too much in the hands of the Toronto & Hamilton railway. "I promise that if this clause is struck out, and they come to us we will be reasonable and make a fair arrangement with them. When this matter was mentioned to the Nicholls people a few months ago they replied that the radial was not the sort of road they would want to enter Hamilton by. It was agreed that the clause should be struck out entirely, the committee deciding that it would be better to take chances with either the Ontario or the Dominion acts.

However, was unthinkable and it was only after his bosom friends the chairman of the fire and water committee, kicked up a fuss about the board of works trying to get so much money, when the fire and water committee had been promised an increased revenue in the vote to giving an increase to the firemen, that he backed up and agreed to take his share with the others.

JOINT COMMITTEE REPORT

The report of the joint committee was next considered. It was as follows:

"The joint committee of finance and board of works appointed to deal with the right of way of the Hamilton, Waterloo and Guelph railway through Dundurn park beg to present the following report:

"As E. D. Wingate, the special engineer appointed to report on feasible entrances into the city for the proposed Hamilton, Waterloo & Guelph railway has reported his inability to discover such a route outside the bounds of Dundurn park, your committee recommend that the right of way through Dundurn park be granted to the said Hamilton, Waterloo and Guelph railway company subject to such route, terms and conditions as may be incorporated in a by-law to be approved of by this council."

Aldermen Dickson and Eastwood moved that the engineer's report be referred back for further consideration.

Mayor Biggar said he could not see what purpose this would serve, as Mr. Wingate had admitted his inability to discover any other route than through Dundurn park.

Ald. Dickson replied that the minutes of the council stated that Mr. Wingate was engaged to find a route through the city. Instead of this he had merely surveyed routes from Desjardins canal to a point east of the park, and of necessity these routes must go through Dundurn. That was not the intention of the council in appointing an engineer.

Mayor Biggar replied that his objection was more that of a lawyer than an alderman.

Ald. Stewart thought the question should be faced. He was not in favor of going back again to the engineer. He was opposed to giving a road going through Dundurn park.

Ald. Macleod and Lewis moved the amendment to the amendment that the question of granting a right of way through Dundurn park be referred to the vote of the people.

Ald. Eastwood, latterly, he laughed, but thought the ratepayers should be given a chance to decide.

Ald. Eastwood was sure all the aldermen favored everything that stood for the preservation and improvement of the city and they desired to help Mr. Patterson. At the same time, the council should get what it ordered, and when Mr. Wingate was instructed to bring in a complete report the council should not be satisfied to accept what Mr. Wingate admitted was not a full statement. Ald. Eastwood believed, however, that the aldermen as trustees of the people should settle the question, as it would not help them in the eyes of the ratepayers to shirk the vote. He had been accused of shirking the vote the other night, but his reason for not voting was that he was not satisfied with the report, as it was not what the council ordered.

Ald. Church strongly favored the question being submitted to the ratepayers. They had bought the park at the voice of the people and was sure the ratepayers would not accept $300,000 for the bargain to-day.

Ald. Witton put in a strong plea for the railway and pointed out the great advantages that must accrue to the city by reason of the territory for business that would be opened up. Hamilton was on the tide of prosperity and every advantage should be taken of it. He would not say the railway would not injure the park, but it was rubbish for certain of the parks board to say that the park would be ruined if the railway went through it. Ald. Witton was satisfied that a route could be picked out through Dundurn that would hurt the park only in the slightest degree. He strongly deprecated the idea of the aldermen sharing the responsibility on the people. The aldermen were the directors of the company in which the ratepayers were the shareholders, and they should act on their own responsibility and stand by their actions. It was cowardly to throw such a question back at the people, and showed a disposition of being afraid to face an important question. He for one would think he was acting in the best interests of the citizens by supporting the recommendation of the joint committee. "I am voting for the citizens when I am voting for the Patterson railway to go through the park," said he.

Ald. Allen also was a staunch advocate for the railway. He indulged in a little retrospect and said it was not so long ago that the city would have held out both hands for a grindstone if it resembled a small industry in any way. The city in the past had spent hundreds of thousands of dollars in getting railways, and he could not understand why there was so much opposition to the Patterson railway, which was merely asking for a right of way through the city. He was prepared to vote on the question at once.

He was Ald. Wright, who said he had the assurance that 300 business men of the city, employing 25,000 hands, wanted the railway. This was enough to decide him on the course he should take.

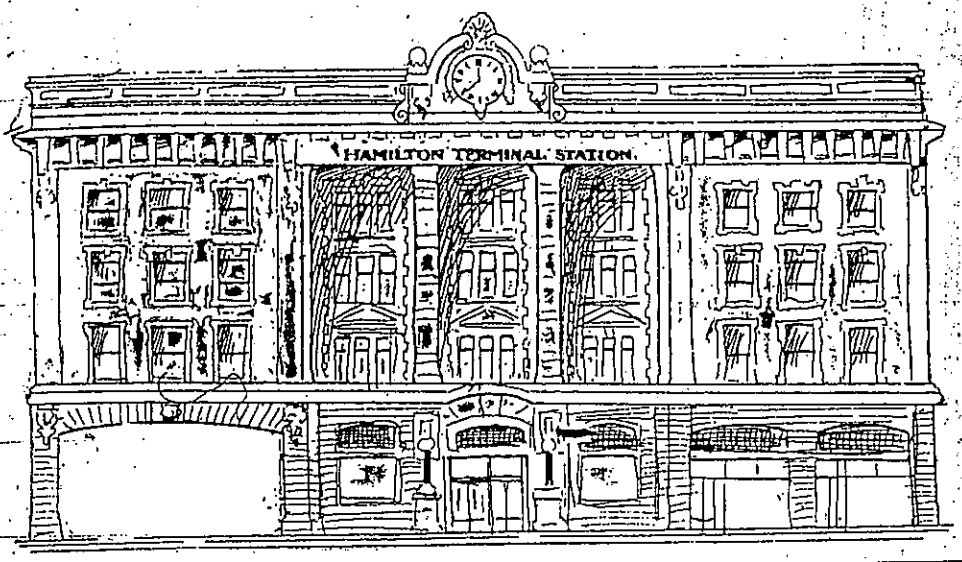
Ald. Martin agreed with Ald. Wright and was prepared to vote at once.

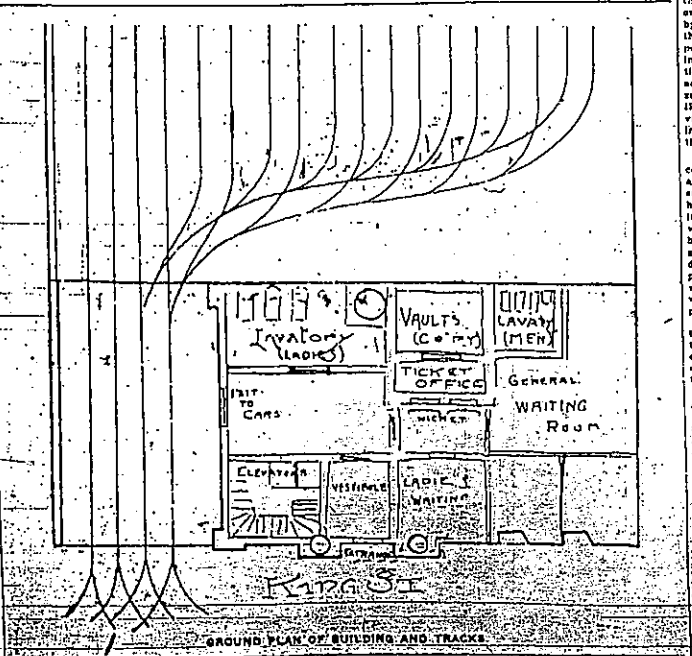
Ald. Wallace said that busybodies and meddlers had prevented the city from having the road seven years ago and Mr. Patterson was thought not to be serious then when he said there was not other way for the railway than through Dundurn. It was a striking fact that no one had found a better route and now Mr. Patterson was before the council with the same proposition and Ald. Wallace hoped the same error would not be made. He was prepared to hold up both hands for the railway.

Ald. Stewart said he would support the amendment. He did not believe that Mr. Patterson could not find a better route. He also thought Mr. Patterson was bluffing when he said he would drop the enterprise if the park route was not granted.

Ald. Clark wanted the railway but did not like to see Dundurn park cut up.

Replying to Ald. Eastwood, Mayor Biggar said that while it would have to be admitted there were better engineers than Mr. Wingate, yet he had every confidence in that gentleman. Other capable men had endorsed the E. D. Wingate was selected to accept it. The worship was strongly in favor of the road, had urged the council to pass the by-law granting the right of way. Hamilton had to have railways that had to be a solid development than as was determined by any other city in Canada. If the question was put [illegible]





GROUND PLAN OF BUILDING AND TRACKS.

July 13

THE HAMILTON TERMINAL CO.'S STATION, HAMILTON, ONT.

SCORES ESCAPE INJURY IN UNUSUAL COLLISION

(Continued from Page 1)

tangled with the undercarriage of the radial; the car proper was resting practically on its side and held suspended part in the air by a concrete Hydro standard against which it had struck. The standard also kept the car from crushing the jitney to the pavement. Shattered fragments of all three cars littered the intersection.

CONSIDERABLE DAMAGE

All three cars suffered considerable damage, but the street car most of all. Windows in it were shattered, the front vestibule wrecked, and the under-carriage damaged to a great extent. The Ford was almost completely wrecked, the weight of the street car crushing the front end almost flat, and breaking both front wheels. Several windows in the radial were torn out, and the body of the car was splintered and torn.

SHOWED GREAT COURAGE

Although in great danger of his life, Frank Taylor, motorman, stuck to his post until the crash came when he was hurtled against the closed door of the vestibule. He made his escape unassisted. Speaking to a Spectator reporter immediately after the crash occurred, Mr. Taylor said: "When I was approaching the crossing I applied the air to slow down for the crossing. We are compelled to stop there and wait to be flagged across. I saw Sergeant Clark's stop signal and when within 10 feet of the crossing and traveling slowly, I attempted to stop altogether. The wheels immediately locked with the air pressure, and I knew then that it was going to be close. My foot automatically reached for the sand projector, and I reversed the motor as far as possible. But the wheels would not take hold on the greasy rails, and the next thing I knew, we crashed, and I was thrown against the vestibule door. I reached over and shut off the power completely, so the car would not be "alive," and turned off the air, then I got out."

Mr. Taylor also suffered considerably from shock, but his courage in sticking to his car undoubtedly lessened the force of the collision, and probably saved serious injury to his passengers and those on the radial. The conductor, Mr. Tulley, was making ready to get off and flag the car across when the crash came. He was badly shaken up, and it was found necessary to take him to the general hospital in the police ambulance.

then towed to the barns. The radial was able to proceed.

JUNE 15,

CARS COLLIDED

Accident on the Radial Railway at Irondale Last Night

There was a collision on the Radial railway last evening. The 6:05 car, one of the new ones, had proceeded to Irondale, where several cars were standing on the switch. When left there, they were clear of the main track, but in the meantime an engine had shunted them near the line. The motorman on the car, thinking they were clear, did not stop until he saw the danger. He applied the brake as quickly as he could, but the moving car was not stopped in time. The vestibule struck one of the cars and caused quite a split in the woodwork. No person was injured, although the passengers were frightened. The car proceeded on its way, and traffic was not delayed.

August 24

Six Injured

(Continued from page 7)

man on the shunting train and threw the engine into the emergency stop. But not before the front of the heavily-laden scrap car drove into the side of the trolley, spilling it off the tracks.

Mrs. Mary Scott, a passenger in the street car, said that she saw the train coming and tried to cry out, but seemed to lose her voice.

Constables Thomas O'Connell and Leonard Wheeler responded to the call and quickly dispatched the injured persons to the General Hospital where they were given emergency treatment.

The Canadian Engineer

A weekly paper for Canadian civil engineers and contractors

KENILWORTH AVENUE SUBWAY, HAMILTON

A DESCRIPTION OF TYPICAL CITY GRADE SEPARATION WORK—NOTES ON WATERPROOFING — OVERCOMING OF FALSEWORK TROUBLE.

Aug 16 1916

By KENNETH CAMERON.

THE gradual extension of the city of Hamilton and the more immediate need of the Street Railway Company to lay tracks on Kenilworth Avenue, necessitated the construction of a subway under the Grand Trunk Railway tracks at the point of their intersection with the street. This section of the railway is the double-track main line from Hamilton to Niagara Falls and Buffalo, over which there are a large number of movements—both passenger and freight—all the year round. Although the ordinary vehicular traffic is at present light, the street being the easterly city limit, yet a grade crossing of the electric line was considered inadvisable, and it was decided to construct a subway under the railway tracks, no change of grade of the latter being made.

When the work was first proposed a preliminary survey and general layout were made by the city engineer's staff, the latter dealing more particularly with the street arrangements, clearances, etc. After approval, detail plans according to this layout were prepared at the office of the chief engineer of the railway. The crossing is practically square (89° 27′); the approaches have 4 per cent. grades with plain concrete retaining walls, having a clear width of 50 feet between them. The bridge proper consists of a ballasted I-beam floor, carried on plain concrete abutments and a centre steel bent on concrete footings. The superstructure is built for four tracks, there being two crossing at present, and four up to a point within about half a mile of the subway; and to take care of any future requirements all columns and footings of the centre bent are alike, so that the outside ones can carry double load if additional tracks are added on either side. The floor is carried on 24-inch I-beams, spaced 2 ft. 0 in. centre to centre and parallel to the tracks. These are filled solid with concrete except for a "V" cut between bottom flanges. The general arrangement of these details is shown in Fig. 1, which also shows the columns and footings. One feature perhaps worth noting is that the girders carrying the I-beams are of unusual depth—with, of course, proportionate section—so that no further bracing of the columns is needed. The whole showing surface of the steel was given a finishing coat of grey paint to conform to the concrete work.

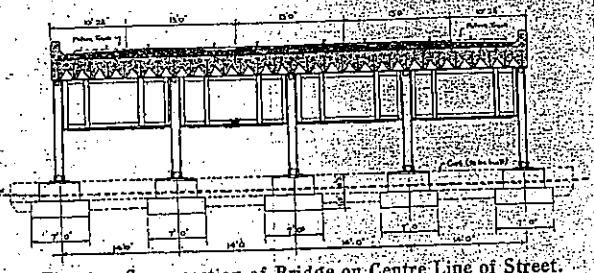


Fig. 1.—Cross-section of Bridge on Centre Line of Street.

From previous information it was anticipated that the main portion of the excavation would be in medium clay with soft shale near the finished road surface, and it was at first thought that some actual economy might be made by the use of raised sidewalks and correspondingly smaller depth of abutment footings. A comparison, however, seemed to indicate that costs would run about equal, but owing to the difficulty of getting good drainage, it was decided to adopt the raised sidewalks. The section of abutments as finally built is shown in Fig. 2, which also shows the arrangement of the sidewalk, retaining wall

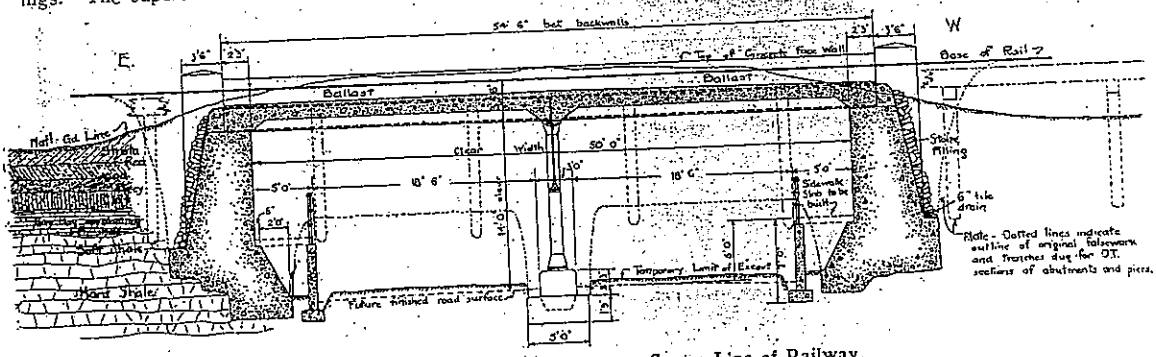


Fig. 2.—Cross-section of Bridge on Centre Line of Railway.

AUGUST 16
1916

and slab. The surface of the latter is 5 feet above the crown of road and runs into the grade of the road, therefore, at points 125 feet from the sides of the superstructure. (See Fig. 5.) In general, the retaining wall sections are similar to the abutments, proportionate

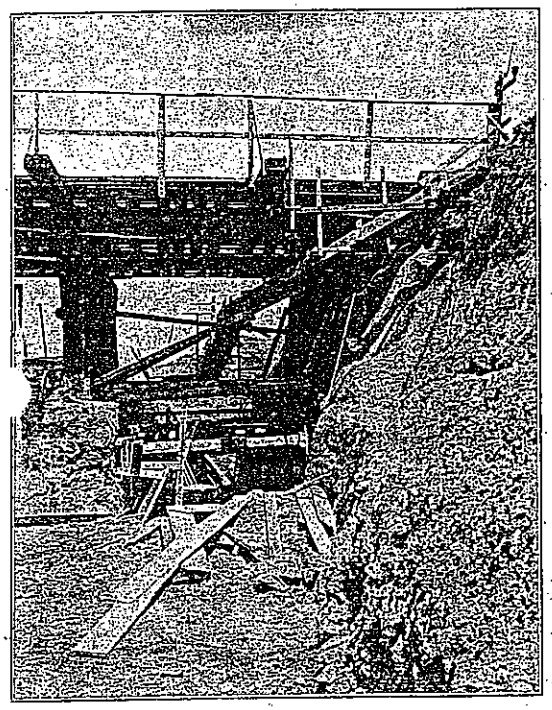


Fig. 3.—Trench for Double-track Section of East Abutment.

allowance being made for absence of superstructure and live loadings. Footings are stepped up at intervals along the grade, and expansion joints provided at 25-foot intervals.

The expansion joint, though very necessary, is often a source of much trouble, particularly through disfigurement by seepage of drainage water. In the spring season, especially, walls are frequently rendered very unsightly by seepage discolorations spreading out from the joints, and this notwithstanding the provision of weeping pipes. To prevent this, each joint was doubly waterproofed, as shown in Fig. 7. The 25-foot sections of wall were poured alternately, strips of felt (similar to that used in waterproofing the bridge floor, see below) being set in as required, and later bent to their final position when the intervening sections were poured. When the whole was set and the forms removed the backs of all walls were painted from top of wall to top of footing with the following mixture: 3 parts of kerosene oil with 4 parts of Portland cement and 16 parts of refined coal tar. Over the back of each expansion joint a strip of felt about 2 feet wide was placed with an additional coat of coal tar pitch on top. When backfilling, a layer of rubble stone about 9 inches thick at top of wall to 18 inches thick at top of footing was placed behind the walls. At the base of this stone a tile drain (6 inches diameter at centre, 4 inches at ends of walls) was laid to carry drainage water to the weeping pipes, of which there is one to every 25-foot section of wall. Although only one winter and spring has passed since the completion of this work, the conditions then were unusually severe, but so far no sign of seepage has shown at any of the joints. Although perhaps seemingly elaborate, the cost of this work was but a small item of the total, the obtaining of watertight joints being justification for the additional work.

By arrangement between the city and the railway it was agreed that the rough excavation for the road cut and retaining walls should be done by the city, who would also undertake the permanent drainage arrangements and the street and sidewalk paving. The railway company was to take care of falsework, complete the foundation excavation, do all other concrete work, and erect and complete the superstructure.

Pile-driving for falsework commenced on May 28th and at once indicated that shale would be met with higher than anticipated, only 12 feet of penetration below base of rail being obtainable. The depth of excavation required from base of rail to foundations was approximately 20 feet, so that unless some other plan were adopted it would be necessary to underpin the pile bents as the excavation proceeded—a tedious and expensive operation considering the security demanded by the heavy railway traffic. Instead of doing this, it was decided to carry on the excavation as far as possible, and then dig out trenches to take lengths of abutments and centre column footing sufficient to accommodate the existing two tracks, and complete the

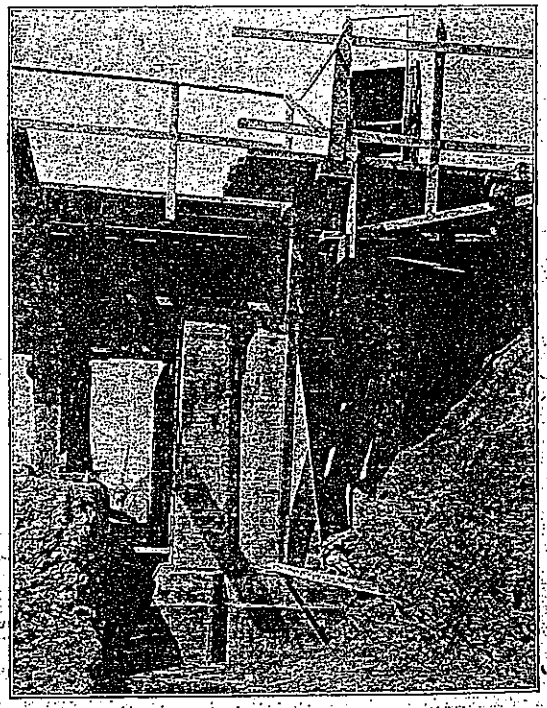


Fig. 4.—Double-track Section of East Abutment Complete.

concrete work of this portion. This is indicated in dotted lines in Fig. 2, which shows the relative positions of the concrete work and the original pile bents, and the lines of trench excavation. This arrangement was carried out

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(see Figs. 3, 4 and 5), a heavy temporary timber centre bent was erected (the steel columns not being then ready), the old falsework removed and the steel I-beams erected. Fig. 5 shows the conditions when the east section of the abutment was completed and work started on the west, old pile bents not yet removed. Fig. 8 shows both abutment sections and footings completed, the temporary centre bent erected, the old falsework removed and the I-beams in place. Note the camber to the beams to allow of sliding in the steel columns later on. The main operation, breaking track, removal of falsework, erection of beams, and relaying of track, was completed for each track in less than one working day, traffic being maintained over the alternate line without hindrance. When the operation was complete, therefore, the five spans of the original falsework were replaced by two clear spans, which much facilitated the subsequent substructure work and excavation.

The latter, which, as before mentioned, was undertaken by the city, was commenced as soon as the falsework piling was driven and stringers placed. It was done by hand labor, the material removed by two-yard bottom dump wagons and teams, and wasted, where required, on neighboring property. Fig. 2 shows roughly the class of material encountered. At first it was loosened by plough, but when about 10 feet below base of rail the plough had little effect and small blasts were necessary. It was at this time that the trenches for abutments and centre footing were taken out, and once these sections were completed and the falsework removed (all of which was done in very short time) the excavation and teaming were much facilitated. In fact, it was figured that the gain thus obtained kept the extra cost of the falsework to much less than it would have been if underpinned, and the total cost of the excavation, after crediting the sale of the wasted material, only exceeded by 2½ cents the original estimate of 70 cents per cubic yard on a total of over 12,000 cubic yards.

From this point downward the material gradually changed from a hard grey clay to soft shale and hard shale, so that for the deeper parts of the cut and foundation work, blasting was necessary throughout. The railway forces had very little material to remove, therefore, before obtaining firm, sound rock bottom for their concrete work.

Heavy rains at this period several times flooded the cut, necessitating considerable pumping, and it was the fact that the cut appeared to be a centre for the surface drainage of the immediate neighborhood that caused the engineers to take the precautions above mentioned for waterproofing the walls.

The concrete work was continued uninterruptedly, each abutment being extended in turn to four-track width, and the retaining walls then completed in succession. Fig. 9 shows the southeast wall when completed. In regard to the concreting, it may be noted that a 1 cubic yard steam mixer, mounted complete on a car, was used, being placed on a siding extended for that purpose. An elevator tower belonging to the plant was erected, it being intended to chute the concrete for the walls, but owing to the temporary difficulty of obtaining metal chutes, hand buggies were used, these being eventually retained throughout.

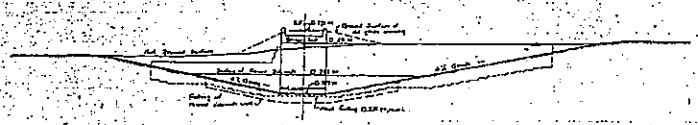

Fig. 5.—Profile of Work.

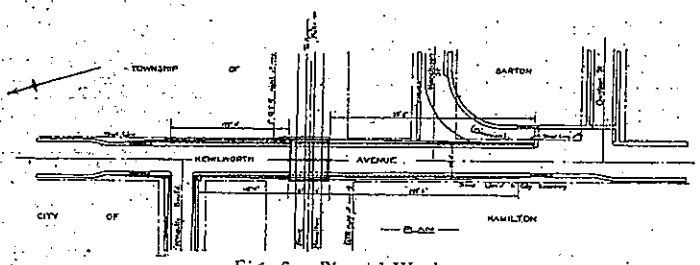

Fig. 6.—Plan of Work.

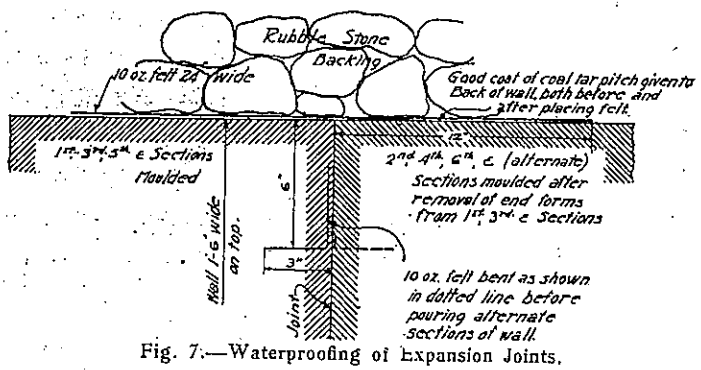

Fig. 7.—Waterproofing of Expansion Joints.

The cost of the concrete work as a whole was low. Accurate records of all costs were kept and in the final analysis to obtain unit costs, all possible charges were included. The average cost of some 1,530 cubic yards of concrete in the substructure was about $6.50 per cubic yard. This includes not only the bare material and labor of mixing and placing, but also the building and removal of forms, surface finishing and waterproofing of the joints.

In the same way the average cost of the superstructure concrete (about 200 cubic yards) ran slightly under $9.80 per cubic yard. These low unit costs were, in part, due to small freight charges (the material supply sources being close at hand), but mainly to the economical handling of the work generally.

As soon as the balance of the superstructure steel arrived, it was erected, and when riveted up, the solid concrete floor was poured. One track was completed at a time, the other track being gauntletted to maintain traffic. When the concrete had set, the surface was waterproofed with four plies of 10-ounce felt with a centre ply of burlap, each layer being well swabbed with hot coal tar pitch before laying the next. Between felt and concrete was placed a layer of rosin paper to keep a free

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joint, and the same was repeated on top of the last layer. The whole was then covered with a 2-inch protective coat of cement mortar, reinforced with wire mesh, and graded to the ends for drainage. Stone ballast (2½-inch) was

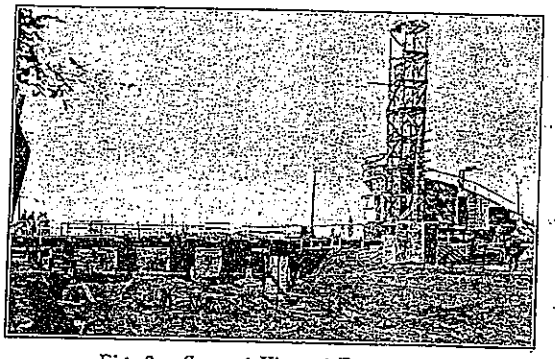

Fig. 8.—General View of Excavation.

specified to cover the entire floor, and the backfill behind the abutments is of cinders. The waterproofing is carried up the side parapets above base of rail, and down over the ends to a point well below the bridge seat, at which level a 4-inch tile drain is laid. The ties and rails were

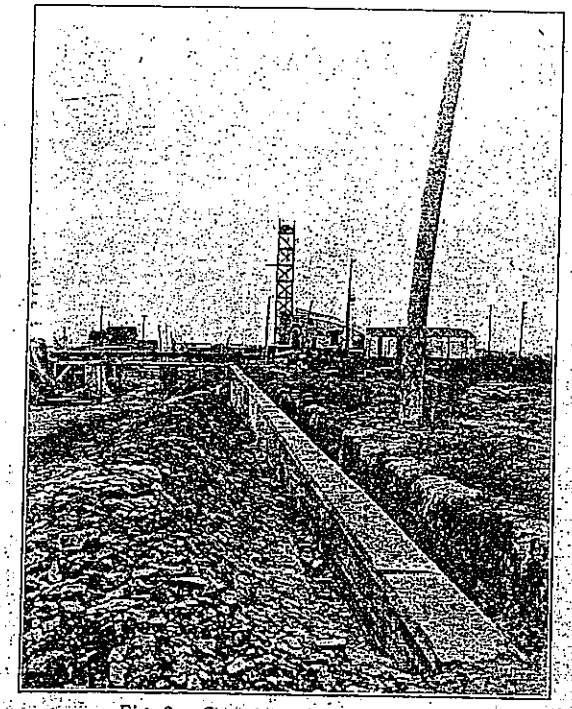

Fig. 9.—Completed Southeast Wall.

then relaid over the completed half, the ties being supported on timbers until ballasting was done. The other track was then gauntletted and work carried out on the other half similarly. Fig. 10 shows the conditions when the waterproofing was complete and ballasting in progress.

The rapidity with which this waterproofing was completed resulted in an unusually small labor charge, and a correspondingly small unit cost. Including a due share of the construction and operation of the gauntlet tracks (which was divided between this and the superstructure concrete work), the unit cost over some 3,500 square feet of bridge floor was about 15 cents per square foot.

After the completion of the bridge floor and retaining walls, the sidewalk retaining walls were poured, these being completed about the middle of October. The erection of the hand-rail completed those parts of the work to be done by the railway forces.

In regard to this hand-rail it may be of interest to note that the standards were of cast iron with flanged bases, and cast holes to receive the 2-inch railing pipes. Six-inch by ½-inch bolts were set in the tops of the walls when these were poured, to receive the flanged bases,

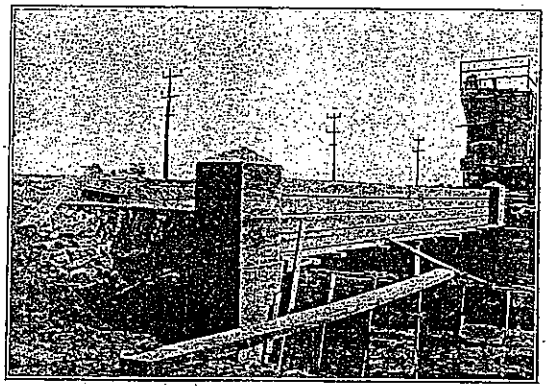

Fig. 10.—Southwest Corner of Bridge, Showing Waterproofing.

which has then only to be screwed down. The pipe railing was threaded through the holes and the ends connected up, there being practically no cutting or threading to be done. The cost of materials being fairly small, and that of erection comparatively negligible, resulted in an unusually cheap hand-rail, some 800 lineal feet being erected at slightly over 60 cents per lineal foot.

The construction of the drainage sewer was commenced by the city before the winter but the remainder of the work—that is, the road paving and sidewalk work, and laying of the street railway tracks, was deferred to the following season.

This work was carried out under the direction of Mr. H. R. Safford, chief engineer; Mr. R. Armour, masonry engineer; and Mr. H. B. Stuart, structural engineer, for the railway; and Mr. A. F. Macallum, city engineer, and Mr. E. R. Gray, deputy city engineer, for the city.

During the first half-year of 1915, sixteen building permits were taken out at Saskatoon, Sask., the total value of the improvements being $79,070, showing an increase over the corresponding half-year of 1915 of over $70,000.

The lightest-section arch-dam in the world is the Medlow dam, on Adams Creek, in the Blue Mountains of New South Wales. The structure is of concrete and is 65 ft. high from the foundation to the top of the parapet. The up-stream face is vertical. The wall is 8.96 ft. thick at the base, tapering on the down-stream face to 3.5 ft. thick at a height of 29 ft., keeping that width to the top water level and finishing with a parapet wall 1 ft. thick for the remaining 3 ft. of height.

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The Transit Service in Hamilton

The Hamilton Street Ry. Co. is the provider of public transportation in the busy industrial city of Hamilton; electric railway cars retain major importance in providing the service, but many feeder buses are employed. Maintenance facilities are marked by compactness with consequent economy.

WITH the Canadian Transit Associa-n's annual meeting being held in milton, Ont., early in June this year, ention is naturally directed to the nsit service in that city, and, carrying our custom of many preceding years, present a description of the transit perty providing the service, so that egates to the meeting may secure or knowledge of the operations with ch they will come into intimate con-t.

'he Hamilton Street Ry. Co. property owned by the Hydro-Electric Power nmission of Ontario, an Ontario Gov-ment body, by which it was acquired e years ago as an incidental to the chase of the properties of the former nion Power and Transmission Co.

Franchise Agreement with City

ne of the first things which a transit istry man visiting a city wishes to w is the nature of the franchise eement under which the transit ser-in such city is performed. In Hamil-the agreement is in the nature of erpetual one varied by the fact that every five years, (for example, , 1938, 1943, 1948, etc.) the city is tled to acquire the property, upon ng one year's prior notice; the ilation is that in the event of the wishing to acquire the property, its e for the purpose of such acquisition be determined by arbitration pro-ings. To date, while there have intermittent discussions within and out the city council as to the advisa-of acquisition of the property by ity and consequent municipal owner-and operation, no definite move for isition by the city has been made.

feature of the franchise agreement at the company is obligated to pay e city, in addition to the ordinary paid on assessed value, a tax equal % of its gross earnings.

concerns the arrangements between ompany and the city for the main-ice of the track allowance, the rule at whenever any track allowance is to be done, the company pays abor cost and the city supplies the rials. This, of course, applied to ndertakings in the way of street vements, including general re-sur-; if it is necessary for the company ar up any of the street within the allowance for its own purposes, it restore the affected area entirely own cost.

regard to the snow removal, the any pays the entire cost of sweep-now from its tracks, viz., from the allowance to that portion of the

Electric Railway Operation

Routes—The company has 27.97 route miles of electric railway, constituted by the following routes:—

Route	Mileage
Belt	7.82
Burlington-James South	7.60
Westdale	4.28
Aberdeen-King West	4.01
Wentworth	1.65
Crosstown	1.68
Incline	0.93

George E. Waller,
Manager, Hamilton Street Ry. Co.

On the Belt Line route a very frequent service is given, the cars being operated on 5-minute headway on week days from 6.10 a.m. to 7.45 p.m. From 7.45 p.m. to 11.20 p.m., this headway is widened out to six minutes, and from 11.20 a.m. to 11.50 p.m. to ten minutes.

The present single track mileage of the electric railway system is 42.62.

Track Structure—The Hamilton Street Ry. Co. has long concentrated on the use of steel ties in its track, all of the mileage being laid with Twin steel ties set in 9 in. of concrete. The standard rail is the 104 lb. grooved girder type, supplied in 60 ft. lengths. The track is built with tie rods at 6 ft. intervals, and all joints are Thermit welded. The track allowance is surfaced with brick and asphalt, principally the former. There is only about one mile of open track in the whole electric railway system, the balance being all of permanent construction in paving.

The Electric Railway Cars

by National Steel Car Corporation, Hamilton, and have the following chief dimensions:—

Length over anti-climbers	40 ft. 11 in.
Length over body	39 ft. 11 in.
Width over all	8 ft. 3¼ in.
Width inside	7 ft. 8 in.
Height, base of rail to top of roof	10 ft. 9¾ in.
Distance between truck centers	18 ft. 2 in.

Light weight of the car is approximately 34,000 lb., and seating capacity is 49.

The underframes are built up of structural shapes and plates, with ball-bearing center plates, and rolled steel anti-climber sections are applied at both ends of the underframe. The members are braced diagonally. The superstructure includes steel frame with pressed steel posts and steel girder plates forming the inside side finish on the car, and also the load carrying section of the side. The outside sheathing below the windows is of ¼ in. Plymetl, and the letter-boards are of aluminum. The roof, of single arch type, has steel carlines, and is formed of 5/16 in. Haskelite, covered with no. 8 canvas duck, laid in elastic roof composition. The ceiling is 3/16 in. Haskelite, and the ceiling moulding and side finish are in birch, finished to resemble cherry. The stanchions and fittings are of aluminum. The floor is in two layers, with tar paper between and with wood slats applied on top in the aisle. The lower floor is laid diagonally and the upper longitudinally. The seats are upholstered in Spanish leather, with spring cushions and backs. As regards lighting, the cars have six center fixtures in the body, a light on the front vestibule ceiling, one for the front steps and one for the rear steps. All cars have front entrance and rear exit, and all are equipped with treadle-operated exit doors.

The body lights are wired through a selector switch, so that one or more lamps may be cut out. The body has 22 Consolidated electric heaters, each of 480-watt capacity, located under the seats. These are thermostatically controlled. In addition, there is a 1200-watt heater in the vestibule, with separate switch control. The trucks, with 5 ft. 4 in. wheelbase, are fitted with 3¾ x 7 in. axles, A.A.R. standard journal bearings and wedges, and rolled steel wheels 26 in. in diameter. The motors are inside hung.

The cars are equipped with four 35 h.p.-510-A-2 Westinghouse motors, with K-35-X control, and with Westinghouse 10 x 12 in. cylinder air brake complete with compressor and emergency valve.

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Further Details re Hamilton Street Ry. Shops

In the article in Canadian Transportation for June, beginning on pg. 303, and descriptive of the transit system in Hamilton, Ont., it was necessary, unfortunately, on account of lack of space, to omit a portion of the matter relating to the Hamilton Street Ry. Co. shops, which, as pointed out, concentrate in the one area all of the electric railway car and motor bus maintenance facilities of the company. A plan, showing the layout of the shops, accompanied our June issue article. As was pointed out, the car shop and bus garage building is 384½ ft. long and 250 ft. wide at the widest part and 157 ft. wide at the narrowest part, the area covered being 85,600 sq. ft., or 1.96 acres. The portion of the shop description which had to be omitted is as in the following.

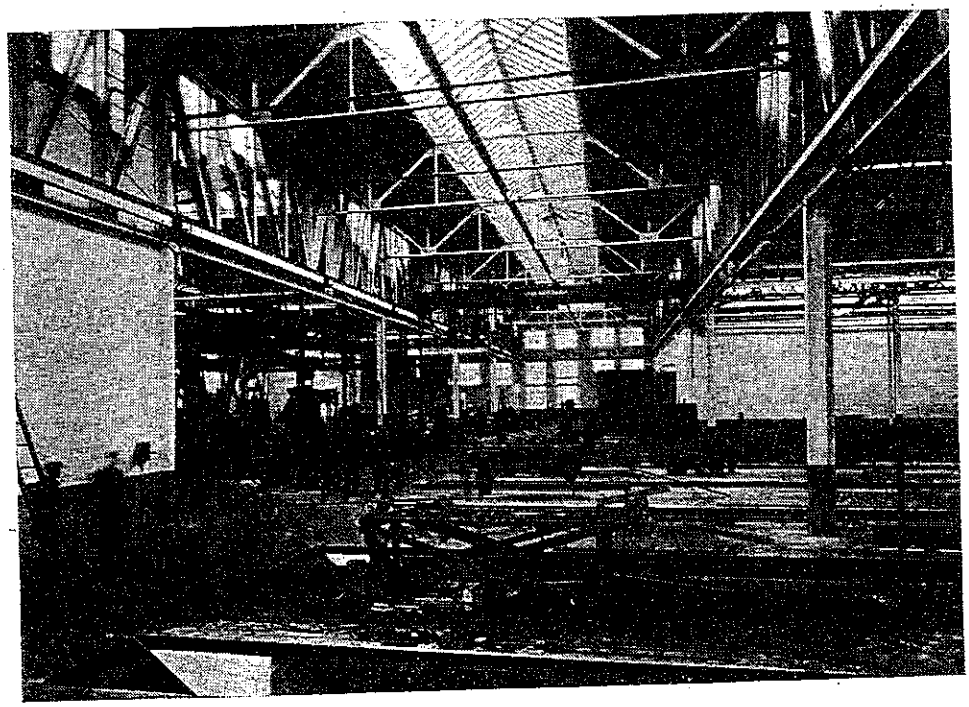
The general stores space is to the east of the office space and is separated from the machine shop by a high fence of heavy steel mesh. The store is served by a 5-ton overhead crane, with runway extending out into the machine shop. Wood block floor is provided in the stores space.

The machine shop and armature repair shop, east of the general stores space and at the south side of the building, occupy, with the pit area, 19,750 sq. ft. of space, and the equipment includes wheel lathe, wheel press, lathes, shapers, drills, bolt cutters, cylinder grinder and all other machines necessary for complete car overhaul. The 5-ton crane mentioned above extends clear across the machine shop to the extreme east side of the building, in addition to which a monorail, with 2-ton electric hoists, is installed, together with a jib crane. The armature shop is at the extreme south side. The Brantford bake oven, set on special Nonpareil composition flooring, is fitted with General Electric heating equipment.

The forge shop is at the southeast corner of the building, and a track extends into it from the transfer table runway. The equipment includes four Canadian Blower and Forge Co. down draft forges, a Bertram air hammer, gas preheater for melting out bearings, etc., and 2-ton jib crane with electric hoist, the crane operating through 360 degrees.

The pit area is north of the machine and forge shops, and has seven tracks running west from the transfer table runway, in addition to staggered tracks at the extreme west side, for wheel storage. Several tracks are equipped with motor-driven car hoists. Two tracks are equipped with wheel pits and removable rail sections. The pits under the tracks are 4 ft. x 10 in. deep, and combine with one another to form one large pit under the whole area. Cleanliness and good lighting make for first class working conditions. The transfer table, a National Steel Car Corp. product, is 62 ft. long and of 60-ton capacity.

The northeast section of the building was originally occupied wholly by the carpenter and woodworking shops, but the east portion of this area is now occupied by the paint shop, as specified above. A through track from the exterior runs through the carpenter shop, in addition to which there are, in this shop, three tracks with pits, each of these tracks being about 70 ft. long. The carpenter and woodworking shops are completely equipped with woodworking machinery, such as bandsaw, woodworking lathes, planers, ripsaws, jointers, etc. The paint shop is between the carpenter shop and the north part of the bus garage, and a paint storeroom is provided at the north end. To prevent dust, a direct heating system is employed here, and complete equipment for paint work is installed.



Interior View of Hamilton Street Railway Co. Shops.

The bus garage portion of the building occupies a considerable portion of the whole, its total floor area being 35,770 sq. ft. Capacity for storage of 45 vehicles is provided.

Entrance to the garage is by two doors at the Wentworth Street side, while a door at the north end, and another opening on the lane at the west side, provide exits to Nightingale Street. Complete equipment for bus washing is provided, including racks and a 2,000-gall. storage tank for hot water. The garage is fully equipped for the servicing, maintenance and overhaul of bus equipment, there being adequate pit space, a monorail with one-ton hoist, a repair room for working on parts, oil storage space, interior gasoline supply, room for bus drivers and lavatory facilities. The garage entrance doors are of the vertical rolling type, operated electrically. The gasoline supply system is of the Aqua Oil Service type, with the two 10,000-gall. gasoline tanks outside the building and some distance north of it. The bus garage floor is ramped at the north side of the transfer table runway, to allow of a bus being placed on the transfer

The air compressor supplying air for the entire plant is at the north side of the transfer table runway, at its west end. It is a 10 x 12 in. cylinder compressor, driven by Westinghouse 40 h.p. motor. Located near it is a smaller compressor, as an auxiliary; both compressors are of Ingersoll-Rand manufacture.

The building is heated by unit heaters with strategically-located motor driven fans. Two 220 h.p. Kewanee boilers supply the steam; they are housed separately, and the steam is piped through a 10 in. overhead main, to the heaters, which are Canadian Blower and Forge Co. Aerofin recirculating type. The fans are driven by Westinghouse ¾ h.p. motors. The paint shop is heated by steam radiators. In the bus garage, the unit heaters are arranged to recirculate the air, or to draw fresh air from out of doors, as desired. In the latter case, fumes from bus engine exhausts are expelled effectively.

The crane, monorail car hoists and transfer table are operated on a.c. current at 550 volts, and all other equipment operates on a.c. current at 220 volts.

A feature of the entire layout is the interior brightness. The main supports are steel columns of H section, and the roof is carried throughout on structural steel trusses; the roof is of reinforced gypsum slab laid on steel purlins, and the excellent interior illumination is due in great part to the large skylight area contained in the roof, a total of 10,820 sq. ft. These skylights are made of ribbed wire glass fitted into and held by formed members of solid copper sheet; also, all flashing and entrance heads to the downspouts are of solid copper. The interior brightness is contributed to, also,

less hand brake, National Pneumatic Co. door fixtures with safety interlocking control, fixed upper sash of cherry, movable brass lower sash, window guards of sanitary electric welded screens (in sections and hinged), O. M. Edwards sash fixtures, Dayton window cleaner on motorman's window, Golden Glow headlight, Nichols-Lintern automatic taillight, Hudson and Browning life-guards, 8 in. single tap warning gong at each end of car, two O. W. Meissner automatic air sanders, Nichols-Lintern ventilators, one route sign above center front window, one destination sign above right front window and one above window at side of car, 18 handholds of disappearing type supported from ceiling over longitudinal seats, Irving safety treads on folding steps, Mason safety tread on floor, motorman's adjustable seat, and railway standard farebox.

The cars are provided with emergency drawbars, and the ends are so built that Tomlinson couplers may be applied easily.

The Repair Shops

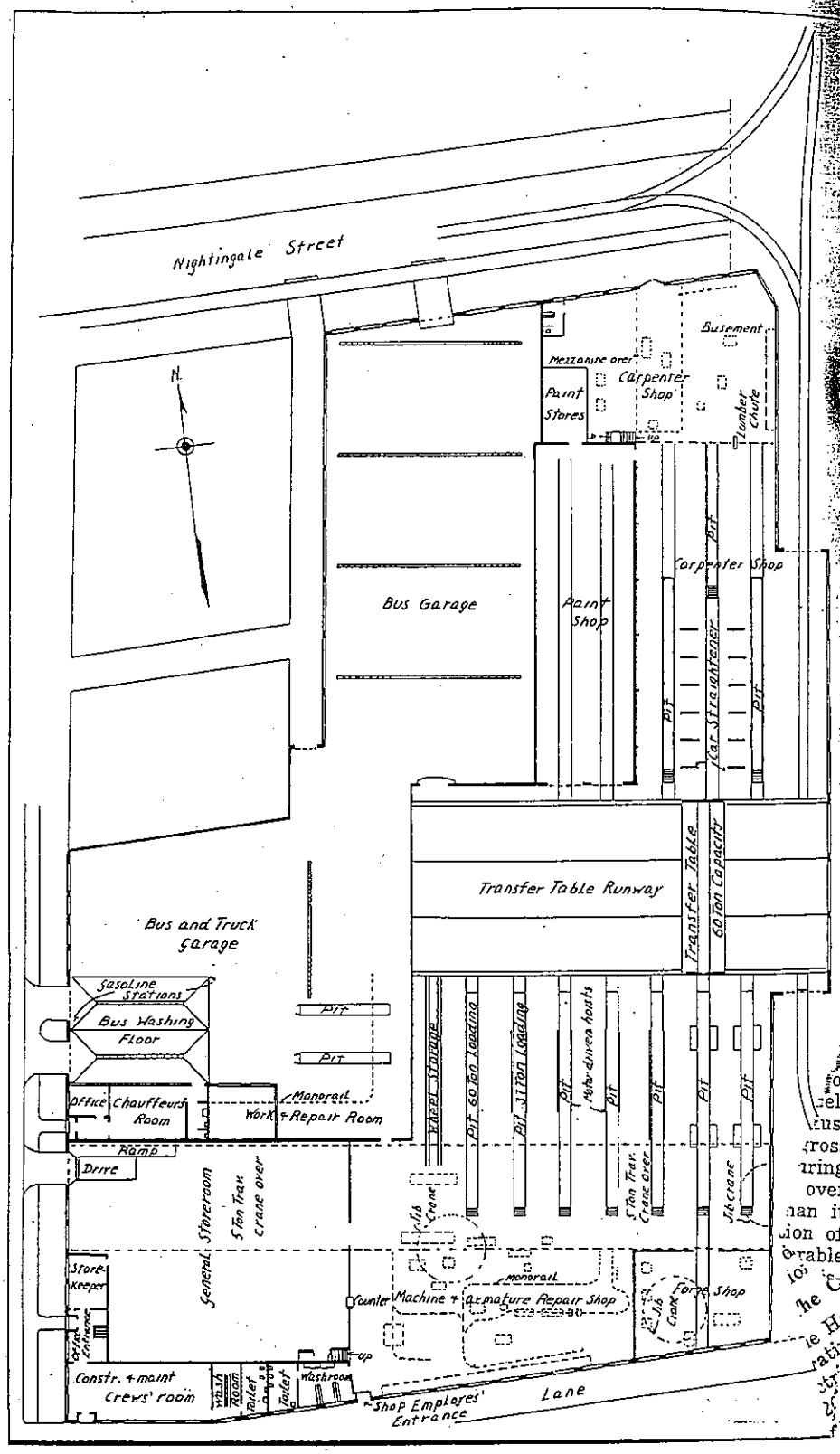
As stated in the subheading of this article the Hamilton Street Ry. Co. maintenance facilities are characterized by extreme compactness; that is to say, all of the electric railway car and bus servicing, maintenance and overhaul are done under the one roof, i.e., in the company's central shops and bus garage on Wentworth Street. These facilities were provided in 1927-28, and were fully described in our issue of May, 1928, beginning on page 283. An important change has been made in the layout as originally provided, in that at the east side of the property, north of the transfer table runway, the company's main transformer station, in which the 13,000 volt a.c. power purchased from the Hamilton Hydro Electric Commission is converted to 600 volt d.c., has been provided.

The maintenance facilities are located very centrally with respect to the various street car and bus routes, with the result that maximum facility in vehicle movement is secured and dead mileage is kept to a minimum. The car shop and bus garage building is 384½ ft. long and 250 ft. wide at the widest part, the narrowest part being 157 ft. wide. It covers an area of 85,600 sq. ft. or 1.96 acres. It is a one story building of fireproof construction, reinforced with steel where necessary. All exterior walls are faced on the outside with pressed brick laid in dark mortar, and the trim along the Wentworth Street frontage is in cut stone, the balance of the trim being in artificial stone. The inside faces of the exterior walls, and the interior walls, are of brick. Of the exterior walls, 40.5% is window area. All interior walls are painted white, with a pearl gray dado 4 ft. high. In the office portion of the building, the walls are of gypsum tile construction, plastered, painted, and trimmed in chestnut.

The building may be regarded as being divided into four general sections, viz., office, locker room and lavatory space, general stores space, bus garage and car repair shop proper. The pit room, paint shop, carpenter shop, and transfer table runway.

The office entrance is at the extreme southwest corner of the building, on Wentworth St., and the general offices are on a mezzanine floor, with access to them by wide stairs. Below the mezzanine floor are a large room for construction and maintenance crews, and lavatories and locker rooms. In addition to the main stairway to the mezzanine floor, another stair leads down into the shop from the east end of the office space.

The building was erected and the facilities were installed under the supervision of George Waller, the present Manager, Hamilton Street Ry. Co., who at the time, was Manager of Railway Department, Dominion Power and Transmission Co. The general contractor for the work was W. H. Cooper, Hamilton, and the contractor for the structural steel was Hamilton Bridge Co. Actual construction began on Aug. 19, 1927, and



BAD CRASH ON RADIAL ROAD NEAR CAINSVILLE THIS MORNING

George Williams Was Killed Ralph Smith Injured When Express Ca- Crashed In Work Car Near Hamilton Road—A Mix-Up in Orders Said to Have Been Responsible for Affair—Crash Came Like Report From a Big Cannon.

A bad accident as a result of a mix-up in orders occurred on the Brantford and Hamilton radial a mile below Cainsville at 10.45 this morning. George Williams, conductor of the express car was killed instantly and his mate, Motorman Ralph Smith of Hamilton, was badly injured when a work car leaving Brantford crashed into the express car. Williams had his neck broken and was badly gashed, while Smith sustained scalp wounds. The crew of the work car, on which was a heavy derrick appliance, escaped. They were Jim Stewart, motorman, and Fred Haley, conductor, both of Burlington.

SCENE OF THE CRASH.

The two cars crashed on a slope leading towards the Hamilton road, just outside of Cainsville. Both were travelling at about 25 miles an hour and John Shaver and Seth Hodges, two eye-witnesses of the accident, declared that the crash was like the report of a cannon, followed by dust and smoke, which completely enveloped the wreck for several minutes.

WAS FOUND UNDER FREIGHT.

Williams was discovered under a pile of merchandise, his neck broken. Smith was also hemmed in, and how he escaped was a mystery. The entire load of freight was thrown from the rear to the front end of the car, where it was wedged in by the force of the impact. The front ends of the cars were a twisted mass of iron, while broken glass was strewn for yards around.

Haley, conductor of the work car, said he had orders to go through to Langford, two miles east, and he said he presumed that the dead conductor had received his orders to go right through to Cainsville. This was the only way he could account for the presence of the two cars on the same track. Haley said there was no mistake about his orders, as he had telephoned from Cainsville and had been assured that the track was clear to Langford.

INQUEST IS ORDERED.

Constable Kerr and Coroners Laidlaw and Ashton were quickly at the scene, and ordered an inquest. The jury is being empanelled this afternoon at Cainsville. It is thought that Ralph Smith will recover. He was conscious when removed from the debris. Traffic on the line was interrupted for over an hour.

FIRST ON THE SCENE.

A motor car carrying an Expositor reporter and County Constable Kerr was the first to arrive at the scene of the accident. Dr. Phillips, the company's Brantford surgeon, had ~~also arrived~~ and Doctors Laidlaw and Ashton arrived shortly after. Smith, the injured man, was resting easily. The dead man was not moved until Constable Kerr secured a jury at Cainsville. The interior of the car gave evidence of the force of the impact on every side. The propeller in front of the car was knocked right off and it seemed impossible that the motorman was able to escape from the jam. Williams, it is stated, was thrown with the freight, being doubled up when the crash came. He struck a heavy box headlong, breaking the vertebrae right close to the skull.

The work car with its heavy derrick was the less damaged. The iron pipe in front protected the crew, who were merely jolted off the car. Haley was not even excited when seen by an Expositor reporter, but was busily engaged in repairing the wires so that the service could be resumed.

In all probability the inquest will be a searching one. The remote possibility of two passenger cars figuring in a crash similar to that of this morning will be the subject of a thorough enquiry.

JURY EMPANELLED.

The jury empanelled is as follows: S. G. Simpson (foreman), George Hanley, Dougall Campbell, T. V. Crandall, Elwood Mayet, L. Swift, A. Ludlow, George Barton, John Finn, Harvey Hunter. After viewing the remains it was decided to meet Thursday night at the police station. The remains were taken to Hamilton; also the injured man. The wreck was cleared at 1.10.