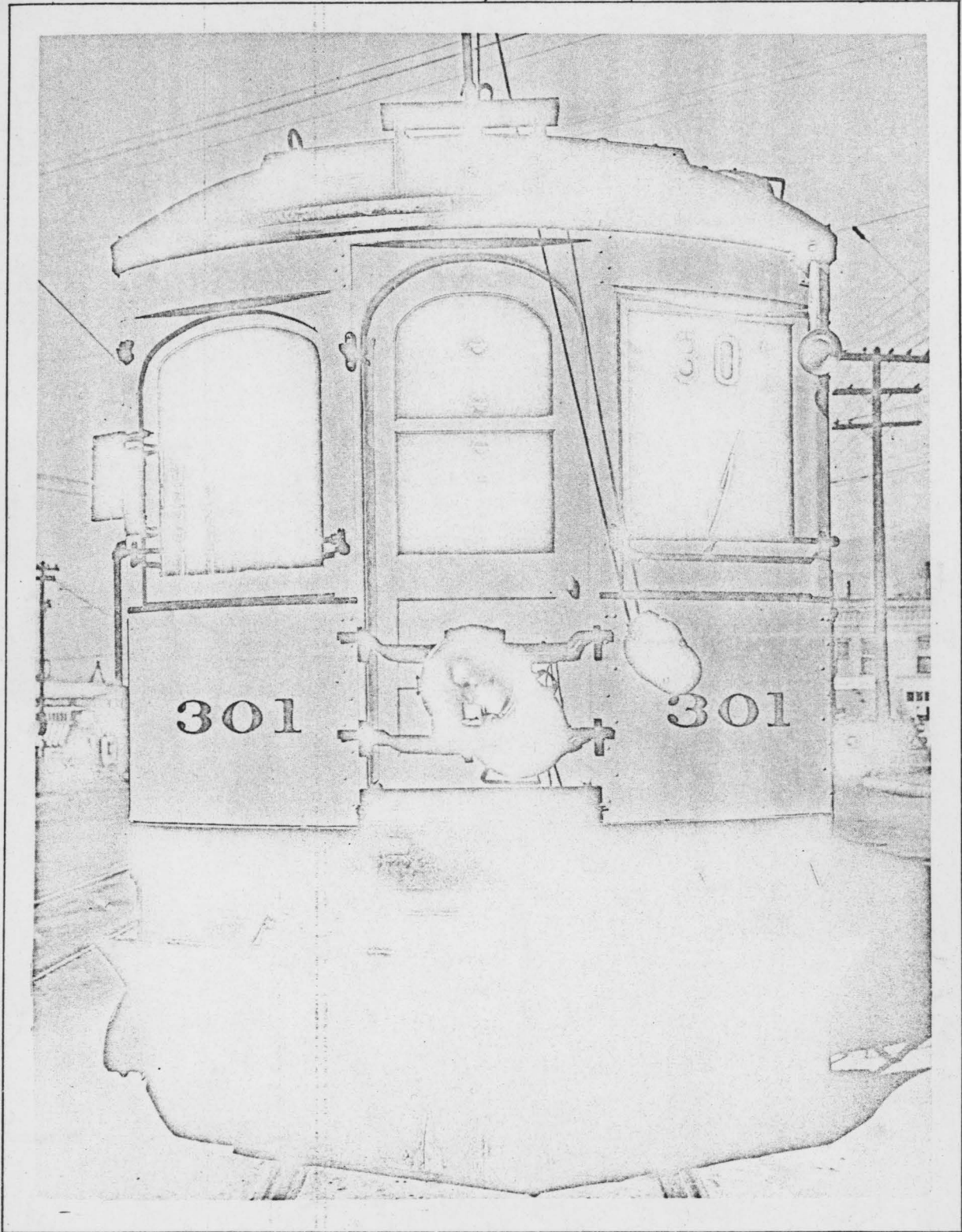


# BAMBERGER RAILROAD



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# Foreword



## Special No. 4

The state of Utah has been fortunate in being well supplied with interurban electric railways. Especially is this true in the Salt Lake City area, where three interurban systems operated until recently: The Salt Lake, Garfield & Western, the Salt Lake & Utah (abandoned in March, 1946), and The Bamberger Railroad. There was a fourth interurban in this area, the Emigration Canyon Railroad---but it has been gone so many years that it can hardly be considered a contemporary of the first-named three. Although the SL&U is gone, the two remaining interurbans are carrying on in good style, and one of these, The Bamberger Railroad, is of such importance that it richly merits this report which covers all phases of its activities and history.

In connection with the Utah-Idaho Central Railroad (an electric railway running from Ogden some 113 miles north to Preston, Idaho) a continuous interurban ride was possible from Payson, 67 miles south of Salt Lake City and the southerly terminus of the SL&U, north to Preston, a total distance of 216 miles---one of the longest interurban trips ever possible anywhere. Although the passing of the SL&U has broken this circuit, the remaining interurbans offer valuable passenger and freight service to their respective areas and were important far beyond their size when war came. The excellent records established by all the Utah interurbans during both wars is out of all proportion to their length.

By far the most important of the Utah interurbans is The Bamberger Railroad, running between the state's two largest cities, Salt Lake City and Ogden. Although built as a steam railroad and not electrified until 1909, The Bamberger Railroad's immediate success went far in influencing the construction of the others.

The editor visited Utah several times prior to the late war but it was not until his discharge from the service late in 1945 that he was able to give the time required for an intensive on-the-spot study of the interurbans of the Mormon state. This report is the result of that study, which entailed many days of close association with the Bamberger organization---from President Bamberger himself down to the hostlers in the yards; many trains were ridden, all parts of the 36-mile line were inspected---and the very favorable impression The Bamberger Railroad made upon the editor caused him to select it as the subject of a special issue of INTERURBANS. Thus The Bamberger Railroad joins the parade of outstanding electric railways which have been similarly treated in the past three years (San Francisco-San Mateo Suburban, Puget Sound Electric Railway, Pacific Electric Railway).

It would have been impossible to acquire material such as is presented in the following pages but for the kind cooperation of Mr. Julian M. Bamberger, president of the railroad that bears his family name. Mr. Bamberger turned his office over to the editor and gave him access to all files; from Mr. Bamberger's personal album have come many of the valuable photographs reproduced herein, and musty records probably untouched for years were brought out and examined, ever with the kind interpretation of Mr. Bamberger and his highest officials who were always available to explain doubtful points.

It is only fitting and proper, therefore, that we should publicly express to Mr. Bamberger and his staff our appreciation for the cooperation they extended the editor. In return, we give them this report on their railroad and dedicate it to them.

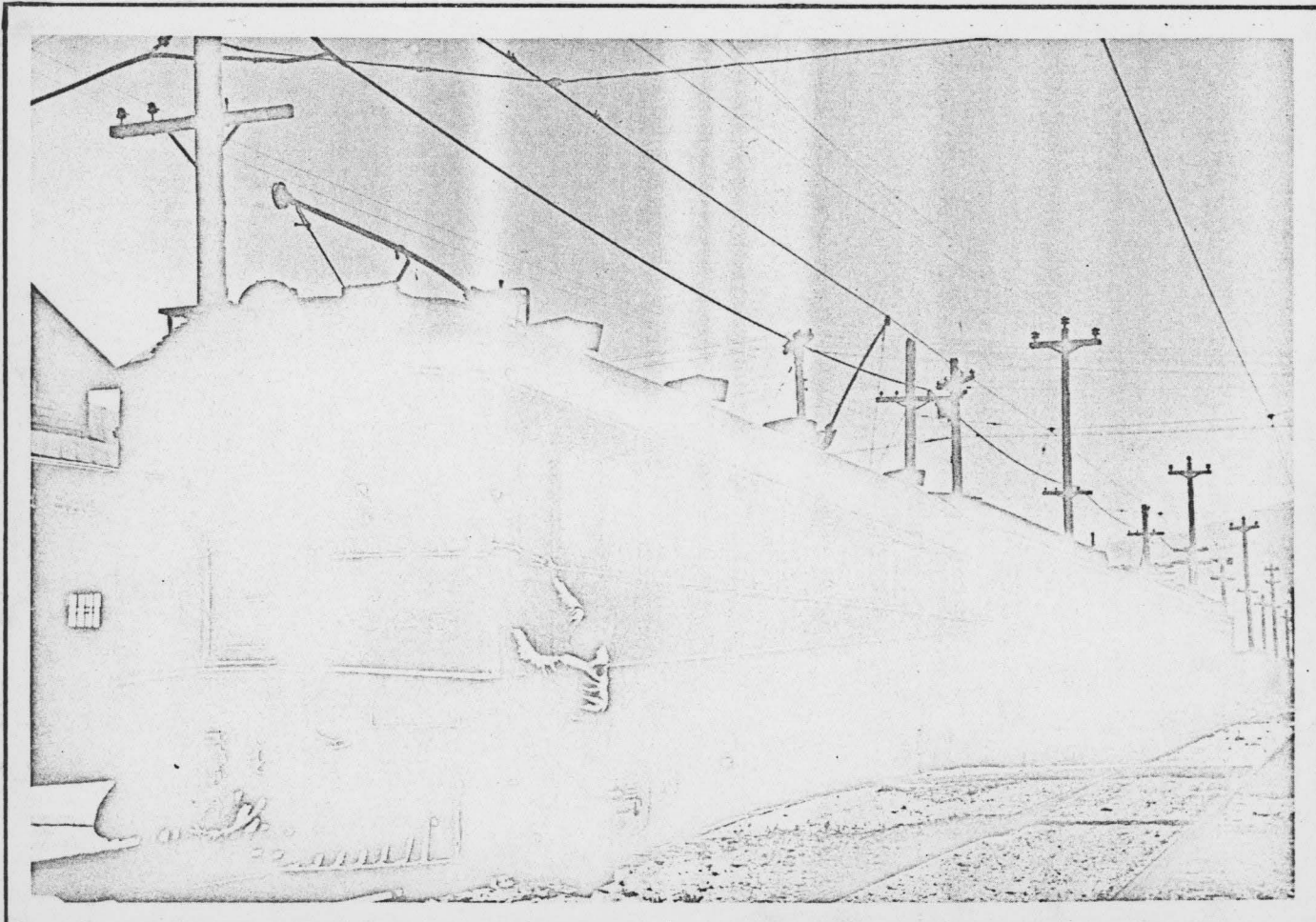
1 Sept 1946

Ira L. Swett  
Editor, INTERURBANS



SIMON BAMBERGER  
President, 1896-1917

JULIAN BAMBERGER  
President, 1917-To Present



THIS EXCELLENT SHOT OF A FOUR-CAR TRAIN OF THE BAMBERGER RAILROAD WAS TAKEN AT NORTH SALT LAKE STATION ON SATURDAY, JULY 8, 1944. | CAR 325 (SINCE BURNED) HEADS THE TRAIN, FOLLOWED IN ORDER BY A 400-CLASS TRAILER, A 350-CLASS MOTOR, AND A TRAILER. (Fellow)

# History



The Great Salt Lake & Hot Springs Railway had its humble beginning in January of 1891, when the Salt Lake streetcar people (West Side Rapid Transit) dumped a load of rail in the street opposite the Union Pacific station. The guesses of the inevitable curious onlookers were answered when the track gang spiked down the rails in a direction that pointed north to Ogden. This was the first tangible manifestation of Simon Bamberger's long-projected "local" railroad that was to serve Ogden, Salt Lake City and the rich countryside between with a truly personal service---as distinguished from the service offered by the Union Pacific (Oregon Short Line) and the Denver & Rio Grande railroads, which was aimed at facilitating the flow of through traffic at the expense of local business. So poor was the local passenger service between Utah's two largest cities that business men were losing considerable money by being forced to waste valuable time waiting for trains; the poor service did much to hold back the normal progress of the region. Simon Bamberger believed that the only solution was another railroad which would devote itself primarily to local traffic; he further believed that such a railroad, locally owned and managed, would show a good profit. Few shared his optimism, however, and the necessary financial backing was slow in appearing until Brigham Young, leader of the all-powerful Mormon Church, publicly expressed his approval of the plan; with Brigham Young's encouragement, Simon Bamberger was soon able to begin construction and the little local railroad entered the lists against the formidable might of the two large steam railroads which had dominated the progress of the Great Salt Lake Valley for decades.

The first goal of the construction crews was a popular resort located four miles north of Salt Lake City and known as "Beck's Hot Springs." As soon as rail was spiked down to the Springs the new company announced the inauguration of passenger service to that point. The first trains would have gladdened the heart of a Brooklynite, for they were almost exact duplicates of those operating on the elevated railroads of that eastern city. The steam dummy engines, purchased new from Baldwin Locomotive Works, were from the Brooklyn plans, while the cars (long, narrow, wooden double truck jobs) were obtained second-hand from the Brooklyn Rapid Transit. Although quite light and having the 0-4-0 wheel arrangement, the little steam dummies made good time and in a short while the Great Salt Lake & Hot Springs Ry. was doing a good business to the resort.

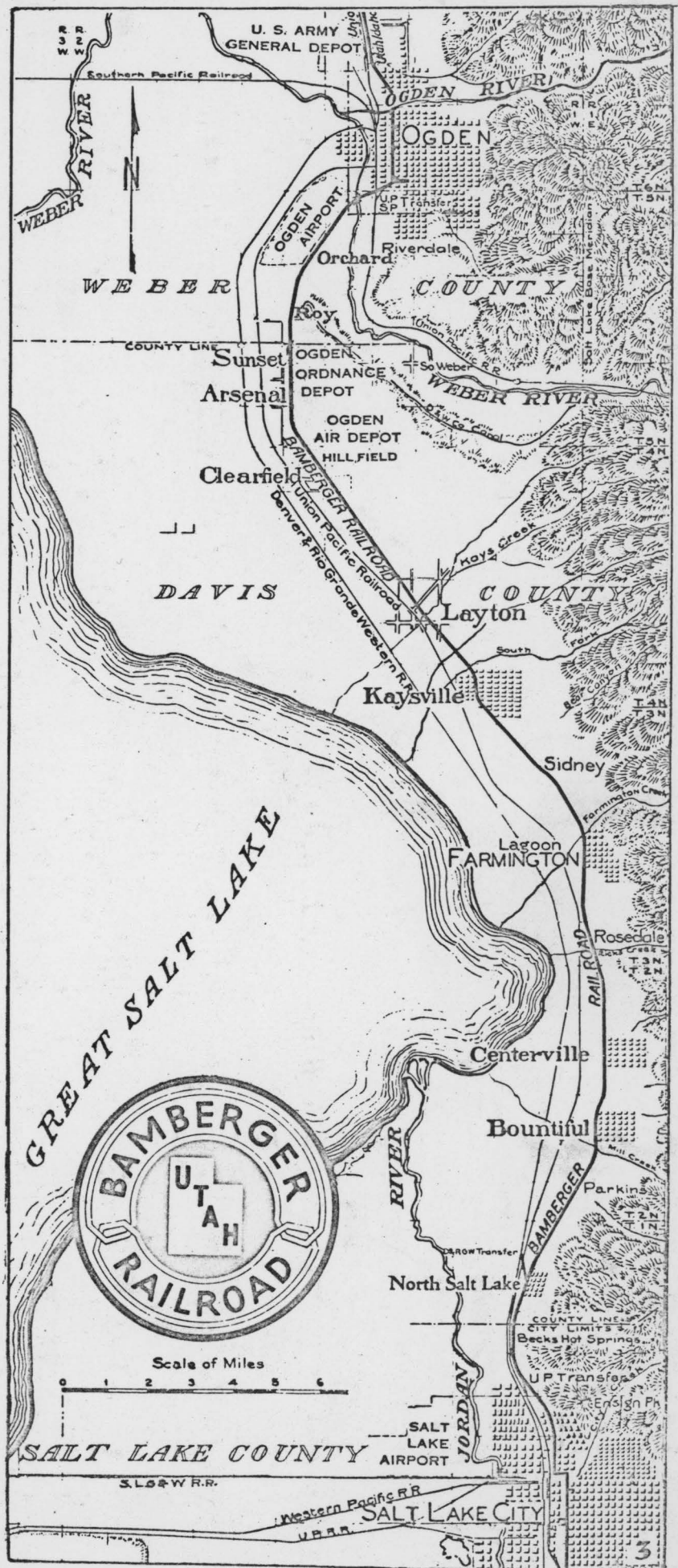
Encouraged by their first success, the directors decided to enlarge their original plans. In 1892 they made public this revised scheme: "Simon Bamberger and associates have begun construction of a railroad that will extend north to a point near Ogden and from there will proceed in a southeasterly direction through Weber River Canyon to Coalville to tap rich coal mines. The total length of this line will be 68 miles with a ten-mile branch to Ogden."

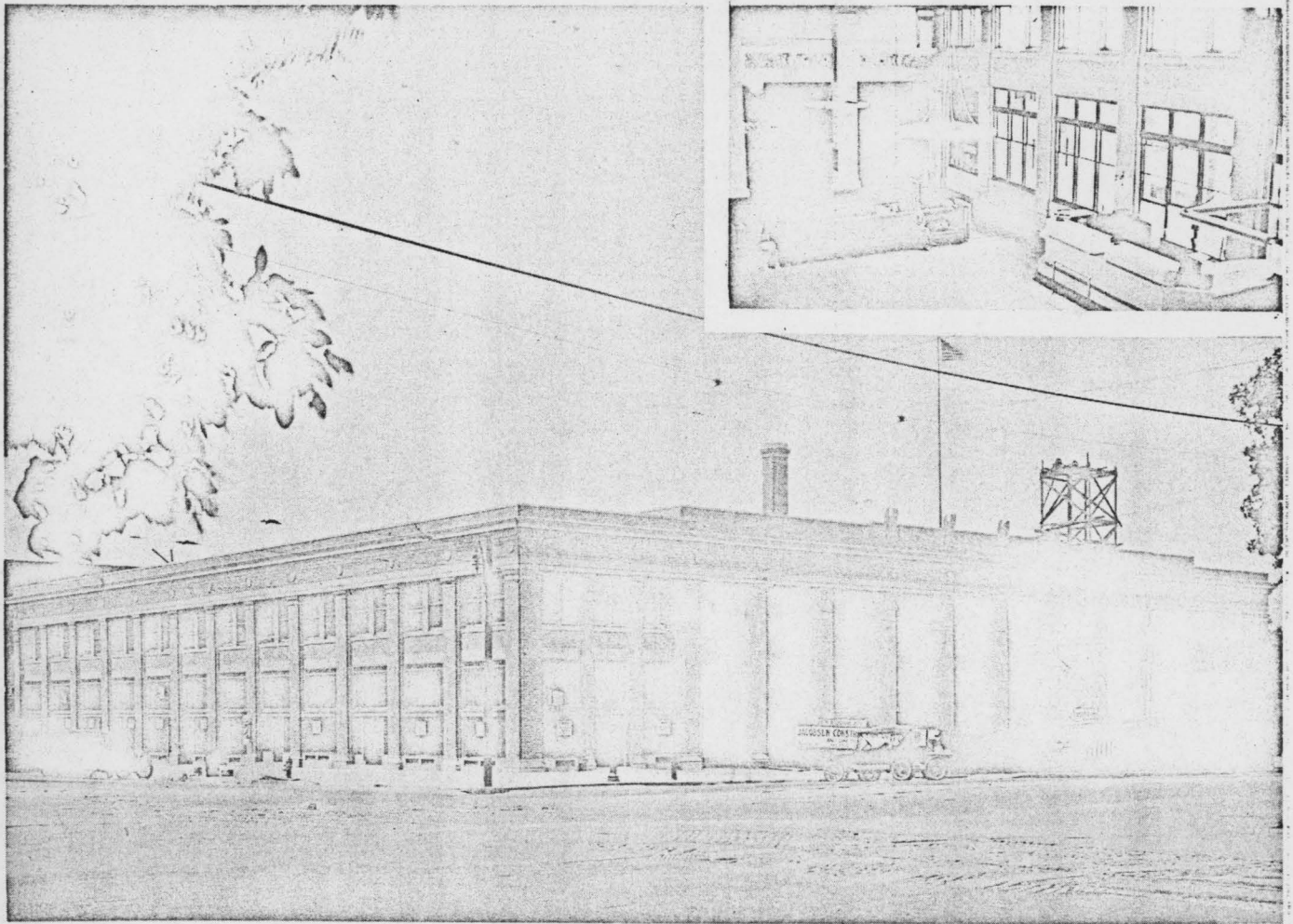
Construction gangs went to work with a will, and rapidly the light rail penetrated northward. Bountiful was reached in 1892 and Centerville two years later. In 1895 Farmington was reached and there construction temporarily halted, for the road had run into financial difficulties. It was necessary to effect a complete reorganization and on October 29, 1896, a new company emerged with the name, "Salt Lake & Ogden Railway." Quickly the SL&O took over all assets of the GSL&HS and construction was resumed.

Just north of Farmington there was a large swamp which had been noted for its very large cat-tails. SL&O drained the swamp, constructed a lake and made the spot into one of the finest amusement parks in the west. Lagoon, as it was called, quickly became popular for its fresh water bathing, dancing, beautiful flowers, and the fastest one-mile dirt track in the nation. As amusement devices were perfected, Lagoon added them until the park blossomed from one end to the other with ingenious devices to make customers feel young again. All those wishing to patronize Lagoon were forced to ride the SL&O's dummy trains, and this resort income became one of the most important revenues.

The work of extending the line was pushed during the six years from 1902 to 1908; Kaysville was reached in 1903, Layton in 1904, Sunset in 1905 and Ogden (31st St.) in 1908. The 1907 business depression affected the SL&O to the extent that it was publicly announced that the original plan to build through the Weber River Canyon to Coalville and leave Ogden on a branch line was abandoned; instead, the coal mines in the canyon were to be left to the Union Pacific (which already served them) and SL&O would confine itself strictly to the traffic between the two cities. A branch beyond Ogden up the Ogden River Canyon to "Idlewild" which was a resort hotel owned by Mr. Bamberger was contemplated but Ogden Rapid Transit Company had already built part way up this canyon and this ultimately influenced the SL&O to give up the idea. Hence the SL&O became in actuality one of those few railroads whose names truthfully define their geographical extremes.

From its very beginning the railroad followed the policy (sternly established by Simon Bamberger) of constructing its grade with wide, sweeping curves and the lowest possible degree of climb. Mr. Bamberger realized full well that heavy movements of freight would be impossible on crooked, steep routes and very early set up the restrictive order that his line would have no grades of more than 1.1%. This meant that additional expense in the nature of heavy cuts and fills would be encountered, but he wisely approved such added costs in the firm belief that they would be repaid many times over by increased hauling capacity of his locomotives---which has

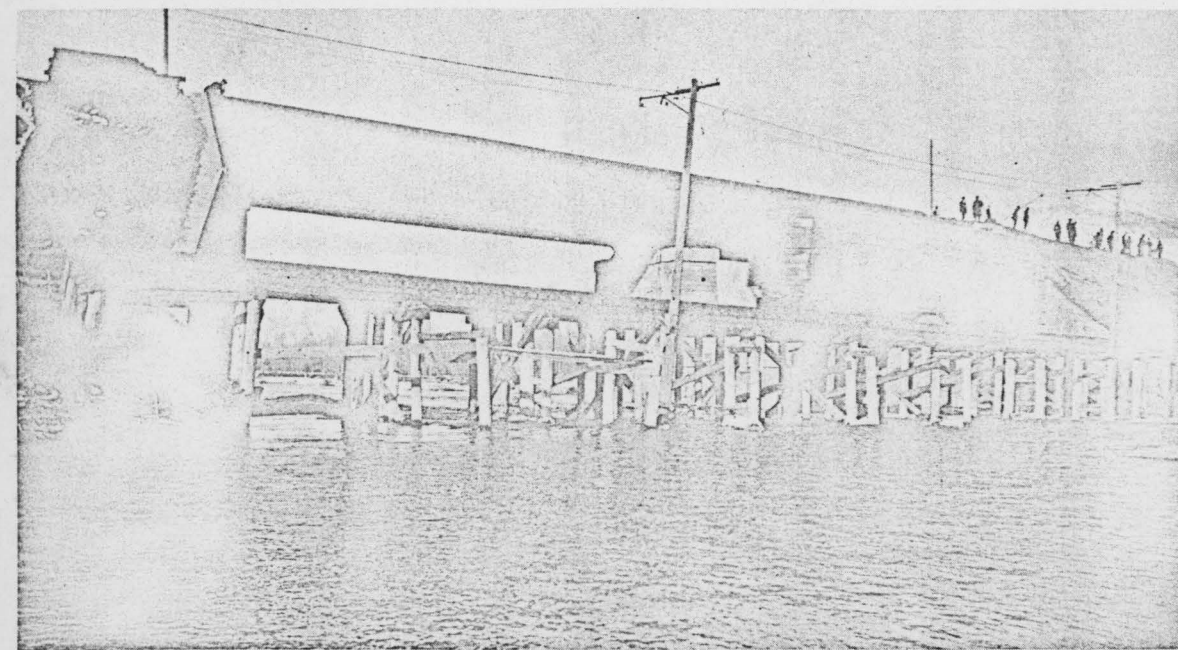




ABOVE, WE SEE THE SALT LAKE TERMINAL IN THE DAYS WHEN IT WAS JUST BEING BUILT. IN THE INSET IS SHOWN A VIEW OF THE TERMINAL WAITING ROOM, TICKET COUNTER AS SEEN FROM MR. BAMBERGER'S OWN OFFICE.



AT THE LEFT, THE OLD AND NEW BRIDGES OVER THE WEBER RIVER SOUTH OF OGDEN. CAR 314 IS SEEN EN ROUTE TO SALT LAKE. ALTHO THE WOODEN TRESTLE WAS INTENDED TO BE PERMANENT, THE UNION PACIFIC RAILROAD WAS INSTRUMENTAL IN MAKING SL&O BUILD THE HIGH STEEL STRUCTURE WHICH ALSO CARRIES THE INTERURBANS OVER THE U.P.'S MAIN LINE. THIS PICTURE DATES FROM ABOUT 1914.



proven to be correct. He would have none of free franchises along public roads, but instead purchased his own right-of-way; his foresight in this matter later paid off many times over, for other interurbans which took free strips alongside highways and built line thereon later had to relocate and even abandon such trackage when the time came to widen the highway. The best endorsement of Simon Bamberger's standards of route location is the fact that the railroad today operates on every foot of its original route and its operating efficiency is unexcelled.

**ELECTRIFICATION:** By 1910 it was evident that unquestioned economy and superior service could be given the traveling public by electrification of the SL&O. All over the nation electric interurban railways were being operated profitably and they were spreading like wildfire---many into such remote and sparsely-settled areas that their ultimate success seemed impossible. The SL&O seemingly had all the requisites that spelled success for an interurban: large cities at either end of the line to draw on, a prosperous intervening countryside to supply both passengers and freight, a route well laid out which could accommodate the higher speeds the electric cars were capable of attaining, and the attractive possibility of acquiring more centrally located terminals in Salt Lake City and Ogden due to the ability of electric cars to run through city streets without objection. These considerations influenced the directors to approve the electrification of the line, and preparations for its conversion were made at once.

The job of designing the conversion was placed in the hands of Mr. H. A. Strauss, a Chicago consulting engineer, and construction was carried out by the Falkenau Electrical Construction Company (Chicago) as general contractors. The General Electric Company was selected to furnish electrical equipment, while cars were ordered from the Jewett Car Company of Newark, Ohio. The changes made necessary by conversion to electric operation were: stringing trolley wire and high tension feeder wire, bonding the rails, constructing a power generating station and substations, and purchasing interurban cars.

The first electricity to surge through the SL&O's shiny new trolley wire was purchased from the Telluride Power Company, but SL&O even then had under construction its own big steam generating plant at Lagoon, which not only afforded a strategic location (half-way on the line) but also had the necessary water for condensing purposes. The new steam plant was impressive: it was a steel frame building with a massive concrete foundation and sturdy brick walls---106'6" wide and 143' long. Two Allis-Chalmers cross-compound Corliss engines belted to two 400 KW GE 2200 volt three-phase 60 cycle generators and a 400 KW horizontal type Curtis turbo-generator connected for operation either on high-pressure steam or the exhaust from reciprocating engines were the prime movers. Also located at Lagoon was a typical Bamberger substation: one 400 KW motor-generator set received its alternating current at 2300 volts and put it into the trolley wire as 750 volt direct current. At the time of its installation, the SL&O's 700 volt DC in the trolley wire was the nation's highest; later developments boosted DC voltage as high as 3,000---but in its day, SL&O's decision to break away from the traditional 750 volts was regarded as a somewhat radical step.

Because the valley of the Great Salt Lake is closely hemmed in by high mountains and is subject to severe electrical storms, SL&O had to resort to extraordinarily complicated protection for its electrical equipment. Every pole along the line was protected by a galvanized iron guard wire strung atop the line of poles; this copper wire was grounded at each pole, an interval of eighty feet. Substations were protected by electrolytic arrestors, the horn gaps of which were installed above the roof.

Little was required in the way of change to enable the rail and right-of-way to accommodate the electric interurban cars. SL&O right-of-way was a standard 66-foot width upon which 85-pound T rail was laid on gravel ballast and standard size Oregon pine ties. Constructed to steam railroad standards, SL&O's track was and is capable of handling safely any train operated by a steam railroad; bridges all have a Cooper E-55 rating and way structures, culverts, underpasses, etc., are quite up to steam railroad standards today.

Jewett delivered the first interurban cars early in 1910, when a train of all ten of the motor cars arrived in Ogden. Pictures were taken (one appears herein), inspections were

made by prominent officials, and newspapers carried story after story of the magnificence of the beautiful coaches. Constructed to the highest standards then known, the cars were of the three-compartment type: coach, smoker and baggage sections; they were constructed of wood, but had steel underframes. Their graceful lines, powerful motors and sturdy trucks quickly became synonymous in the minds of Utahans with the finest in transportation. On the first day of electric operation (May 28, 1910) they won the hearts of the traveling public and the steam roads knew they had a very formidable competitor. The immediate popularity of the interurbans brought about two results: the steam railroads cut fares and speeded up their trains (Union Pacific put on a "Flyer" that made the 36-mile Ogden-Salt Lake run in 45 minutes) and otherwise did their best to meet the SL&O's challenge; and the SL&O placed an order with Niles Car Company for six trailers similar to the Jewett cars.

**IMPROVED TERMINALS:** The SL&O was not slow in improving its terminal facilities in both Ogden and Salt Lake City. The Ogden terminal had been located at 31st Street where passengers were forced to seek other means of transportation to arrive at downtown Ogden and other sections of the city. With the conversion to electric operation, SL&O soon received a franchise to construct its own double-track line along Lincoln Ave. from 31st St. to the site of the new station yards just north of 25th St. This brought the interurban cars to within two blocks of the heart of the business and shopping center of Ogden and greatly increased the popularity of the SL&O in Ogden. In 1916 the SL&O made an agreement with the newly-built Utah-Idaho Central Railroad whereby these terminal facilities were shared by both interurbans, UIC thereupon erecting a station which was used jointly.

The Salt Lake terminal was moved to its present convenient location adjacent to the beautiful Temple Square in 1913, when track was constructed from Third West St. via private right-of-way to First West and thence to Sixth South with land acquired for a station at the corner of West and South Temple Sts. Ten years later an imposing station building was erected on this site and was used jointly by SL&O and the Salt Lake & Utah. Not only did this improvement attract many more passengers to the SL&O cars but it made it possible for the road to offer freight spurs to industries located but a block from the main street of the city---a unique advantage and one which is discussed at greater length herein in the section devoted to freight hauling.

**THE FIRST WORLD WAR:** By 1917, SL&O had thoroughly broken in its cars and employees to electric operation and was in a position to supply the increased service demanded by a nation at war. Indeed, it is possible that the road reached an all-time peak of physical condition in the early months of 1918. True, some of the old steam coaches were still in service (cars hauling them were restricted to forty miles per hour) and freight hauling had far to go before it approached figures set in the Second World War---but for that period the SL&O was indeed a worthy instrument of national defense.

In 1917 Simon Bamberger gave up the helm of his railroad and moved into the Capitol as governor of Utah. Succeeding him as head of the SL&O was his son, Julian Bamberger. Although Julian had had six years previous experience with the railroad, the Bamberger family's original plan had been to make an elder brother, Sidney Bamberger, Simon's successor; the untimely death of Sidney in 1911 resulted in Julian's being groomed to take eventual control of the interurban.

In August, 1917, the name of the railroad was officially changed to "The Bamberger Electric Railroad." Thus the popular nickname that had persistently identified itself with the line since its inception triumphed over the more descriptive title.

May 7, 1918, undoubtedly merits the claim of "blackest day of all" insofar as the Bamberger Railroad is concerned---for it was on the morning of that fateful day that flames consumed the entire Ogden car barn and substation, completely destroying in addition all cars that were within the barn. We have prepared a complete account of this disaster which, with some truly remarkable pictures that were taken before the embers cooled, is to be found on page 14 of this report. More than half the road's cars were destroyed---a blow that was all the more crippling at the time because of the difficulty in obtain-

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ing materials for reconstruction. Bamberger quickly alerted the North Salt Lake shops, even moved entire buildings there to augment the normal capacity, and began the struggle to repair the half-million-dollar damage. The railroad's ingenuity in returning the less severely damaged cars to service is admirable; the net result of the fire has been to improve the quality of cars even though it has been a slow process---some cars not being rebuilt for several years. However, the immediate result was to change a smoothly-clicking machine of transportation into a reeling makeshift, and at the very time when its services were most vital to the community and to the nation.

**THE TWENTIES:** The decade from 1920 to 1930 is notable in Bamberger Electric Railroad history for four important developments: (1) All interurban cars were changed to one-man operation. (2) A subsidiary bus company was set up. (3) The long-planned new and beautiful Salt Lake Terminal was inaugurated with the steam lines.

The Bamberger Electric Railroad was perfectly outfitted for intensive freight operation, due to the foresight of Simon Bamberger back in the construction days. The easy grades and wide curves, plus almost complete private right-of-way operation, early combined to cause the management to exhaustively investigate the possibilities of interchange of freight with connecting transcontinental carriers. Prior to World War I, however, very little headway was made, the steam lines lending a deaf ear to any and all proposals which would have been to the mutual benefit of Bamberger and themselves. Material assistance in arriving at a temporary interchange arrangement was obtained from the Railroad Administration during the period of government operation, but not until 1924 was the ice broken in a big way---the Union Pacific System in that year joined in publication of a complete line of through freight rates with the Bamberger Electric. Other steam railroads followed the UP's lead with little delay, and the enormous growth of the Bamberger's freight business began. Not only did the interchange arrangement develop many new industries along the interurban system, but also provided valuable terminals at both Salt Lake and Ogden. A more complete discussion of the freight picture will be found on page 20.

Prior to 1913, Bamberger trains had a terminal opposite the Union Pacific Depot on Third West St. in Salt Lake City. In 1913 the company purchased a site at the corner of West Temple and South Temple, just a block removed from the main street and directly opposite the world-famed Temple Square, heart of the Mormon Church. The original plan was to locate the Salt Lake Terminal in a more southerly portion of the city, but the Mormon Church came forward with such attractive inducements, namely \$75,000 in cash and \$75,000 worth of property, that the Temple Square location was approved; the passing years have demonstrated that the choice was a wise one. A yard was constructed on this site and trains of both Bamberger Electric and Salt Lake & Utah used the terminal for ten years before a permanent station was erected. In 1923 the Salt Lake Terminal Company (owned half and half by the two interurban companies) erected a \$350,000 station building which has few equals in the realm of interurbiana. The station building not only houses the waiting room and ticket counters, but also furnishes space for stores, railroad offices, a restaurant and other enterprises. The building is in the shape of the letter L with the station yard occupying the interior open space; it is of brick construction, two stories in height, and presents a dignified and substantial appearance from all sides.

A not-so-pleasant memory of the Twenties is the disastrous flood of 1923. Several deaths were directly attributed to the flood, while scores of homes were washed out and long segments of track of the interurban line were ripped loose and whirled away; the most severe damage to Bamberger trackage occurred at Rosedale, Becks, Centerville and Lagoon.

The Twenties brought rapidly increasing costs of operation to all interurbans, and at the same time cut their gross income due to the rapid growth in use of the private automobile. Various expedients were tried by operating companies to (Page 6, please)

enable them to remain in business under the existing unfavorable conditions; one of the most promising of these devices was one-man operation, and Bamberger Railroad resorted to it midway in the Twenties. No new cars were purchased, it being decided to remodel the company's existing cars (at a cost of about \$800 each). Conversion of cars consisted of turning them around so that the former head-end baggage compartment became the rear smoking compartment; the rear vestibule was closed and additional seats installed. To provide the utmost in safety, the familiar "dead-man control" was added, this being a safety treadle installed on the air line in such a manner that continued pressure of the operator's foot is necessary to prevent automatic application of brakes. With the shift to one-man cars came a completely different paint scheme; the old Pullman green exterior with natural wood interior was cast aside in favor of a bright yellow exterior with light paint throughout the interior. The public accepted the one-man cars and there was very little confusion attending their debut.

With the shift of much of the passenger traffic to automobiles, the Bamberger Railroad decided to follow the trend and install a bus line paralleling the rail route. This move not only continued the company's monopoly of the public transportation business between Ogden and Salt Lake City, but was effective in forestalling competing bus lines which might have seriously threatened the very existence of the company. Bus operation began on May 15, 1927, under the direction of a subsidiary company, The Bamberger Transportation Company. Although bus and rail fare was the same, the people were slow to take to the rubber-tired conveyances, evidently loath to give up the high class, frequent service offered by the electric trains.

**THE THIRTIES:** The Twenties bowed out with a major business depression and Bamberger Electric Railroad was hit as hard as most. Passenger trains dwindled to single cars as a rule, and the freights were running as abbreviated caricatures of their former selves. In 1933 the company was forced into receivership which lasted until 1939. Named as receivers were Julian Bamberger and Layman V. Bower of Chicago who represented the Harris Trust & Savings Bank. In July, 1939, reorganization took place; wiped out were the entire common, preferred and second mortgage bonds---\$2,150,000 plus \$350,000 interest. The railroad went to the first mortgage bondholders on the basis of a \$500 3/4% new bond and twenty shares of common stock, no par value, in exchange for a \$1000 5% bond of the old company. The name of the interurban was again changed, this time being simply "Bamberger Railroad." Ironic but true is the claim of Julian Bamberger that if the reorganization could have been postponed six months, the entire financial structure could have been rehabilitated, due to army lend-lease traffic and other war-time freight. Julian Bamberger remained (and still does) as head of the new company.

But the Thirties were not altogether a period of adversity and despondency. Due to the slackening off of patronage in the cars, and also because of a natural desire to give the riding public finer equipment, Bamberger officials scouted far and wide for good buys in interurban cars. Not able to pay the high cost of new cars, the company nevertheless was definitely interested in obtaining used cars of high quality. Some very fine cars at the time were being put on the market, due to their original owners being unable to weather the depression, and Bamberger representatives were seen in Indiana and Ohio looking over some high-speed, lightweight interurban cars that would have been just the thing for the Salt Lake-Ogden run; however, Bamberger's unusual voltage (750 DC) precluded the use of cars with the usual 300 volt motors and the Indiana and Ohio cars were regretfully passed by. But in New York the investigators were rewarded by finding five streamlined, lightweight, high-speed cars which had been operated by the Fonda, Johnstown & Gloversville Railroad Company. These cars could operate on 750 volts and seemed to be exactly what Bamberger Railroad needed to rehabilitate its roster of rolling stock. Satisfactory terms were quickly reached, the cars were purchased and began their long trek westward. All five entered service in 1939 and quickly became highly popular with Bamberger patrons.

**WORLD WAR II:** The Impact of the Second World War upon the Bamberger Railroad was staggering. Figures can show the full effect far better than words, so here are the official records of operating results for the war years:

YEAR	TOTAL	FREIGHT	PASSENGER
1939	\$ 413,000	\$ 307,000	\$106,000
1941	919,766	769,652	126,776
1942	3,273,691	2,774,572	301,956
1943	2,929,235	2,412,526	451,949
1944	2,529,862	1,986,285	487,268
1945	2,330,501	1,776,201	509,164

The natural reaction to figures such as are listed above is, "How on earth could a railroad set up to do business on the normal-year-1939 scale have been able to expand its facilities in the short time of three years to a point where it accommodated three times the passenger business and eight times the freight business, and this in the face of war-time restrictions on materials?" The answer to this question is a saga of the American railroad at its best:

First, let us consider the passenger side of the picture. New interurban cars simply were not constructed during the war, hence Bamberger's only source of additional cars was the used-car market, which promptly dried up with the inauguration of gasoline rationing. No help there. To make matters worse, the Office of Defense Transportation ordered the Bamberger Transportation Company (the bus subsidiary) to go out of business and sell its three highway cruisers to an El Paso, Texas, company which needed them to supply service to a new military post. This was in line with ODT's nation-wide policy of putting back on rails all transit possible. To make matters worse, the Ogden Arsenal, a greatly-expanded military post five miles south of Ogden and served only by Bamberger Railroad, asked for special service for hundreds of its workers. The company was able to meet these seemingly impossible demands by taking out of dead storage every serviceable car; from the huge 350s to the little New York highspeeds, every car was back in service. The usual single car trains expanded to four cars, and even these ran with standing loads in the aisles more often than not. To serve the Arsenal, the company secured five of the very large steel interurban cars formerly in service on the Southern Pacific's electric suburban system in and around Oakland, California; considerable work had to be done to adapt these cars to Bamberger service; a gasoline engine was installed in one of them to supply lights, and stoves had to be rigged up to combat the chill Utah winters, these California cars not being very well insulated against cold weather. Inasmuch as the big cars arrived without motors, it was necessary to haul them as trailers; at the beginning four of them were required and locomotive 550 (another war-time acquisition) was assigned to the job; later on the load became lighter and locomotive 530 was usually observed hauling two of the Arsenal cars and a Bamberger trailer. All maintenance work on the five Arsenal cars is performed in a shop on the Arsenal grounds, thus relieving Bamberger of a portion of the extra war-induced tasks.

The tremendous increase in the freight business was not to be solved so easily. For the story of this struggle, let us turn to Mr. Julian Bamberger and listen as he explains it thusly:

"The war brought us more passenger business than ever before and our freight business was staggering. Substations and generating capacity were not ample so either steam or diesel power had to be obtained to meet the need. If we installed steam power, we would have to install all that goes with it---a roundhouse, special shops, and some fueling points along the line, to say nothing of having to retrain sufficient personnel to operate and maintain them. On the other hand, the installation of diesel power would present no new problems other than the maintenance of the diesel motor itself; all the electrical equipment would be in line with our shop's field of experience and no special facilities other than a fueling point would be required. Weighing these considerations, we decided in favor of the diesel. In order to handle trains of Pullman cars from Hill Field, it was necessary to buy a type of diesel known as the "road-switcher." This is a 1000 horsepower diesel-electric with a train heating boiler added, enabling it to haul either passenger or freight trains. Locomotive 570 was thereupon purchased and its oil-fired heater installed at our own shops. The 570 has a larger capacity than

our electric locomotives, and also can operate up into government establishments where trolley wire does not reach. I wanted a locomotive which could handle Pullmans and other steam railroad equipment requiring steam heat with adequate capacity to assure as good service as the steam railroads would give. We were promised a second diesel, but others got it.

"In the meantime, we looked for more generator capacity. From Spokane we acquired two motor-generator sets and installed them at Kaysville and Roy. We also looked for rectifiers but had a hard time, due to the fact that we purchase power at 44,000 volts AC and must transform it into DC current at 750 volts, which voltage was the highest in the nation at the time our line was opened. We finally got two rectifiers that met our need: one from the Mason City & Clear Lake Railroad in Iowa and the other from the Ford Motor Company in Dubuque, Iowa. These went into our Clearfield and Ninth North substations (this last is a new substation and is very fine---both are, in fact), with new transformers we bought to go with them. While on the subject of our electrical equipment, the substation at North Salt Lake has two motor-generator sets which are semi-automatic in that they will operate under automatic control but in the event of any major difficulty they must be started by hand. The substation at Farmington has two motor-generator sets; this substation is hand operated. The substation at Kaysville has one m-g set and is hand operated; it is a war baby and has had very little operation for quite a period of months. The Clearfield substation contains a motor-generator set and a rectifier, both of which are automatically controlled. The substation at Roy is similar to the one at Kaysville and is not being used at this time. The Ogden substation contains two motor-generator sets, both of which are automatic. The motor-generator sets above mentioned are all of approximately 400 kw capacity.

"After relieving our power supply bottleneck, we looked around for more electric locomotives. We found one Baldwin-Westinghouse fifty-ton engine at San Diego and later found its twin at Milwaukee; these are now our 550 and 551. Then we found two electric locomotives on the scrap pile at Spokane and bought them; they are our 502 and 503. These, with our own locomotives, enabled us to make a very good showing when the peak of the war traffic hit us."

**THE FUTURE:** The ending of the war, with its reduction of activity at the military establishments on the company's line, has caused an appreciable drop in revenue, as was to be expected. However, military traffic in 1945 continued to be the major source of freight revenue. Due to the slowness with which new passenger automobiles were forthcoming from the factories, 1945 passenger revenues were the highest in the company's history. In an effort to keep much of the war-introduced passenger traffic, certain cars are being speeded up to provide more seating capacity for the "Flyer" runs between Ogden and Salt Lake City; this, coupled with the already far advanced car modernization program, is expected to result in postwar passenger revenue considerably above that of 1939, the last "normal" year.

The delivery of three new 33-passenger busses in 1946 will bring about the resumption of activity of the Bamberger Transportation Company.

Freight business should hold at higher than prewar levels, not only because of the normal growth of the area served but also because of the government's announced plans to keep the Ogden Arsenal in permanent operation. It is doubtful if the special Arsenal train will continue in operation, but service will be provided on the regular trains. It is interesting to note that the heavy war traffic has enabled Bamberger to pay off in full the cost of diesel locomotive 570, the company electing to take the shortened period of amortization for this investment constructed for war causes and charging the same during 1945 instead of using the government's five-year plan; 570 thus has a very low book value due to the special depreciation basis permitted for war industry investments. By acquiring this very efficient and modern piece of motive power, the company has placed itself in an enviable position to accommodate the traffic of the future.

On December 11th, 1945, the Salt Lake & Utah Railroad, which had been a joint tenant with Bamberger Railroad in the use of the terminal facilities at Salt Lake City, was placed

# History



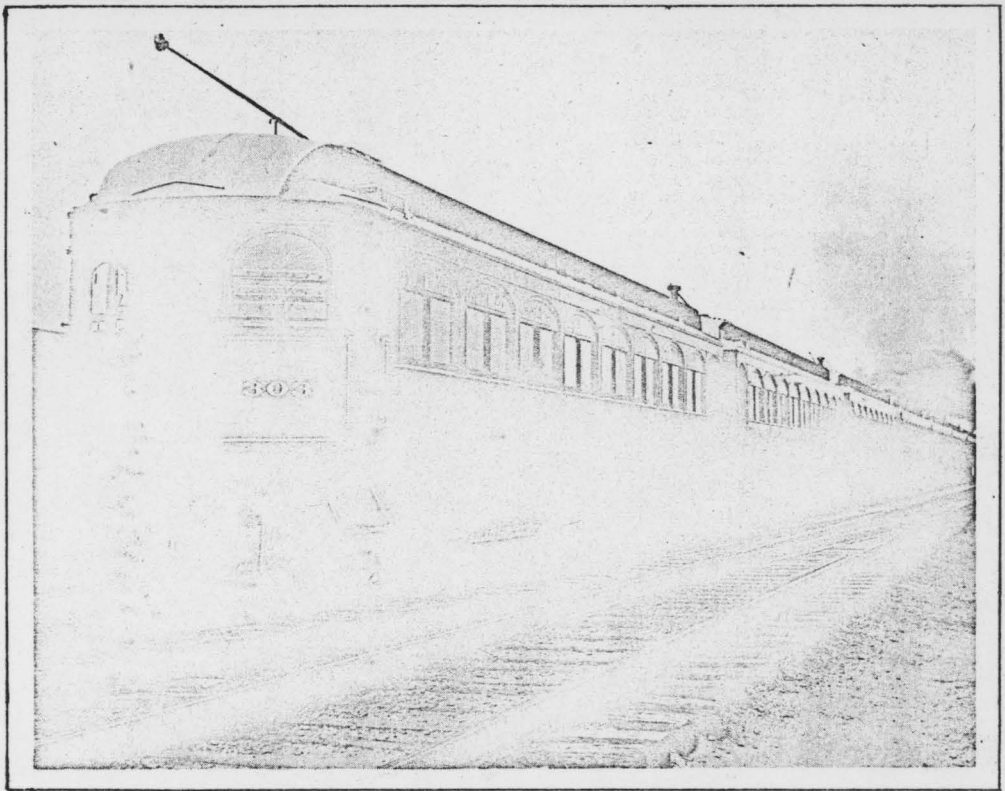
in receivership and was later authorized by the Interstate Commerce Commission to abandon all operations. On December 29th, 1944, the Salt Lake Terminal Company, owner of the Salt Lake terminal facilities, was placed in receivership. The receivership of the Terminal company should be terminated late in 1946 and the present uncertainty concerning this highly important asset should be clarified at that time; the status of the terminal is, at this time, the most important problem bearing on future operations that confronts the company. On July 26th, 1946, certain important trackage of the defunct Salt Lake & Utah Railroad was sold at auction by the court at Provo, Utah. Competing with the Bamberger Railroad for this trackage was the Denver & Rio Grande Western Railroad. The sale included industrial trackage in Provo, Spanish Fork, Springville, Orem and Salt Lake City. Winning bids on all but the Salt Lake City trackage were made by the steam railroad. Bamberger bought SI&U track on First West from Sixth South to Fayette Ave. for \$100,000; the track is for industrial purposes only, but will greatly increase that area of Salt Lake City which can be served directly by Bamberger trains.

Perhaps Mr. Bamberger himself can give us a glimpse into the future of the railroad that bears his name:  
"The future? It's difficult to say. As far as our passenger business goes, there are two headaches:

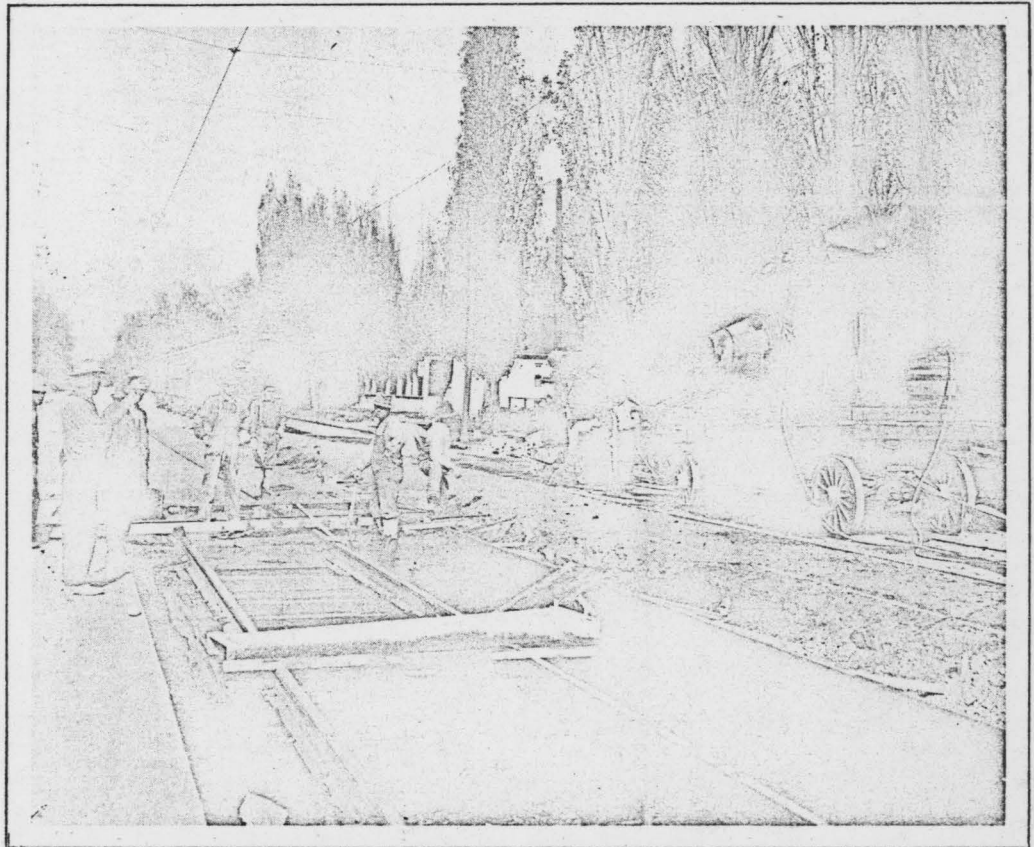
1. How much shall we convert to bus? Should we buy additional rail equipment?
  2. Should the busses do local or limited service? Should rail do local or limited?
- "The highway route to Ogden is longer than the rail route. On rail we have  $1\frac{1}{2}$  miles in Salt Lake City which takes five minutes to cover, due to traffic; we have one mile in Ogden which takes five minutes. This means that on our "Flyer" schedules we have fifty minutes left to cover 34 miles and the six flag stops usually consume another  $1\frac{1}{2}$  minutes each. No bus could maintain such a fast schedule. However, our new busses will be delivered soon and we must definitely determine whether we will use them in limited or local service. We have not yet actually made any expenditure at Salt Lake or Ogden for the rearrangement of our facilities to handle these busses but we have concluded just how we will do it and it is only a matter of getting the materials and the labor and of being assured that the busses are about to be shipped."

Although the busses will return, there is no indication that the rail service will be allowed to suffer as a result. On the contrary, heavy expenditures are now being made to insure even better service on the interurban line. In 1945, maintenance work on cars, track and other property was continued to the extent that available manpower and materials permitted. New rail was laid on approximately 8.95 track miles of main line and rail on several spur tracks was renewed during the same year. Track-controlled automatic block signals were installed between North Salt Lake and Centerville and conversion of the remainder of the signals will be accomplished as rapidly as possible. The government constructed a large highway underpass structure under the tracks at Arsenal and upon its completion several grade crossings were closed. Two installations of automatic crossing gates, the first of the kind in the entire state, are also adding protection against grade crossing accidents. As far as passenger cars are concerned, the company is concentrating its attention on speeding up three cars of its largest type to permit their use on "Flyer" schedules, the New York cars having proved to be too small to accommodate the large number of patrons; the matter of altering the New York cars to permit their use in trains is being investigated and this may solve the vexing problem of how to obtain more service from these very fast, attractive, but small cars.

Whatever the future may hold, it is safe to say that the Bamberger Railroad will handle it in the same manner that earned it its well-merited Certificate of Distinguished Service in War Transportation. The loyal cooperation of Bamberger employes justified this honor and made possible the company's excellent record in war service. With wise, competent management and loyal, able employes as its capital, The Bamberger Railroad seemingly is well able to cope with any sort of new developments.



'T WAS A GREAT DAY IN OGDEN, BACK IN 1910, WHEN THE SL&O'S NEW INTERURBANS ARRIVED.



**STEEL TIE CONSTRUCTION IN CONCRETE:** In the above photo is shown the reason for the smoothness of Bamberger trackage in city streets. Back in November, 1914 (when the above photo was made), streets along which Bamberger trains operated were being paved and it became necessary for the interurban company to follow suit. Under the direction of Julian Bamberger, a half mile of concrete track construction was installed which attracted wide notice in electric railway circles because of its use of steel ties, concrete pavement, and the use of ordinary electric car heaters to aid

the concrete to set. Rails used were 80 pound, 7 inch T-rails, placed on steel box-girder ties, 32 inches over all, spaced on five-foot centers. The standard depth of the foundation concrete was six inches, but the depth of the beams under the rails varied from 8 to 11 inches, depending on sub-soil conditions. Heaters were connected ten in series with a fish pole used to contact the trolley wire. Sand and gravel were obtained from the bed of the Weber River near Ogden via a temporary spur track. Wooden ties were used only under special work.

# Steam Days



The Bamberger Railroad was a steam line from 1896 until 1910, and freight trains continued to be hauled by puffing steamers until 1914. Few remember the Bamberger's steam locomotives, although their cars remained around until much later, being used as electric trailers and maintenance-of-way cars.

The original locomotives (1896) were of the familiar steam dummy type---which is a small steam engine completely enclosed by a wooden body intended to make the engine resemble its cars. Built by Baldwin Locomotive Works, the dummies were similar to those being operated on the Brooklyn elevated at about that same time. They were of the 0-4-2 type (four drivers and two trail) and used no tender. Although small and comparatively light, the dummies were very efficient and made rather good speed, according to Julian Bamberger.

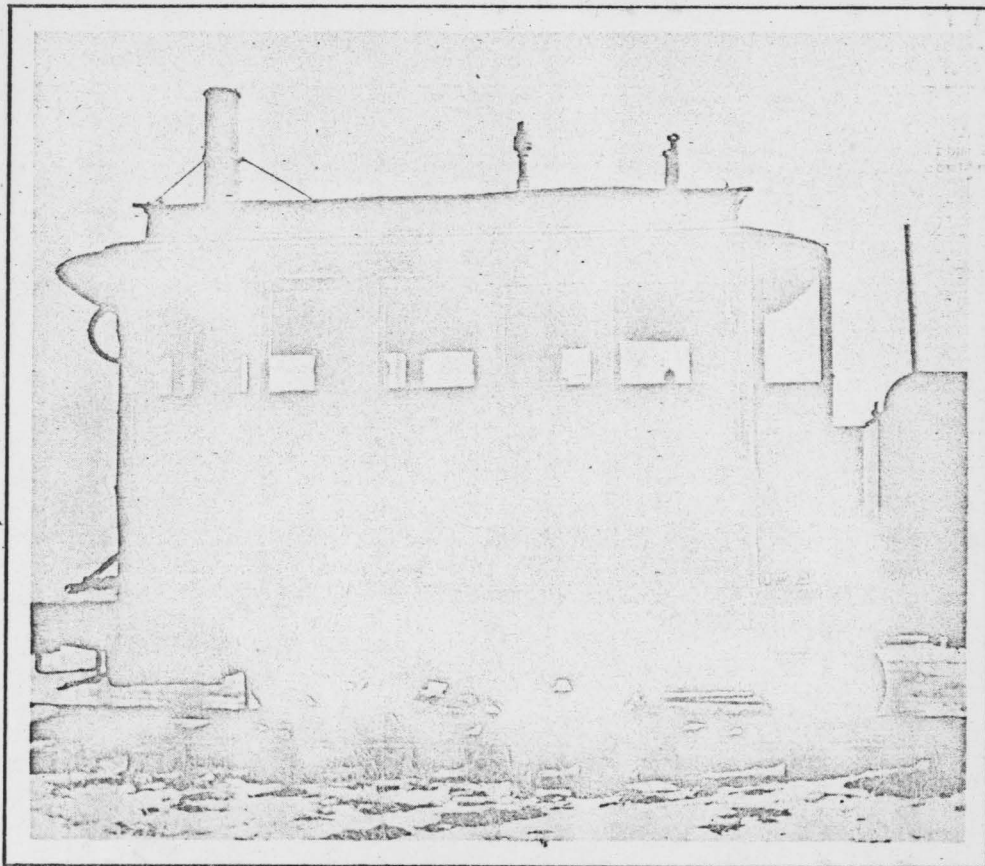
As trains became heavier, it was necessary to purchase larger steam locomotives. These were acquired from various sources, some being new and others being purchased second-hand. Finally in 1909 and the early part of 1910 the company was operating engines that weighed as much as 70 tons. It was these larger machines that were retained until 1914 for use on freight trains.

No roster of steam engines has been kept by Bamberger Railroad, so it is not possible for us to give as complete data on these interesting machines as we usually provide. From an inspection of Mr. Bamberger's file of pictures (some of which are reproduced on these two pages), we deduce information as follows:

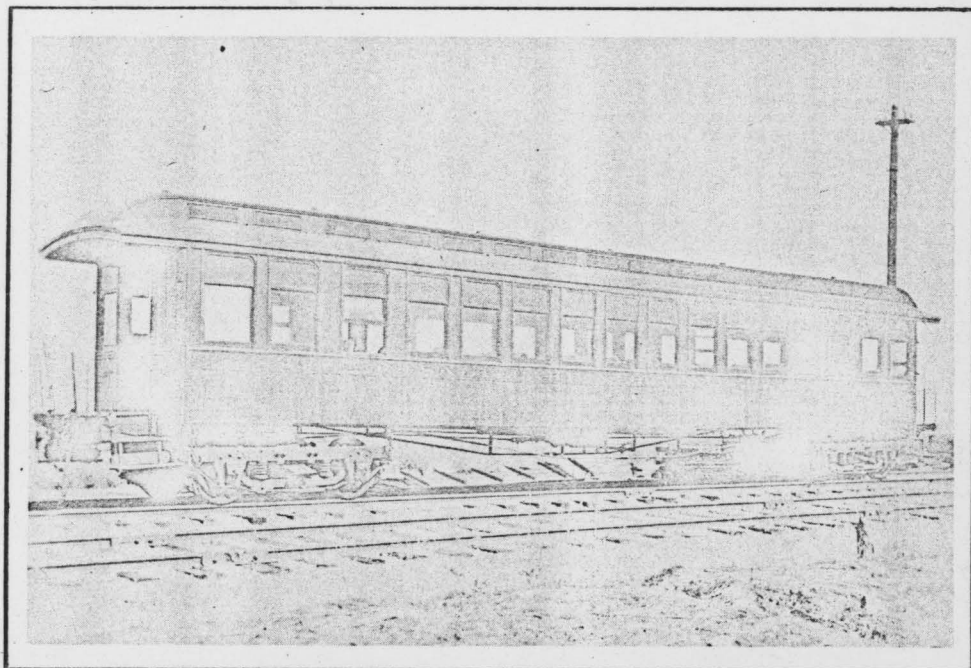
No.	Type	Service
1	0-4-2	Light Passenger (Dummy)
11	0-4-2	Light Passenger (Tank)
18	4-4-0	Heavy Passenger & Freight
19	4-4-0	Heavy Passenger & Freight
20	4-4-0	Heavy Passenger & Freight
21	4-4-0	Heavy Passenger & Freight
22	4-6-0	Heavy Freight
24	0-4-0	Switcher & Light Freight

With electrification came the retirement of all steam power. The engines were for the most part scrapped, although three or four of the larger ones found their way to other properties, usually industrial roads---although one (No. 26) is supposed to have been sold to the Salt Lake & Utah and used in the construction of that line, being scrapped shortly thereafter.

Passenger cars used in steam trains were purchased second-hand from the Brooklyn Rapid Transit and were wood, enclosed cars with open platforms. There were forty of these. Also operating in steam trains were some open cars. With electrification, certain of the closed steam coaches were rebuilt for use as trailers on electric trains; rebuilding consisted of installing electric lights (six in series). Later these were converted into express trailers and numbered 213-221 and were used through World War I.



THE FIRST LOCOMOTIVE OF THE GREAT SALT LAKE & HOT SPRINGS RAILROAD. COMPARE THIS TYPE OF POWER WITH THE "BULLET" CARS OF TODAY.



TYPICAL OF SL&O'S STANDARD PASSENGER EQUIPMENT PRIOR TO 1910 WAS CAR 43, SHOWN ABOVE. THE COMPANY OWNED FORTY OF THESE; SOME WERE USED THROUGH WORLD WAR I AS ELECTRIC TRAILERS (213-221) BUT MOST WERE SCRAPPED UPON ELECTRIFICATION.

Special No. 4

50¢

•••• BAMBERGER RAILROAD

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## INTERURBANS



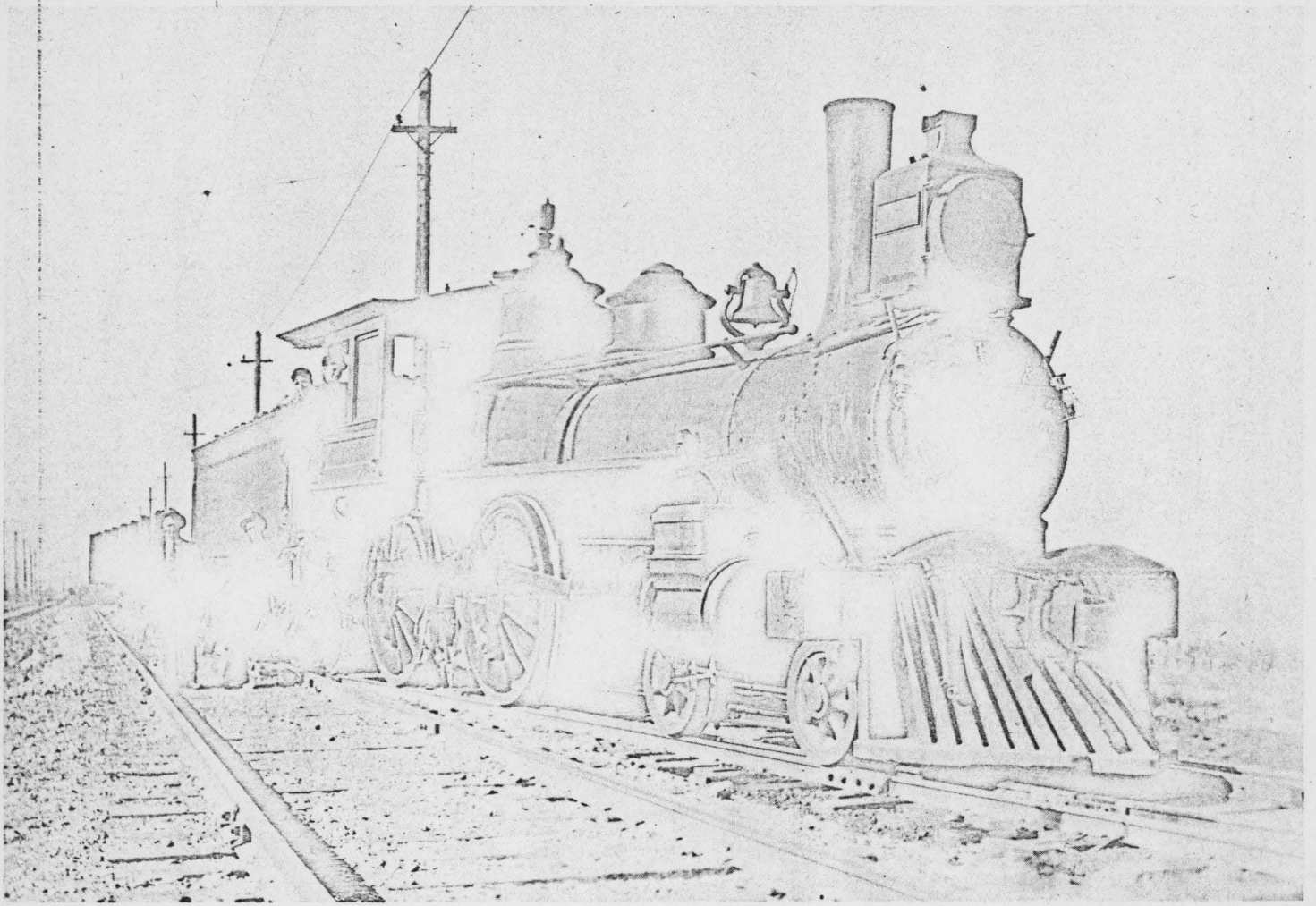
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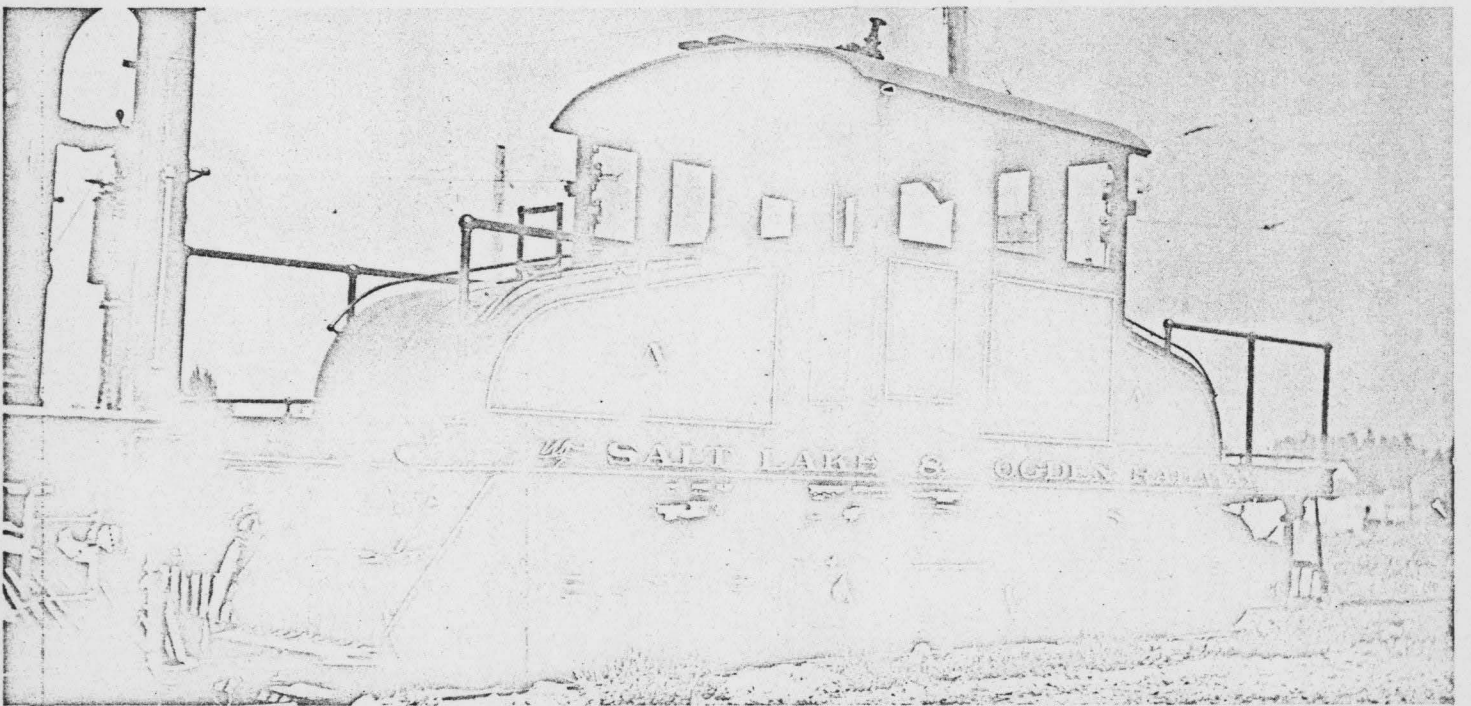
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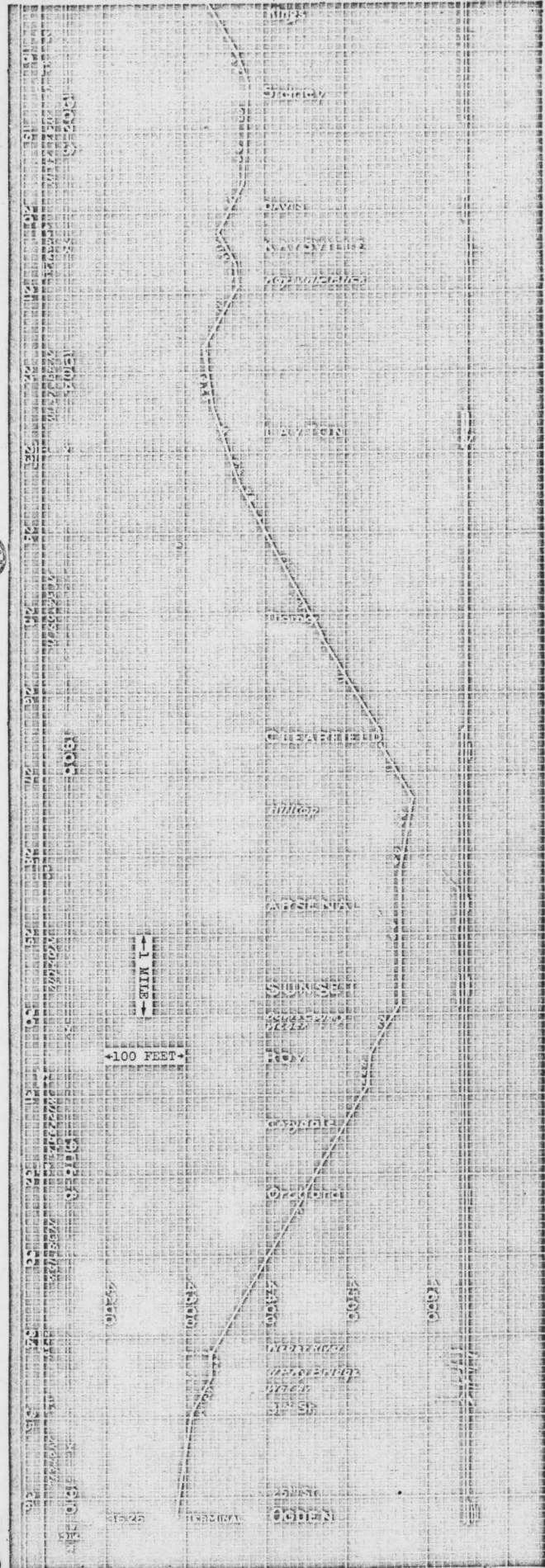
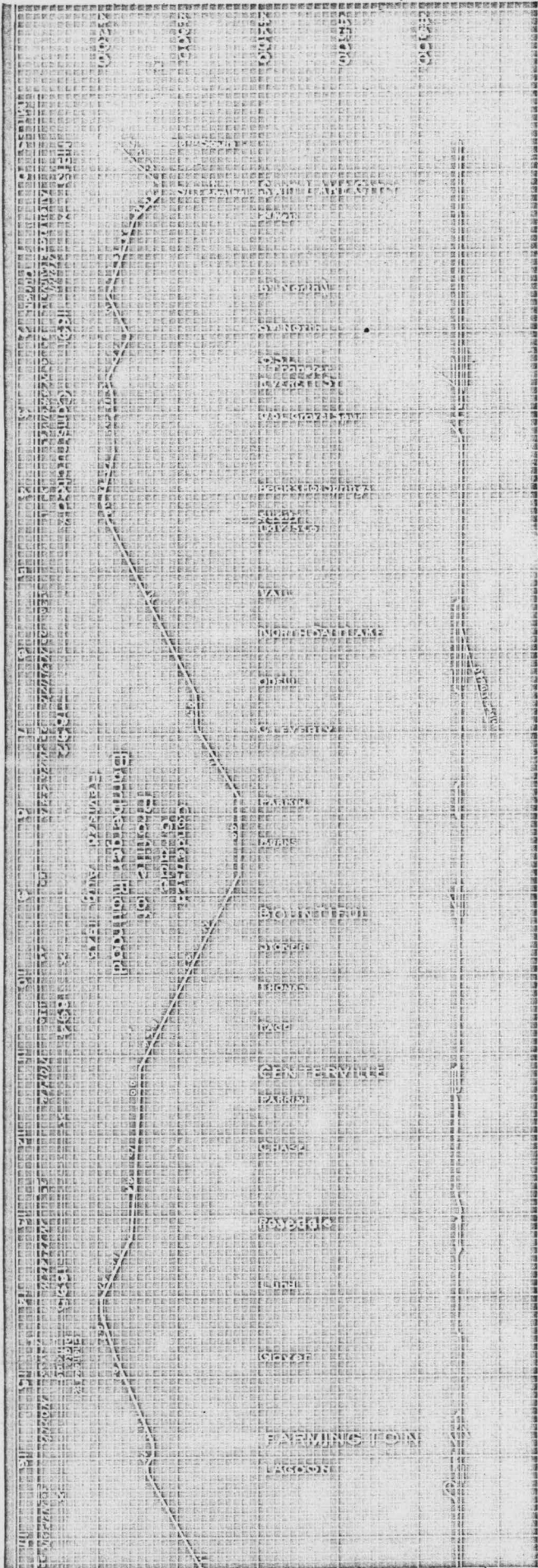




LIKE A PAGE FROM THE PAST IS THIS PICTURE OF SL&O 18 AND CREW. THE 4-4-0 (AMERICAN) TYPE OF STEAM LOCOMOTIVE IS LOOKED UPON BY MANY AS BEING THE MOST BEAUTIFUL AND GRACEFUL OF ALL; IF WE AGREE, THEN SL&O WAS FORTUNATE IN HAVING SO MANY OF THIS TYPE.



LITTLE ELECTRIC LOCOMOTIVE "A" (NOW 527) SOUNDED THE DEATH KNELL OF STEAM POWER. HERE WE SEE "A" BEFORE IT HAD ENTERED SERVICE.





# Operation



Operating a railroad with as much traffic as Bamberger Railroad enjoys (with a large portion of the route single track) can easily be a series of headaches. The smooth, efficient way in which Bamberger trains get over the line is not accidental, but is the result of a well-thought-out system of operation.

The backbone of the system is, of course, the dispatcher. From his headquarters the entire line is controlled. The company's independent telephone system puts his authoritative voice into any given spot on the line at any time. His orders are law, and upon him rests the well-being of the road.

Certain rules of operation supplement the dispatcher's efforts; these are of great interest to all who understand something of the problems that constantly come up in day-to-day operation. Not a single circumstance or combination of circumstances which might conceivably arise in operation have been overlooked---if an operator has a problem, he has only to consult his employees' timetable to find the correct answer. We have insufficient space to reproduce one of these timetables, but appended hereto are some of the more interesting instructions to train crews. Excerpts from both the current employees' timetable and a 1918 one are included (the 1918 TT. being chiefly valuable for its description of the operation of the Nachod block signals which until recently were standard; they are being gradually replaced by automatic block signals). Numbers preceding each of the instructions are those numbers used in the respective timetables.

1. Wires along the line of the Bamberger Railroad may carry ELECTRIC CURRENT. All employees, and especially trainmen working on the top of cars, are CAUTIONED to watch at all times for LOW or LOOSE WIRES and are WARNED not to COME IN CONTACT with any wire either broken, hanging or otherwise.

2. Trolley pickups are on each car and locomotive. In case of fallen wire, other than high voltage, use trolley pickup to pick up wire, using due care not to come into contact with any wire.

3. All electric freight locomotives are equipped with two trolley poles; when only one pole is in use it shall be the rear pole and the front pole shall be hooked down and trolley switch out. These trolley switches will not be operated with either trolley up.

4. All trains carrying revenue passengers have equal right to enter block. Other trains must avoid occupying block at any time when it is known that a delay will be occasioned to trains carrying passengers.

5. Where meeting point is shown with (DT) after train number to meet, meet will be between place shown and end of Double Track, except where single track beyond is controlled by BLOCK SIGNAL or special instructions.

6. In case of block signal failure or when Double Track is used as Single Track, all meets shown are POSITIVE MEETS.

7. South bound trains have right over north bound trains on single track between 24th and 25th Sts., Ogden; however, if on arrival at 25th St., south bound train is not in sight, north bound train may proceed into terminal at reduced speed.

8. At meeting points on single track between trains of same class, south bound trains will take siding, unless otherwise specified by train order.

9. In case of blockade or power outage, south bound passenger trains will wait two (2) minutes, north bound passenger trains will wait three (3) minutes, and freight and work electric trains will wait five (5) minutes before using power.

10. Extra care will be used while working around trolley circuit breakers on First West St., just south of Sixth South St., Salt Lake, and on Lincoln Ave., just north of 22nd St., Ogden, account of different voltage on each side of these breakers. (Ed.: With the demise of the Salt Lake & Utah, all voltage in Salt Lake City is now 750.)

11. Call Dispatcher immediately  
(a) At positive meet, if opposing train is not in sight.  
(b) When train becomes ten minutes late or is held unduly by a signal.  
(c) If UIC connection at Ogden is late.  
(d) After setting cars to interchanges.

14. Upon arriving at terminals, report to Dispatcher at earliest opportunity any delays, number of passengers handled, and for orders as to what cars to make up for next train. After train is made up, operator or hostler will open main switch and control switch, and will place control handle in indicator box.

17. An extra pole will be kept on top of motor cars, and an extra wheel and harp in train operator's seat box. There should be an extra pole on the side of locomotives and an extra wheel and harp on inside of engine.

18. IT IS VERY IMPORTANT THAT CHANGE-OVER SWITCH FOR THREE-SPEED OPERATION FOR LOCOMOTIVES SHOULD NOT BE THROWN FROM EITHER POSITION TO THE OTHER, EXCEPT WHEN CONTROLLER IS IN THE "OFF" POSITION, AND MUST ONLY BE OPERATED BY SPECIFIC ORDER OF THE TRAIN OPERATOR.

(a) Position "series" should be used during all heavy switching and all movements where large tonnage is involved. If conductor is in doubt regarding capacity of locomotive he will confer with the train operator.

(b) In case of a bad order motor requiring motor cut-out switch to be opened, locomotive should be operated with changeover switch in position "normal" only.

19. On single track, northbound trains will use east trolley wire and southbound trains will use west trolley wire, except freight locomotives pulling heavy loads will place one trolley on each wire when practicable.

23. The speed of trains should be so restricted that absolute safety will be assured and the maximum speed will be that to make the schedule, but in no case shall exceed a speed of seventy (70) miles per hour for 100 class cars, sixty (60) miles per hour for 300 class cars, and forty (40) miles per hour for freight and work trains.

30. Local freight crews will do all switching requested of them by agents, unless otherwise instructed by dispatcher.

47. To make EMERGENCY STOP, especially if brake rigging is disabled,---

(a) 300 Class Cars: Move circuit breaker switch to "trip," then reverse controller.  
(b) 100 Class Cars: Shut off controller, place reverse lever in reverse position. Do not again touch reverse lever or controller until car has come to a complete stop.

48. Before coupling up overhead (lighting and heating) circuits between motors and trailers, pull trolley down. When there is more than one motor car in train, one set of these overhead couplers must be left disconnected, preferably between two trailers.

55. In severe cold weather, air reservoirs should be drained and trolley left on the wire; center heater switch on 300 class cars being kept on, but all others turned off.

56. When two passenger trains are scheduled to depart from terminal at the same time, train starting first shall have right of way and other trains will wait until such train clears intersection of tracks before starting.

58. Salt Lake and Ogden yards are indicated by Yard Limit Boards.

59. Bamberger Railroad will do its own switching to and from Utah Sand & Gravel pits, near 14th North St., Salt Lake, operating over trackage of the Union Pacific Railroad. UP will have preference on this trackage at all times.

60. Interlocker at North Salt Lake crossing of Bamberger Railroad branch and Union Pacific main line will be operated by Bamberger crews. Care must be used not to delay UP trains, especially Streamliners, as shown on UP current timetable posted on inside of door of interlocker cabin.

## BLOCK SIGNALS:

64. Northbound track from Block Signal 335 to "End of ABS" sign near 31st St., Ogden, is protected by ABS (automatic block signal) covering northbound track movements only.

65. Overlaps are located:

(a) Between Pole No. 543 W and Signal 56, governing opposing ABS at Everett.  
(b) Between Pole No. 610 E and Signal 63, governing opposing ABS at Bountiful.  
(c) Between Pole No. 912 and Signal No. 93 governing opposing ABS at Centerville.  
(d) Between Pole No. 1840 E and Signal 187, governing opposing ABS at Layton.

66. When a train occupies an Overlap, the entering signal at the opposite end of that block displays a Stop indication. An inferior train must not enter or remain unduly in an Overlap, as this will cause delay to the opposing train which desires to enter block.

67. Upon verbal permission of dispatcher and without a form R train order, a train may run at medium speed against current of traffic to next facing signal outside of yard limits on double track within ABS territory, if dwarf signal on right-hand side of track to be used displays Proceed indication and if such movement will not delay a superior train.

70. Automatic crossing gates, in conjunction with train-controlled flashing light signals at 8th North St., Salt Lake City, and at Easy St., north of Layton, are equipped with flashing indicator lights. Flashing green light indicates gates should descend over highway before train reaches the crossing. Flashing yellow light indicates that gate mechanism is not functioning properly and trains must then approach crossing at reduced speed. When AC power is off, gates will remain in upright position as train approaches crossing; however, lights should flash on battery. Train operator should report promptly to dispatcher any failure of these gates to work.

(The above instructions have been taken from the current employees' timetable. The following instructions are from a Bamberger Electric Railroad Company employees' timetable dated September 3rd, 1918.)

22. NACHOD AUTOMATIC SIGNALS, Type C, have been placed between Centerville and Wilcox, Keysville and Layton, Layton and Robins, and Clearfield and Sunset. The signal governing the block ahead is placed on the right side of the track.

23. Terms used in the operation of this signal are: "SIGNAL" is the box or case containing the DISC (the day indication) and LIGHT (the night indication). "CONTACTOR" is the device which operates the signal and is placed overhead in the trolley line. In order to actuate the signal there must be power in the trolley wire, and the trolley wheel must touch the contactor; but the controller handle may be in any position. "LETTER PLATE" is plate placed at each signal. Letters on one side and yellow on reverse side. "LETTERS SHOWING" indicates block in working order. "YELLOW SHOWING" indicates block out of service.

24. The NEUTRAL signal, NO DISC and NO LIGHT, indicates that track is CLEAR in the block.

25. If upon approaching the contactor the signal shows NEUTRAL, the passage of a train under the entering contactor will cause a WHITE DISC and a WHITE LIGHT to appear. This is termed the PERMISSIVE signal, and indicates that the other end of the block is protected by a RED DISC and a RED LIGHT, termed the STOP signal. The change to the PERMISSIVE signal gives the authority to continue thru the block. The STOP signal means to STOP and stay behind the contactor until the signal returns to NEUTRAL. No train must pass a signal to enter a block unless that signal is showing a WHITE DISC and a WHITE LIGHT.

26. If upon approaching the contactor a WHITE DISC and a WHITE LIGHT is already showing, it indicates that the block is occupied by one or more trains moving in the same direction, and train must not pass under contactor until the signal shows NEUTRAL, AFTER, HOWEVER, WAITING AT LEAST THIRTY SECONDS (to allow all trolleys of outgoing train to clear block before entering train sets same.)

27. When two trains, entering the block from opposite ends, pass under the entering contactors at exactly the same instant, both signals will still indicate NEUTRAL; and a NEUTRAL signal that continues after the entering contactor is passed is to be interpreted as a signal failure or a STOP signal. In this case, both trains must back out of the block under the contactor by which they entered and will not go forward until the PERMISSIVE signal is obtained.

28. The signals work IN PAIRS, and are controlled by the trolley wheel passing through the contactors. The instant a train passes under the entering contactor, the result upon the signal must be noted by the motorman and if the signal works properly he will give TWO SHORT blasts of the whistle and conductor will acknowledge with ONE air whistle signal. When a train leaves the block the conductor will observe the signal and see that the RED DISC drops and the RED LIGHT is extinguished and if signal works properly will give motorman ONE air whistle signal which will be answered by the motorman by TWO SHORT blasts of the whistle. If trolley should leave the wire before the train counts out under the contactor or for any other case signal fails to work, train should back under the contactor, and go forward again. This operation must be reported to dispatcher.

29. The train, having entered the block past an entering contactor has been COUNTED IN and must be COUNTED OUT of the block by passing under a leaving contactor.

30. If for any reason the signal fails to change from NEUTRAL to PERMISSIVE in entering the block, then the STOP signal will not have been set at the other end of the block. In such a case the train should back under the contactor and go forward again. If not successful, the trainmen will communicate with the dispatcher or flag through the block UNDER FULL CONTROL, after having executed all train order and timetable instructions.

31. When one train desires to immediately follow another train through the block, the first train must carry a flagman from such train who will protect the opposite end of the block from all opposing trains. ANY TRAIN PASSING THROUGH A BLOCK UNDER FLAG PROTECTION MUST USE EXTRA CAUTION TO PULL TROLLEY DOWN WHEN PASSING UNDER LEAVING CONTACTOR IN CASE BLOCK IS OCCUPIED, OTHERWISE IT WILL CLEAR BLOCK AND LEAVE TRAIN IN THE BLOCK UNPROTECTED.

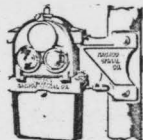
32. No car must pass under a contactor when there is no power in the trolley wire, as the passage will then not be recorded.

33. The crew must report any failure to obtain a PERMISSIVE signal; any failure to clear the block; any case of having to flag against a STOP signal; and the absence or burning out of any signal light.

34. All switching moves made under each contactor in its own direction will be taken care of automatically.

35. If for any reason a motorman runs under the contactor against a STOP signal, he will not affect the signals, as the entering contactor is cut out of operation when the signal shows STOP. He must back out again behind the contactor to wait until the signal returns to NEUTRAL.

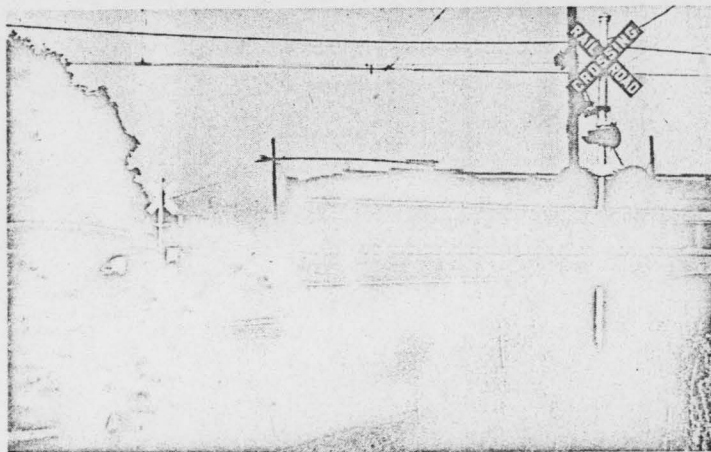
36. Do not STOP A CAR or REPLACE A TROLLEY on the wire when under a CONTACTOR.



Nachod Signals

WHEN WINTER COMES, operations are hampered by snow---lots of it. In the old photo at the right we see I 302 posing for her picture alongside a snow bank six feet high. To keep its trains rolling during wintertime, Bamberger Railroad owns a large plow and in addition each car and locomotive is fitted with its own plow; note picture on front cover, also photo of car 129 on page 19.

# Grade-Crossing Danger



THIS POSTER IS NOW APPEARING IN ALL CARS OF THE BAMBERGER RAILROAD. IT IS TYPICAL OF THIS COMPANY'S RELENTLESS WAR ON DANGEROUS CARELESSNESS. NOTE NEW CROSSING SIGNAL.

One of the most flagrant examples of our national habit of carelessness are accidents at railroad grade crossings.

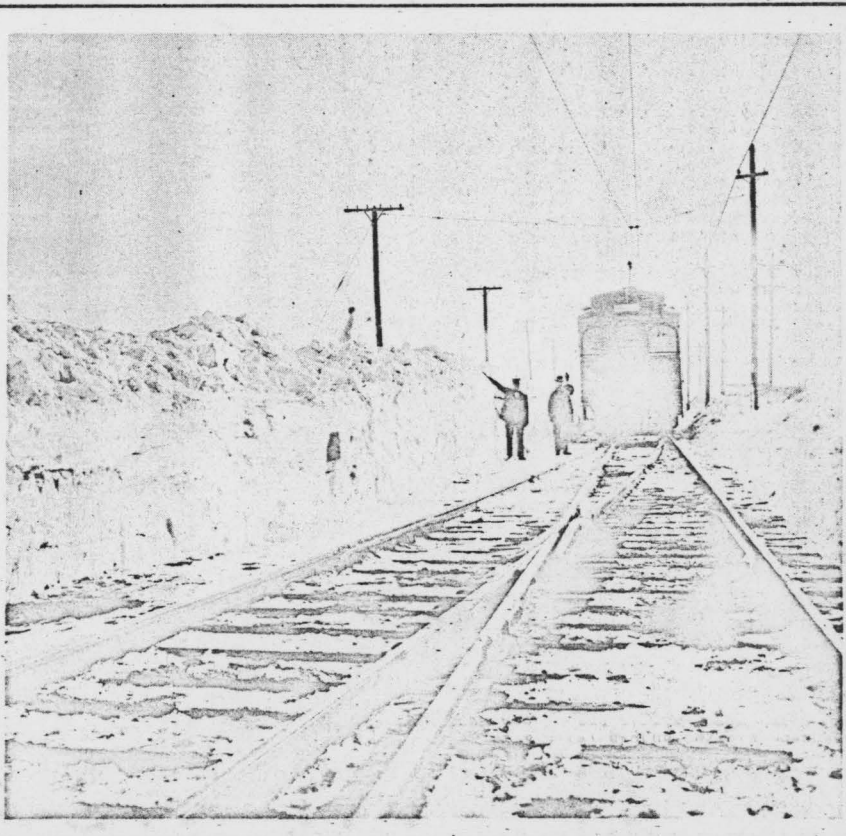
There has been a decline over the years in grade-crossing accidents. The death rate from those accidents resulting from train and motor collisions has declined by more than 50 per cent in 20 years. In the same period trespasser deaths per 100,000 locomotive-miles dropped 37 per cent. Nevertheless, in the single year 1943 there were 1,876 deaths at grade crossings, of which 1,525 resulted from collisions between motor vehicles and trains. In all, there were 3,206 such accidents.

39 per cent of the accidents occurred at crossings protected by gates, lights, bells or watchmen. In 65

per cent the train was traveling at less than 30 miles an hour or was standing still. In one-third of the night accidents, which were 46 per cent of the total, the motor vehicle struck the train at some point back of the locomotive. This fact alone tells the story of carelessness on the part of drivers. But drivers are not the only offenders. Of the total accidents, 18 per cent involve pedestrians.

Millions of dollars have been spent by railroads and states to eliminate grade crossings. The toll of death and injuries at railroad crossings is one of which we should be heartily ashamed. When the lights of a signal at a railroad crossing are flashing, motor vehicles should stop and not proceed unless they can do so safely. IT REQUIRES ONLY A FEW SECONDS TO BE CAREFUL.

## BAMBERGER RAILROAD CO.



# Fire!



Shortly after six o'clock in the morning on Tuesday, May 7th, 1918, fire was discovered in the substation and carbarn at Ogden. The buildings adjoined, and for all practical purposes could be considered one building. Before the fire engines could arrive, both buildings were a mass of flame and the fire was not brought under control until it had consumed almost all the property. Bamberger suffered damage to the extent of approximately \$500,000. Ten motors, ten trailers and one electric locomotive were destroyed and the buildings were reduced to a mass of twisted wreckage.

The disastrous blaze started with an explosion in the 44,000 volt lightning arrestors in the substation; a window in the fire wall between the substation and the carbarn was shattered by the force of the explosion and through this window was sprayed burning oil, landing squarely on the cars nearby and setting them afire. Had this window been bricked up, instead of just closed with wire screening and glass, the entire loss would have been only a few hundred dollars.

Because power was shut off due to the grounding of the substation switchboard, immediately after the fire started, it was impossible to move any of the cars stored in the carbarn.

The carbarn was not equipped with an automatic sprinkler system; instead, a manual sprinkler system was being installed at the time. Due to the wide publicity later given the ineffectiveness of this manual system, electric railways the nation over were quick to install, or improve their already existing, automatic sprinkler systems.

The 21 cars destroyed were among the finest the interurban possessed. Among them were all six of the brand new excursion trailers, ten of the company's eighteen motor cars, and locomotive 527, the original electric engine. These were stored in the Ogden carbarn overnight because the trend of morning traffic was toward Salt Lake City; the Ogden barn was the only barn of any size on the line and did quite a good share of the maintenance work.

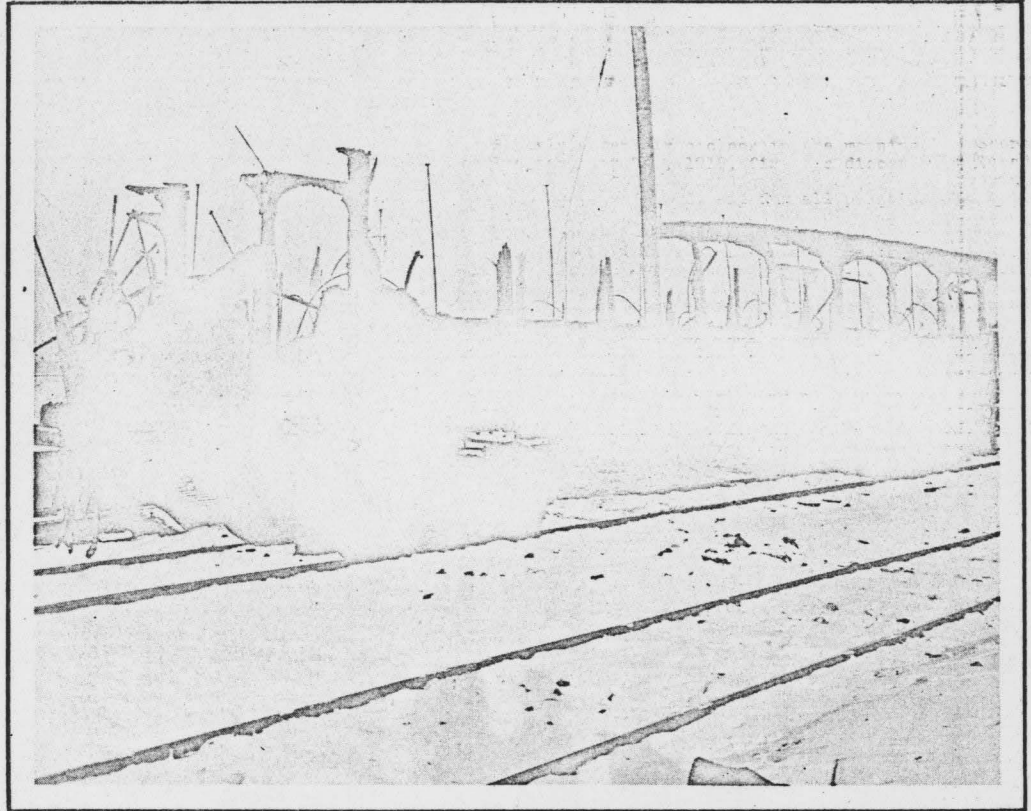
Fully realizing the serious shortage of rolling stock brought about by the fire, the company set about conditioning North Salt Lake to undertake the big job of rebuilding the less-seriously burned cars; it was decided not to rebuild the Ogden barn, and to shift permanently to North Salt Lake all the work of car maintenance and rebuilding. As the first step, some undamaged buildings at the Ogden shops were moved bodily to North Salt Lake and served well in later months.

The complete story of the rebuilding of the burned cars is to be found in the Roster section on page 16 and will not be dealt with here. Suffice it to say that the fire caused the postponement of a general improvement program for several years, and for a time was the direct cause of severely hampered service, both passenger and freight.

A short time after the Ogden holocaust the company suffered a second severe fire, this time a warehouse in Salt Lake City being consumed. Many Bamberger officials still believe that one fire could very likely have been an accident, but two-- well, the country was at war and the crippling of a railroad, however small, would be the logical objective of an enemy agent.

Very few electric railways have been called upon to withstand a loss of the enormity of the \$500,000 Ogden carbarn fire. We can only marvel at the courageous recovery made, and perhaps wonder at what heights Bamberger Railroad might have attained had the fire not occurred.

The true impact of the disaster is made shockingly apparent in the truly remarkable photographs which are reproduced on these two pages. The photos are from the private collection of Mr. Julian M. Bamberger.



- 1: Car 304 was more fortunate than most of the burned cars and was one of the first to be rebuilt. Note the round iron rods used to reinforce window posts; these were replaced in the rebuilding by tee-irons and the wooden sides gave way to sheet steel siding.
- 2: Typical of most of the twenty burned cars was the 316, below. Note that the trucks are just about the only things not completely destroyed.
- 3: A network of steel. Note the difference between the steel cars on the left, which kept their shape fairly well, as compared to what little is left of the wooden cars. Today the steel cars are 350-355.
- 4: General view of the debris. Note to the right center the horn gaps of the lightning arrestors which exploded through the window directly under them. The original three-track barn (right) and the five-track corrugated iron addition (left and center) were also separated by a wall in which several windows were cut. This aided the spread of the fire considerably.
- 5: Firemen, standing on the hulks of burned cars, snuff out the last embers on the roof of locomotive 527; the 527 was later rebuilt and put back in service with the same number.



1

2

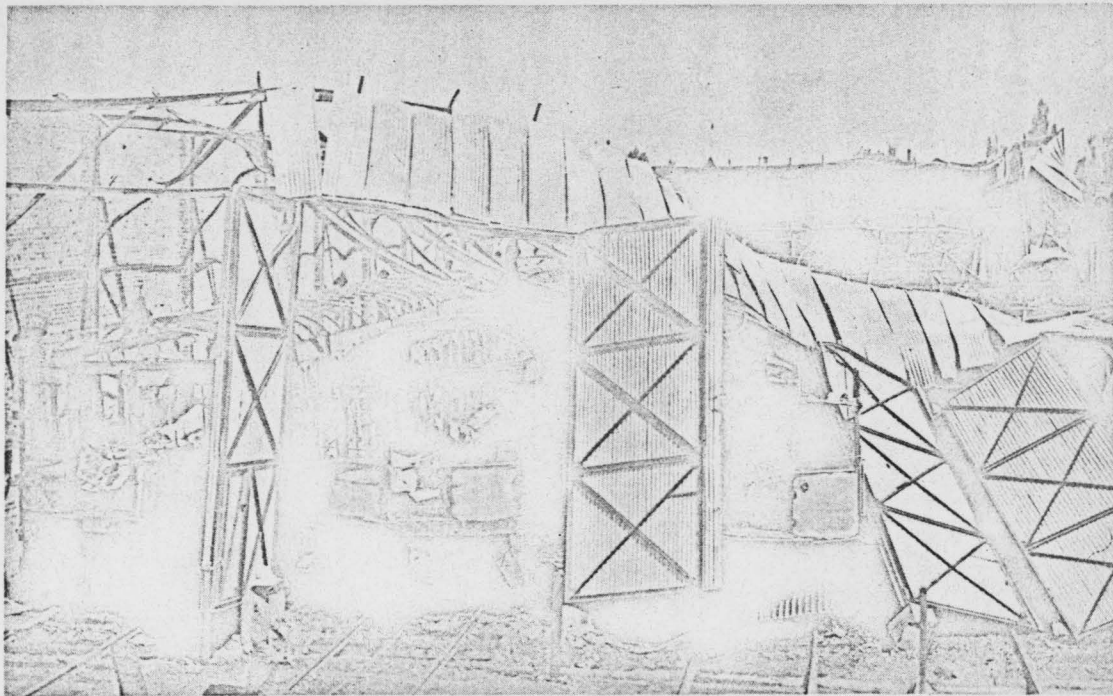


## CARS DESTROYED:

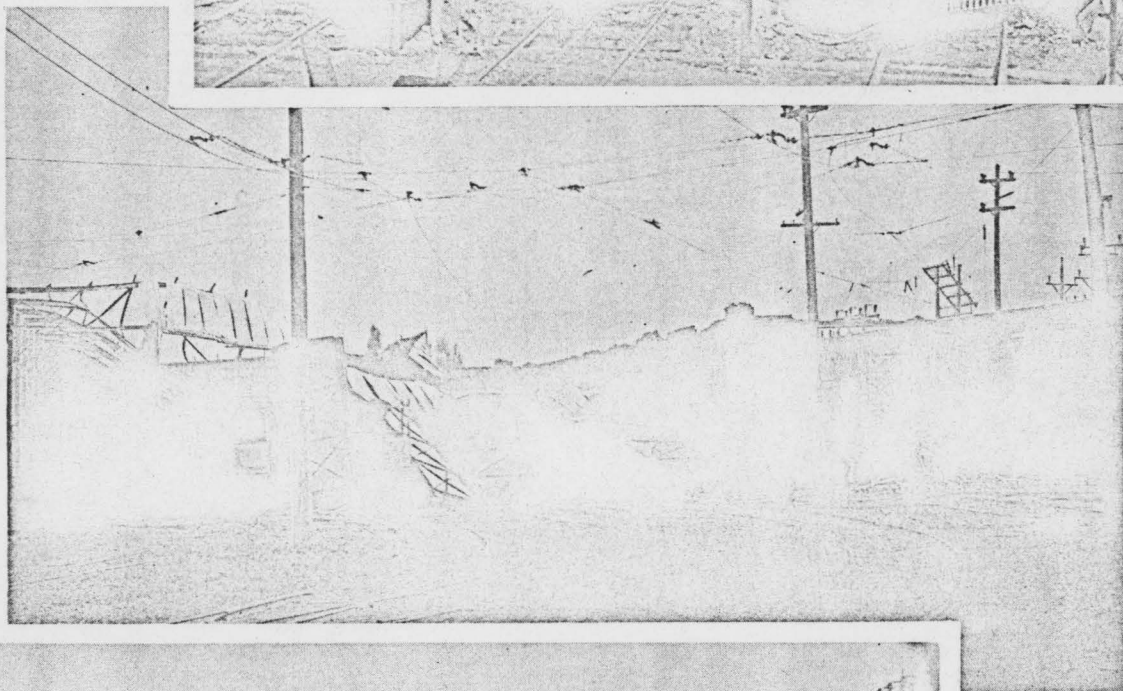
302	314	400	427	527
303	315	404	428	
304	316	405	429	
307	317	425	450	
308	318	426	451	



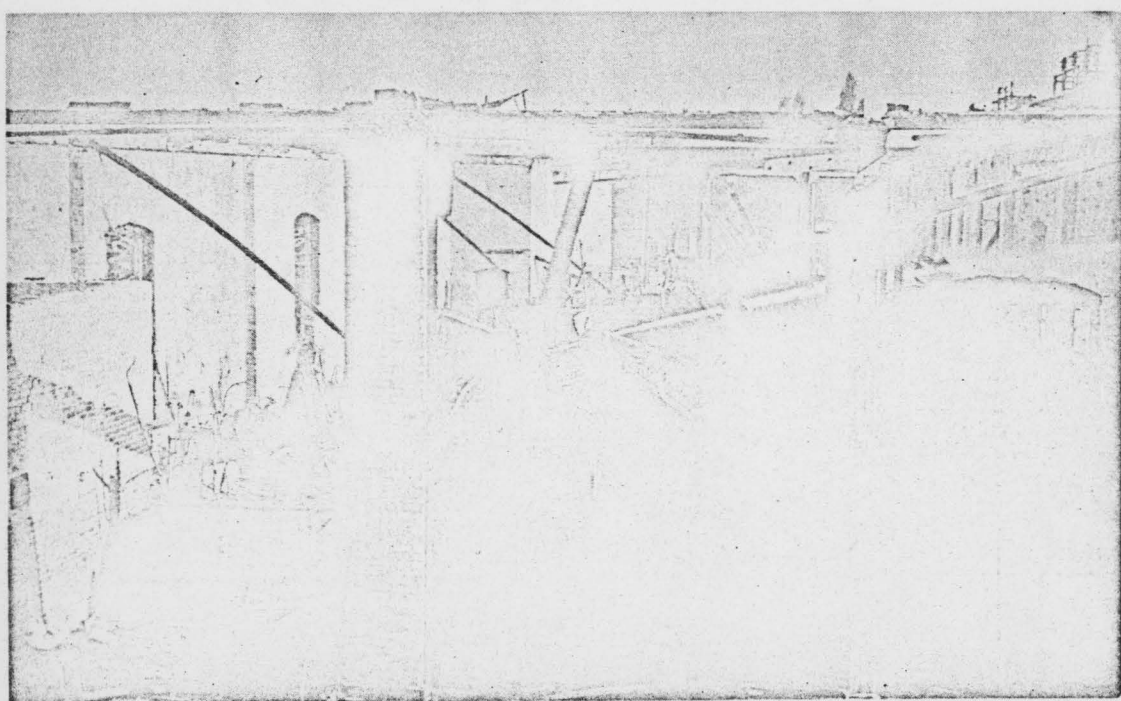
**Fire!**



**3**



**4**



**5**



# Roster



# Passenger Cars

To compile an all-time roster of cars of The Bamberger Railroad is a difficult task, due to the extensive rebuilding and renumbering of most of the cars; this, of course, is the result of the disastrous Ogden car-barn fire of May 7, 1918. With the experience acquired in rebuilding the less severely burned cars, it is only natural that the North Salt Lake shops should use this skill often in the following years; while the rebuilding and renumbering of cars admittedly makes it an arduous task to trace individual histories of cars, there can be no doubt that quality of Bamberger rolling stock has been much improved thereby.

To make it easier to understand the cars, there has been worked out a separate listing of them wherein numbering is the key. Cars appear first under their original numbers, then by their first and second renumberings with dates of number changes. That this is necessary is attested to by the fact that only one of the original 24 cars still uses its first number (401).

Following the data on renumbering is the roster of present-day passenger cars; for a locomotive roster, kindly turn to page Note also that the cars belonging to Ogden Arsenal are not listed here; they appear on page Every effort has been made to check authenticity of all data presented; errors noticed should be called to our attention.

For the accuracy of the following information, we are indebted to Mr. R. F. Benton, Master Mechanic and Electrical Engineer of The Bamberger Railroad.

## RENUMBERING DATA, CARS OF THE BAMBERGER RAILROAD:

Orig. No.	Date of Orig. No.	First Reno.	Date of 1st Reno.	Second Reno.	Date of 2nd Reno.	Disposal
300	1910	II 404	10-15-21	---	---	In Service
301	1910	407	5-29-28	---	---	Scrapped 12-1-37
302	1910	321	5-30-19	III 303	9-27-28	In Service
303	1910	322	7-4-19	---	---	In Service
304	1910	525	6-10-20	---	---	In Service
305	1910	II 403	3-28-23	---	---	In Service
306	1910	200	9-18-20	05	7-28-37	In Service
307	1910	II 300	7-3-23	530	10-27-39	In Service
308	1910	526	12-16-19	---	---	In Service
309	1910	324	3-20-20	---	---	In Service
310	1913	II 304	12-1-19	326	9-2-21	In Service
311	1913	437	1-15-21	II 325	3-19-28	Burned, 7-15-44
312	1913	408	12-1-37	---	---	Scrapped 12-1-37
314	1913	---	---	---	---	Burned, 5-7-18
315	1913	323	10-30-19	---	---	In Service
316	1913	438	2-6-28	II 301	5-26-28	In Service
317	1913	II 303	11-15-19	406	3-19-28	In Service
318	1913	II 306	11-11-20	II 405	9-2-22	In Service
400	1910	434	5-28-20	---	---	In Service
401	1910	---	---	---	---	In Service
402	1910	I 325	5-4-19	II 402	2-1-23	In Service
403	1910	320	1-18-19	II 400	3-3-22	In Service
404	1910	435	6-18-20	II 302	1-5-29	In Service
405	1910	436	7-23-21	---	---	In Service
425	1916	433	4-12-19	353	11-26-21	In Service
426	1916	428	9-28-18	350	12-22-21	In Service
427	1916	II 429	8-22-18	354	9-20-22	In Service
428	1916	431	2-5-19	351	10-4-21	In Service
429	1916	432	2-17-19	352	10-1-21	In Service
430	1916	355	1-5-23	---	---	In Service

### NOTES ON CARS:

The 24 composite (wood body, steel under-frame) cars furnished Bamberger by Jewett and Niles were built to the same plans and specifications but on three different orders:

Cars 450-452 and 125-129 have never been renumbered. Of the locomotives, only 529 was renumbered, becoming line car 01 in December, 1937.

### ROSTER OF CARS NOW IN SERVICE (1946):

Date	Builder	Type of Car	Units	Numbers	MOTORS	LENGTH	WIDTH	HEIGHT	SEATS	WEIGHT	RATIO	MOTORS	TRUCKS	CONTROL	WHEELS	TYPE
1910	Jewett	Motor	10	300-309	301	56'0"	9'0"	13'0"	56	81,060	21:53	GE 205B	Bald 78-30	GE C-36-C	36"	4
1910	Niles	Trail	6	400-405	302	"	"	"	64	83,200	"	"	"	"	"	1
1913	Niles	Motor	8	310-318	303	"	"	"	59	81,680	"	"	"	"	"	4
					322	"	"	"	66	83,300	"	"	"	"	"	1
					323	"	"	"	72	82,100	"	"	"	"	"	2
					324	"	"	"	68	82,600	"	"	"	"	"	1
					325	"	"	"	66	82,000	"	"	"	"	"	1
					326	"	"	"	70	82,200	"	"	"	"	"	1
					350	61'7"	9'6"	13'0"	76	87,200	21:53	GE 205B	Bald 78-30	PC-101-A	"	2
					351	"	"	"	64	85,920	"	"	"	"	"	4
					352	"	"	"	84	87,400	"	"	"	"	"	1
					353	"	"	"	84	86,900	24:50	"	"	"	"	1
					354	"	"	"	84	83,700	"	"	"	"	"	1
					355	"	"	"	84	83,500	"	"	"	"	"	1
					400	56'0"	9'0"	13'0"	68	56,100	---	---	Bald	---	"	1
					401	"	"	"	64	56,300	---	---	"	---	"	1
					402	"	"	"	64	56,100	---	---	"	---	"	1
					403	"	"	"	66	56,000	---	---	"	---	"	2
					404	"	"	"	72	56,000	---	---	"	---	"	2
					405	"	"	"	40	56,000	---	---	"	---	"	4
					406	"	"	"	74	55,700	---	---	"	---	"	1
					434	"	"	"	64	55,500	---	---	"	---	"	1
					436	"	"	"	68	55,800	---	---	"	---	"	1
					125	46'11"	9'0"	10'9"	54	42,200	24:55	GE 301	Brill 89-E-1	K-75	28"	1
					126	"	"	"	"	"	"	"	"	"	"	1
					127	"	"	"	"	"	"	"	"	"	"	1
					128	"	"	"	"	"	"	"	"	"	"	1
					129	"	"	"	"	"	"	"	"	"	"	1

Note: Cars 325, 326 and 129 temporarily out of service pending rebuilding.

Type: 1 - Single Compartment Coach  
2 - Coach with Smoking Compt.  
3 - Coach with Smoking & Baggage Compts.  
4 - Coach with Baggage Compt.

Brakes: All cars are equipped with Westinghouse AMM brakes, except cars 125-129 which have GE straight air with MD-33 valve, and also magnetic track brakes.

Double End Cars: Only motor 322 has been equipped to run in either direction. However, 125-129 and 303 are equipped for operating from the rear end for switching purposes only. All other cars are single end.

Car 205: A steel baggage motor, number 205, was constructed by the company's shops in 1921. This car ran for 16 years, being scrapped in 1937. In 1939, steel from the scrapped body was used in constructing locomotive 530.

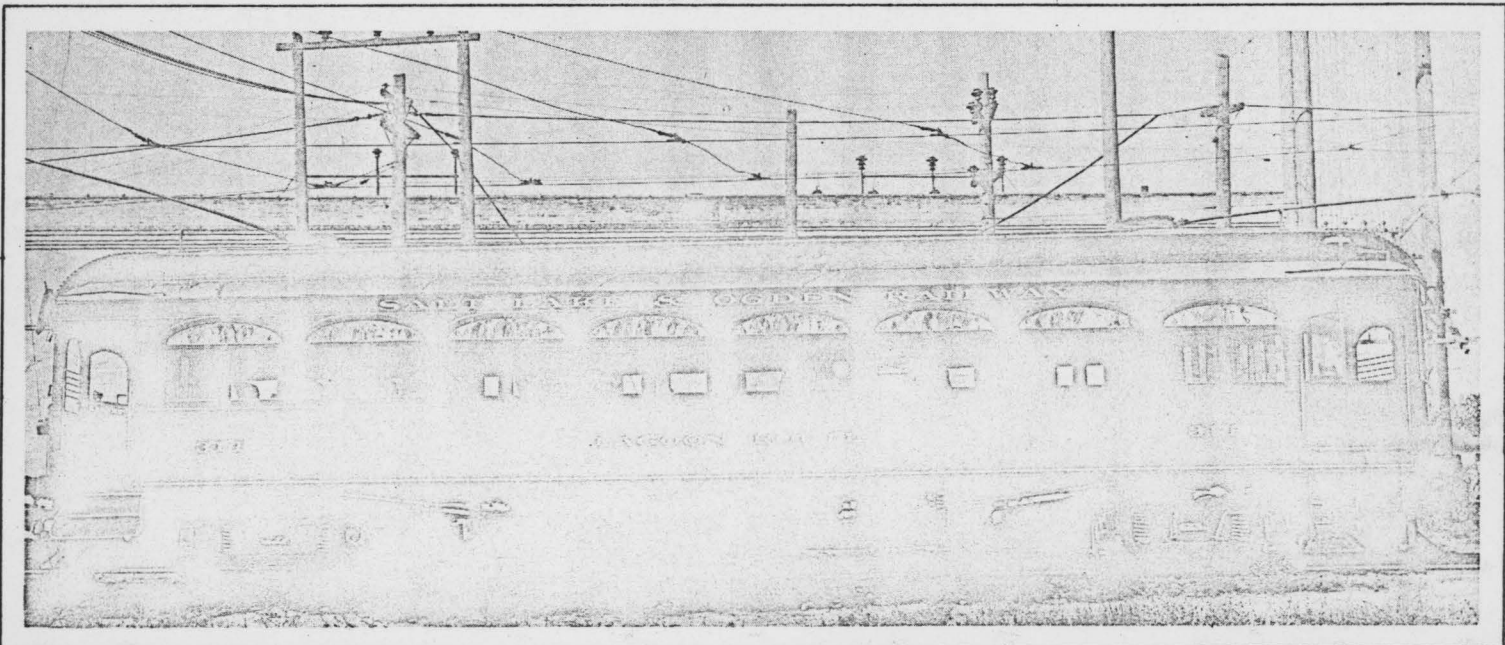
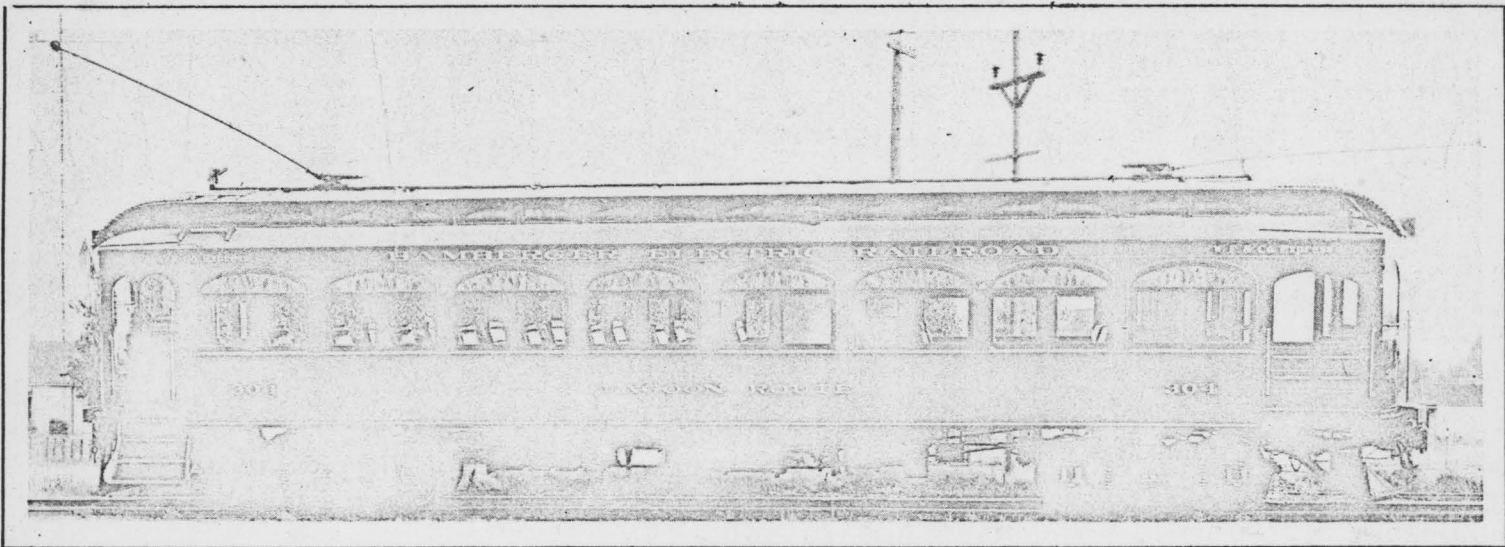
Car 310: Car 310 (as II 304) burned at Centerville Nov. 28, 1920; rebuilt as motor 326 on Sept. 2, 1921.



WAREHOUSE TRACKAGE IN THE HEART OF SALT LAKE AND OGDEN BUSINESS DISTRICTS

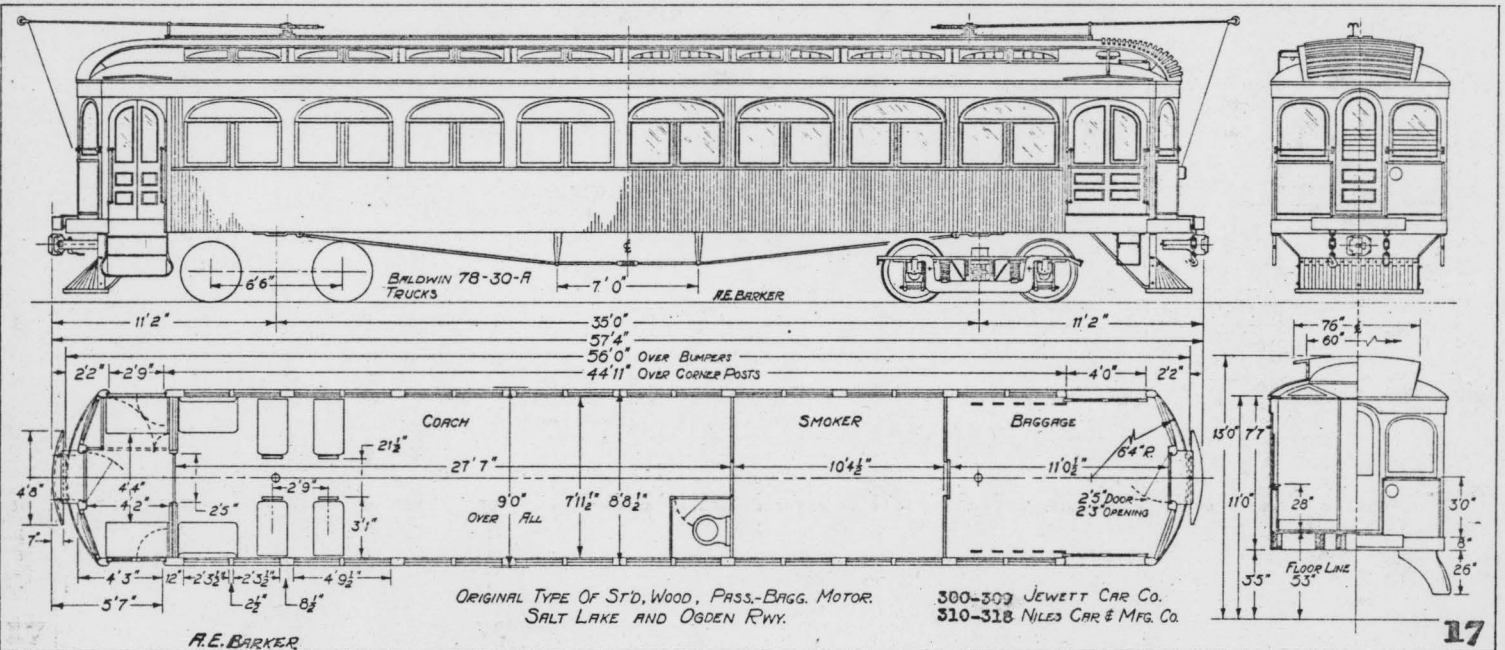
ROUTING VIA BAMBERGER RAILROAD ASSURES PERSONALIZED SERVICE

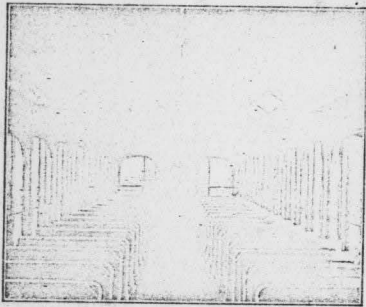




ON TOP, THE 304---BY JEWETT; NEXT, THE 314---BY NILES. ALIKE AS TWO PEAS IN A POD, THE ONLY DIFFERENCE SEEMS TO BE IN STEPS AND IN THE POSITION OF THE BELL. CAR 314 IS STANDING ALONGSIDE THE OGDEN

BARN AND SUBSTATION. BELOW, ANOTHER OF ALFRED BARKER'S EXCELLENT DRAWINGS---SHOWING IN EXACT DETAIL THE BEAUTIFUL DESIGN OF THESE CARS. THE TRAILERS (400-405) WERE SIMILAR BUT FOR BAGGAGE DOOR.





INTERIOR OF LARGE STEEL TRAIL CAR ON SALT LAKE & OGDEN RAILROAD

Large Steel Trail Cars in Operation on Salt Lake & Ogden Railroad

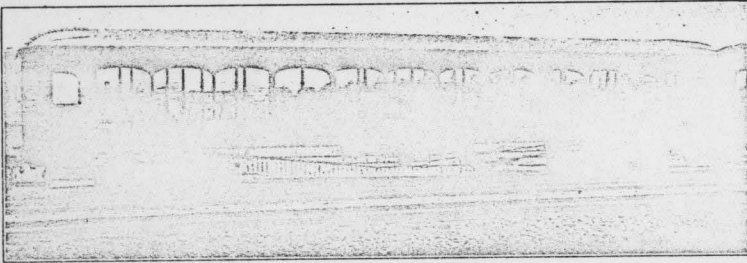
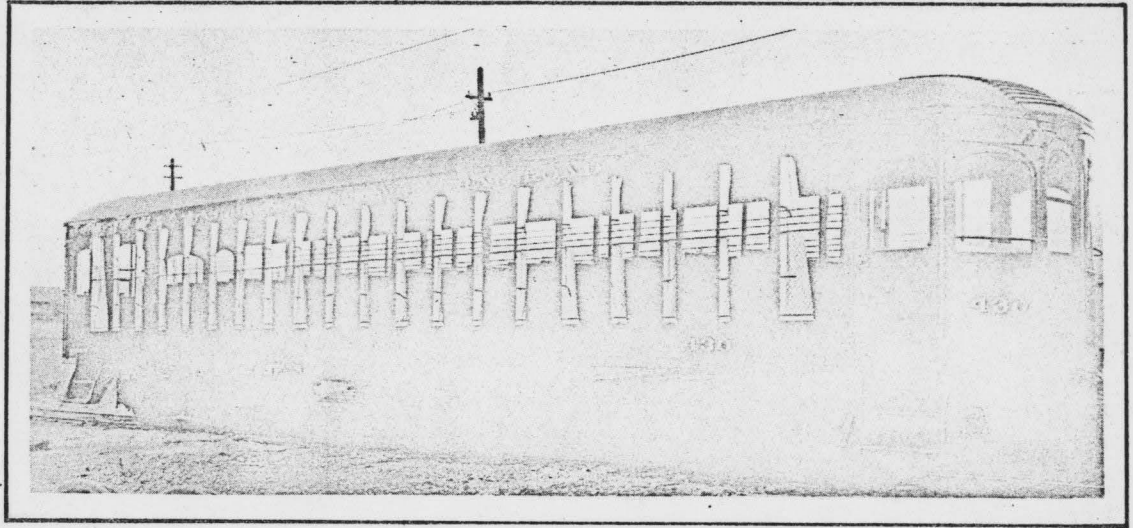
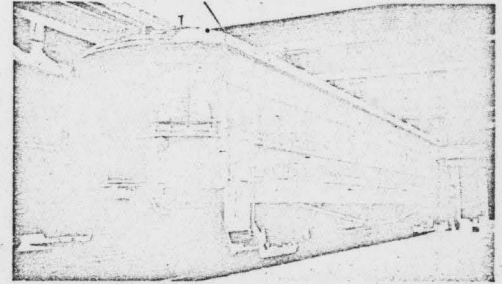
IN connection with the inauguration of its summer schedule, the Salt Lake & Ogden Railroad recently placed in operation six new excursion-type trail cars, the order for which was noted in the ELECTRIC RAILWAY JOURNAL of Dec. 18, 1915. These cars are especially designed for accommodating the railroad company's heavy traffic to Lagoon, a pleasure resort situated about half-way between Salt Lake City and Ogden, Utah.

As shown in an accompanying illustration, the car is very large, having a seating capacity of eighty passengers. It is 61 ft. 6 3/4 in. long, 9 ft. 6 in. wide, 12 ft. 7 in. high and weighs 56,000 lb. The body framing is entirely of steel, the posts are of composite construction, with T-iron and wood fillers and the letterboards are of steel. The roof is of wood, covered with canvas, and the floor is of wood, double thickness. The seats are Hale & Kilburn No. 300A in quarter-sawn oak. Sliding duck curtains are provided in the window openings. The vestibules are arranged for through train operation with a swinging door in the center at each end.

The car is equipped with both seven-wire General Electric and eleven-wire Westinghouse control cable so as to operate in trains with other cars equipped with either type. The Orem line and the Ogden, Logan & Idaho Railway with which the Bamberger line has con-

nection, are also equipped with Westinghouse control apparatus.

The underframing of this car is of heavy steel. The center sill is of 8-in. I-beam, 18 lb. per foot, while the side sills are of 8-in. channel bars, 13 1/2 lb. per foot. The intermediate sills are of 6-in. channel bars. The distance between truck centers is 39 ft. 2 in. and the trucks have a 6-ft. 6-in. wheelbase. They are equipped with standard 36-in. steel wheels with 6-in. axles and 5-in. x 9-in. journals. The cars are furnished with Westinghouse complete trailer brake equipments including the American slack adjuster. Each end of the car has a Janney radial M.C.B. coupler and is also fitted with a cast-steel spring buffer. The trucks were made by the Baldwin Locomotive Works, while the cars were built by the Jewett Car Company of Newark, N. J.



STEEL TRAIL CARS WITH CAPACITY OF EIGHTY PERSONS NOW OPERATING ON THE SALT LAKE & OGDEN RAILROAD

THE REBUILDING OF THE SIX STEEL EXCURSION TRAILERS AFTER THE OGDEN CARBARN FIRE IN WHICH ALL WERE BURNED TOOK THE FORM OF THREE DISTINCT STEPS. FIRST, THREE OF THE TRAILERS WERE REBUILT IN APPROXIMATELY THE SAME CONDITION AS WHEN FIRST DELIVERED. THE REMAINING THREE, HOWEVER, WERE ELABORATED UPON---FINALLY EMERGING FROM THE SHOPS AS CLOSED TRAILERS. SO PLEASED WAS THE COMPANY WITH THESE SECOND THREE THAT THE FIRST THREE WERE CALLED BACK AND SIMILARLY ENCLOSED. THE THIRD STEP WAS TO BE EXPECTED---ALL SIX WERE GIVEN MOTORS AND THUS WAS BORN THE VERY SUCCESSFUL 350-355 CLASS. THE PHOTO AT THE LEFT SHOWS THE CARS AS THEY LOOKED IN THEIR ORIGINAL CONDITION. ABOVE WE SEE THE RESULTS OF THE FIRST STEP IN THE REBUILDING; ASIDE FROM THE SLIGHT WAVINESS OF THE HEAT-WARPED METAL THE CAR LOOKS AS GOOD AS NEW. AT UPPER RIGHT IS SHOWN CAR 355 IN 1927, SHORTLY AFTER BEING REMODELED TO ONE-MAN OPERATION.

NOTES ON CARS...Cont.

control cables were necessary, the GE cable for use in Bamberger service and a Westinghouse cable for use when operating on either of the two connecting interurban lines. All six were burned at Ogden barn in 1918, but due to their high steel content were not as seriously damaged as were the wooden cars; because of the ease with which they could be rebuilt, it was decided to rebuild them immediately as motor cars, using trucks, motors, and controls from cars which were practically completely consumed. The nation was at war at the time and steel was impossible to obtain; not until Mr. Bamberger stripped the steel lining from a flume at one of his mines was it possible to close up the trailers' open sides; this is the reason for the odd ridge which is very noticeable along the sides of 350-355 today. Because of their high seating capacity, these cars have been the company's bell-wethers ever since their motorization; at the present time they are undergoing modernization which will include modern tubular-frame seats, bullseye lights, new high-speed gearing which will increase top speed from 60 to 70 mph.

400-405: Although constructed in 1910-1911, these cars followed the classical Niles plan first introduced five years previously and which won a remarkably high degree of popularity on electric railways from the Atlantic to the Pacific. These were trailers in the truest sense of the term---for control apparatus was omitted, making it necessary to wye trains at terminals.

450-452: These were three of the nineteen famous Washington, Baltimore & Annapolis 62' high-speed cars constructed by Niles in 1907 for the 3000-6000 volt AC line in the East. (Plan and history of these WB&A cars is to be found on page 5 of INTERURBANS for September, 1946.) Of course their AC motors were incapable of being used on Bamberger's 750 v. DC current (although WB&A did operate these big cars over city trackage in Washington, D.C. and Baltimore at the usual trolley car voltage of 500-600) so their days as motor cars ended with their sale to Bamberger. As trailers they saw intensive use. One, the 451, was too badly damaged in the Ogden carbarn fire to warrant rebuilding, so it was scrapped in 1918. The others, 450 and 452, were scrapped December 31, 1937. They closely resembled 400-405.

125-129: Here are the finest interurban cars in the west. Built by Brill in 1932 for the Fonda, Johnstown & Gloversville Railroad of New York, they were returned to the builder after the abandonment of the FJ&G and were acquired by Bamberger Railroad in 1939. Built in the same era of the electric railway that saw the debut of the Cincinnati & Lake Erie, the Indiana, and the Philadelphia & Western highspeeds (after which they were patterned), the Bamberger "Bullets" are truly of the royal family of interurban cars.

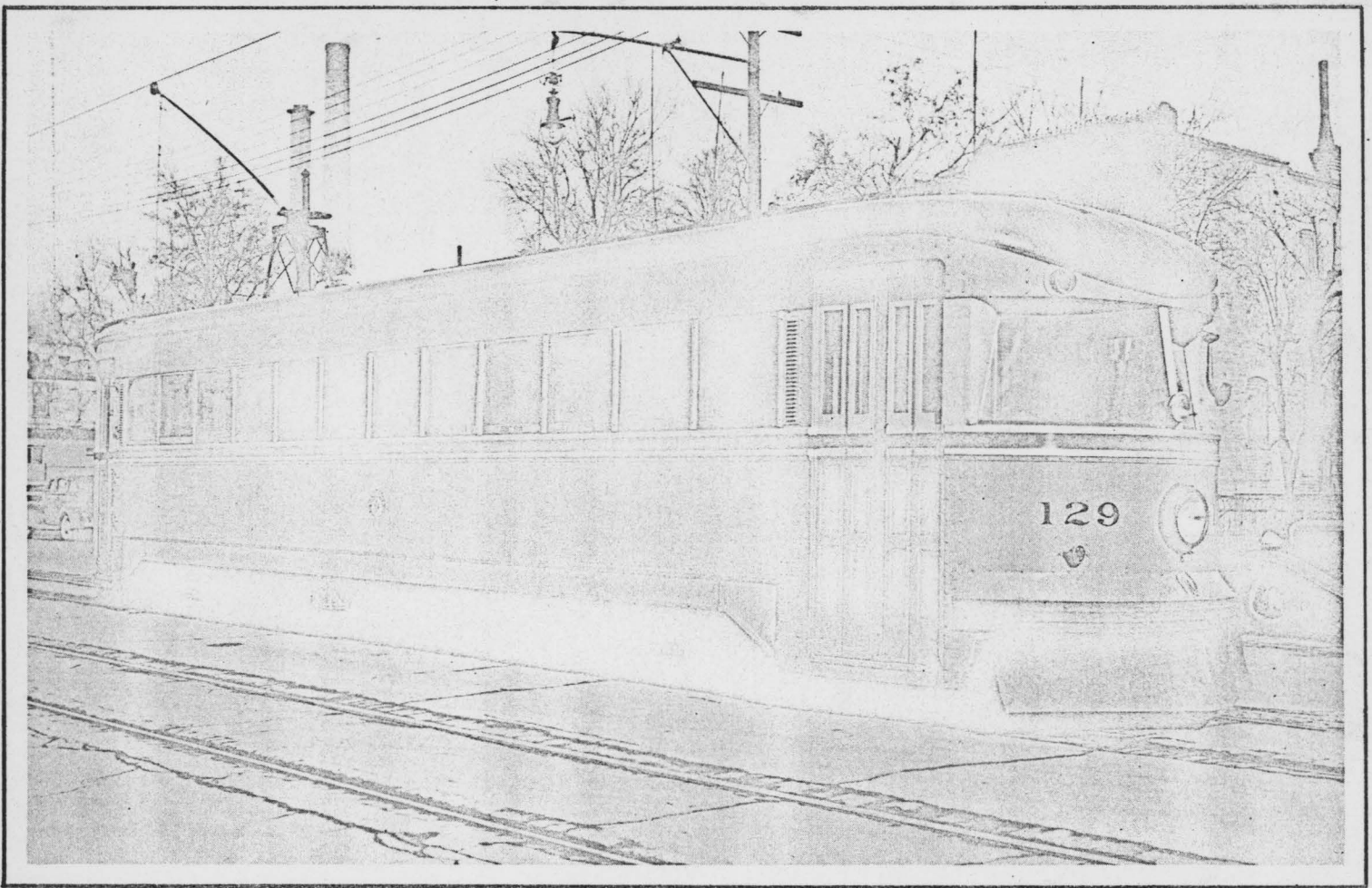
Among their distinguishing features we may list: all necessary safety devices, pneumatic control for doors, light and low to the ground, indirect lighting, battery-operated emergency lights, fans for forced ventilation (air enters at floor level along sides, passes over heaters and out via roof ducts), leather air-cushioned seats, overhead baggage racks, magnetic track brakes, and field shunting which gives them their very high speed.

On the FJ&G the Bullets ran from Schenectady to Gloversville (33 miles) via Amsterdam and Johnstown. They cut running times by 20%, but were forced off the run when a bridge over the Mohawk River from Scotia to Schenectady was ordered abandoned; this cut the single-end cars off from their loop in Schenectady where they turned, and the Bullets had to be withdrawn from service; FJ&G put double-end cars 176-177 (now at Portland, Oregon, as FEPCO 4006-4007) on the run, turning them back at the bridge and transferring their passengers to busses which completed the run to Schenectady. This arrangement did not meet with public support, and the last car ran on June 28th, 1938.

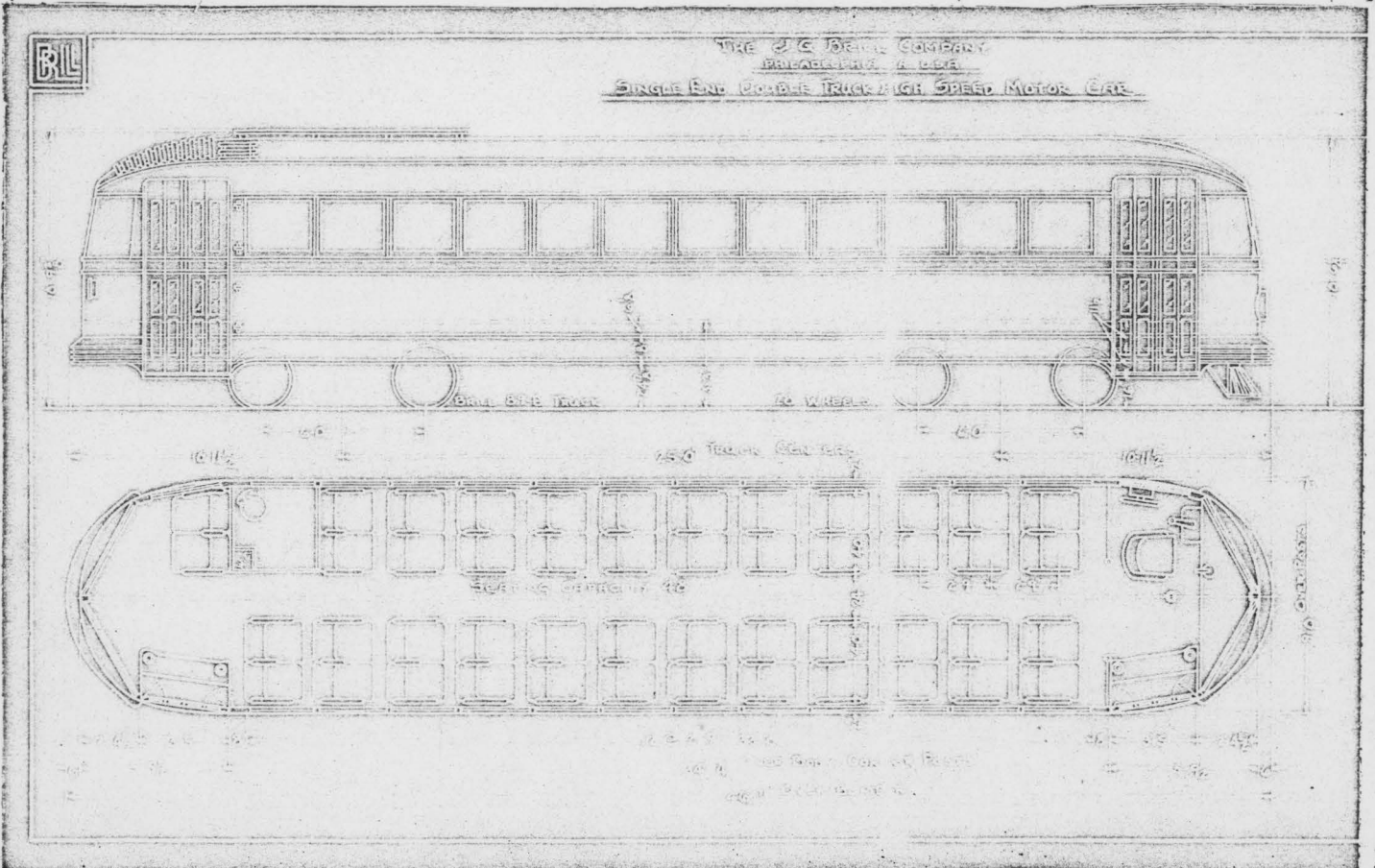
The Bullets' only disadvantage as far as Bamberger Railroad is concerned is their low seating capacity. To overcome this handicap (which has resulted in their being withdrawn from service frequently during periods of very heavy traffic) an investigation is now being made of the practicability of making them over into multiple-unit cars, so they can be coupled up together and run as trains.

BEST RATES RELIABLE INFORMATION RAPID SERVICE

ROUTING VIA BAMBERGER RAILROAD ASSURES PERSONALIZED SERVICE



★ BAMBERGER RAILROAD'S FIVE "BULLETS" ARE THE MOST MODERN HIGH-SPEED INTERURBAN CARS IN OPERATION IN WESTERN AMERICA. ★



# Freight



The Bamberger Railroad has always been interested in freight hauling. One of the first things done by the old Great Salt Lake & Hot Springs Railway was to develop a lime rock business; from this humble start has come today's impressive freight business.

Simon Bamberger's foresight in locating his right-of-way proved invaluable; his wide, easy curves, his low grades and his private right-of-way operation not only permitted high speed operation of passenger trains but enabled his freights to haul maximum tonnage.

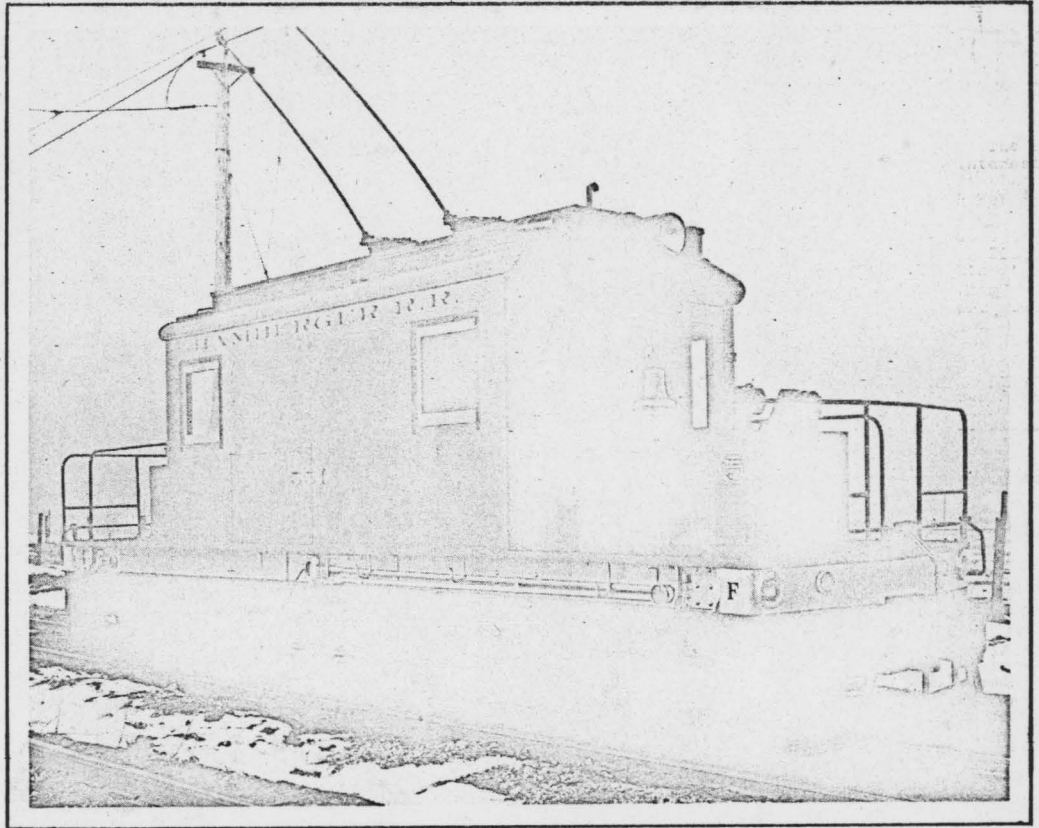
Prior to World War I, Bamberger's freight business was confined strictly to its own trackage, for the steam lines were unwilling to enter into any sort of interchange arrangement with the interurban. When the Railroad Administration took over the railroads in World War I a certain amount of outside traffic was diverted to Bamberger rails; not until 1924, however, was the company able to announce through freight rates with connecting transcontinental steam lines. The Union Pacific was the first of these to sign with Bamberger, and the others soon followed. With interchange secured, unhampered development of the interurban's freight business followed, and four years later the revenue from freight operations passed that received from passenger; ever since, Bamberger's freight business has returned on the average some three or four times as much money as the passenger cars.

Unwilling to wait for the steam lines to make up their minds to enter into interchange agreements, Bamberger and its two connecting interurban lines (Salt Lake & Utah at Salt Lake City, Utah-Idaho Central at Ogden) early constructed joint freight terminals. The greater part of the Ogden yards was devoted to freight, while in Salt Lake, a well-equipped joint freight terminal was constructed on First West St. not far from the passenger terminal. The three interurbans worked well together, serving a 200-mile north-and-south belt up through the heart of Utah's most fertile countryside.

Bamberger Railroad has not built many freight cars, its freight business being almost entirely handled by off-system cars. Bamberger's own freight cars consist of:

BOX CARS:	Length	Width	Height	Capacity
700	40'	9'	13'6"	80,000
725	"	"	"	"
726	"	"	"	"
727	"	"	"	"
728	"	"	"	"
800	50'	9'	13'6"	80,000
801	"	"	"	"
GONDOLA CARS:				
12003	31'5"	7'9"	10'	60,000
12008	"	"	"	"
12009	"	"	"	"
12014	"	"	"	"
12017	"	"	"	"
FLAT CARS:				
16004	40'3"	9'4"	4'4"	60,000
16005	"	"	"	"
16006	"	"	"	"
16007	"	"	"	"

Perhaps the outstanding advantage offered industrialists for locating their plants in Bamberger-served areas of Salt Lake City is the fact that the company's freight trains approach the heart of the city, operating on First West St., which is but two blocks away from the main business thoroughfare. This unique advantage over steam railroads has been widely publicized and has resulted in the Salt Lake branches of many of the leading business concerns of the nation being built on Bamberger trackage. In most cities, it is necessary for a business to construct its warehouse near the railroad yard and install its office force some distance away in the business district; in Salt Lake, if a man locates his business on Bamberger trackage, he builds one building---a combined office and warehouse---just one block off the main street, with his railroad cars coming into his building from the rear. With the demise of the Salt Lake & Utah Railroad and the subsequent acquisition of all its Salt Lake City trackage by Bamberger, there is every reason to believe that additional improvement in freight revenue may be expected, and that additional large business concerns will build on the company's lines.



NO WONDER FREIGHT CARS MOVE SWIFTLY AND SMOOTHLY OVER BAMBERGER RAILS---WHEN AT THE HEAD END IS A LOCOMOTIVE LIKE THE 551, ABOVE. WHILE PRACTICALLY IDENTICAL TO THE 550, WHICH IS SHOWN ON PAGE 22, 551 IS SIX YEARS YOUNGER AND HAS THE BENEFIT OF SLIGHTLY CLEANER LINES. THE 551 WAS PURCHASED ON JANUARY 23, 1941, FROM THE WISCONSIN POWER & LIGHT COMPANY, WHERE THIS LOCOMOTIVE WAS #1000.



Prior to 1914, all Bamberger freight was hauled by steam engines. With the delivery of locomotive "A", built by McGuire-Cummings Car Company, the steam monopoly was broken and later wiped out. This first electric locomotive was of the steel, steep-cab type and it created quite a sensation when exhibited to the general public. It was taken out for a trial spin and at Orchard Gravel Pit it encountered the company's work train; the "A" backed into the siding, coupled on, and, in the excited words of a deeply-impressed brakeman: "---pulled the whole train right out!" The 528 was purchased shortly thereafter and the steam locomotives were retired. Using 528 as a model, the shops built the 525 and 526 after the Ogden fire and the juice hog reigned supreme until the advent of the big diesel (570) in 1943.

Today such a general type of freight is hauled that its volume fluctuates in general in direct relation to the major railroads of the west. Revenue from freight is today the mainstay of the Bamberger Railroad. From the humble beginning hauling lime rock, business has grown to include brick, farm products, groceries, automobiles, oil, gasoline, coal, lumber, cement, and almost every conceivable item used in modern life.

Situated as it is in the midst of one of the nation's most fertile areas, it is only to be expected that Bamberger Railroad should do a large amount of produce hauling. At the present time, the company has over 80% of the perishable fruit and vegetable business of Salt Lake City and serves two of the three wholesale grocery plants. The very important Growers' Market moved away from the steam lines and onto Bamberger trackage; it has many spur tracks and Bamberger looks upon it as one of its most important customers. Several large packing houses are to be found along the line: these are located at Bountiful, Cozydale and Layton.

Through its interchange privileges, the company can route freight eastward over the Union Pacific and the Denver & Rio Grande Western, and westward over the Southern Pacific and the Western Pacific; this it does, and still manages to stay friends with all of them. Much Western Pacific freight for Ogden leaves that company's rails at Salt Lake City and then travels the last lap of

its journey behind Bamberger motors; the same may be said for Southern Pacific's Salt Lake City freight---it leaves the originating line at Ogden and flows southward over the electric route. Daily Bamberger receives three cars of LCL freight from San Francisco via SP; these are whisked to Salt Lake City for third morning delivery.

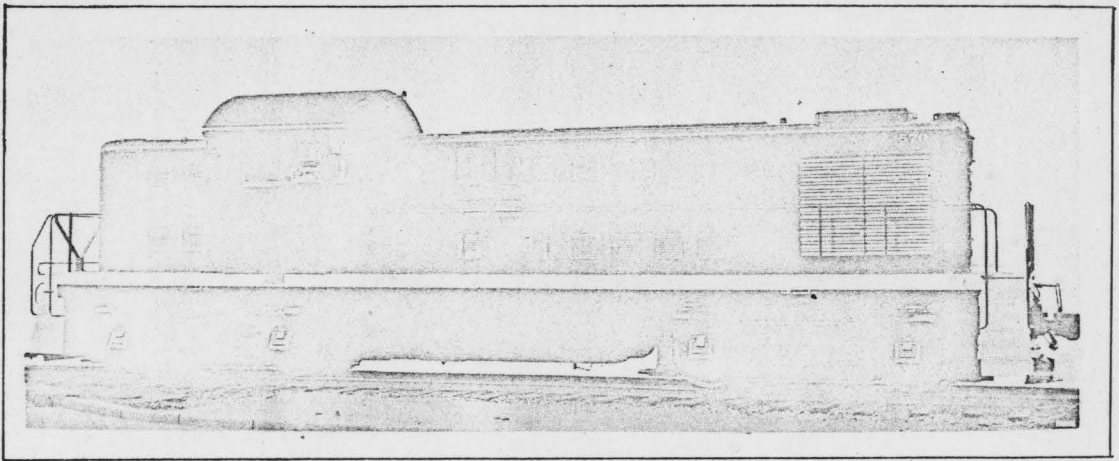
Although the ending of World War II has cut deeply into freight tonnage hauled, The Bamberger Railroad is in a healthy condition due to all the rich war years. This is not true of the other two interurbans, the UIC and the now-gone SL&U. Neither was as fortunate as Bamberger in having exclusive access to a large government installation, and both have been heard to remark, "Bamberger was lucky to get all that nice war traffic!" Be that as it may, the company would never have secured the war traffic were it not for those three old familiar qualities: easy grades, wide curves and very little street operation. A strategic location is the best insurance against failure---a well-constructed tool is the best insurance against operating loss; Bamberger has both and certainly cannot be blamed for cashing in on them when the opportunity arose---indeed, it is difficult to see how any other course could have been followed. Not only did the company benefit itself and its area, but it contributed in a large way to the successful termination of the war.

Postwar developments in the freight field are not yet sufficiently clear to be delineated in detail. In general, the company is in a very favorable position to do more hauling of freight than it ever did in prewar years. The government has announced that the Ogden Arsenal will be continued on a permanent basis, employing 1,500 persons. Nearby Hill Field will also do a certain amount of peacetime work; and both these installations are exclusively served by Bamberger. The acquisition of the ex-SL&U trackage in Salt Lake City will mean additional freight sources. The payment in full for diesel 570 signalizes a very important advance into the postwar era; the war-time purchase of motors 550 and 551 also means increased capacity and efficiency in the future.

Yes, it looks like The Bamberger Railroad is going to enjoy many bright tomorrows in this business of hauling freight!

# BAMBERGER

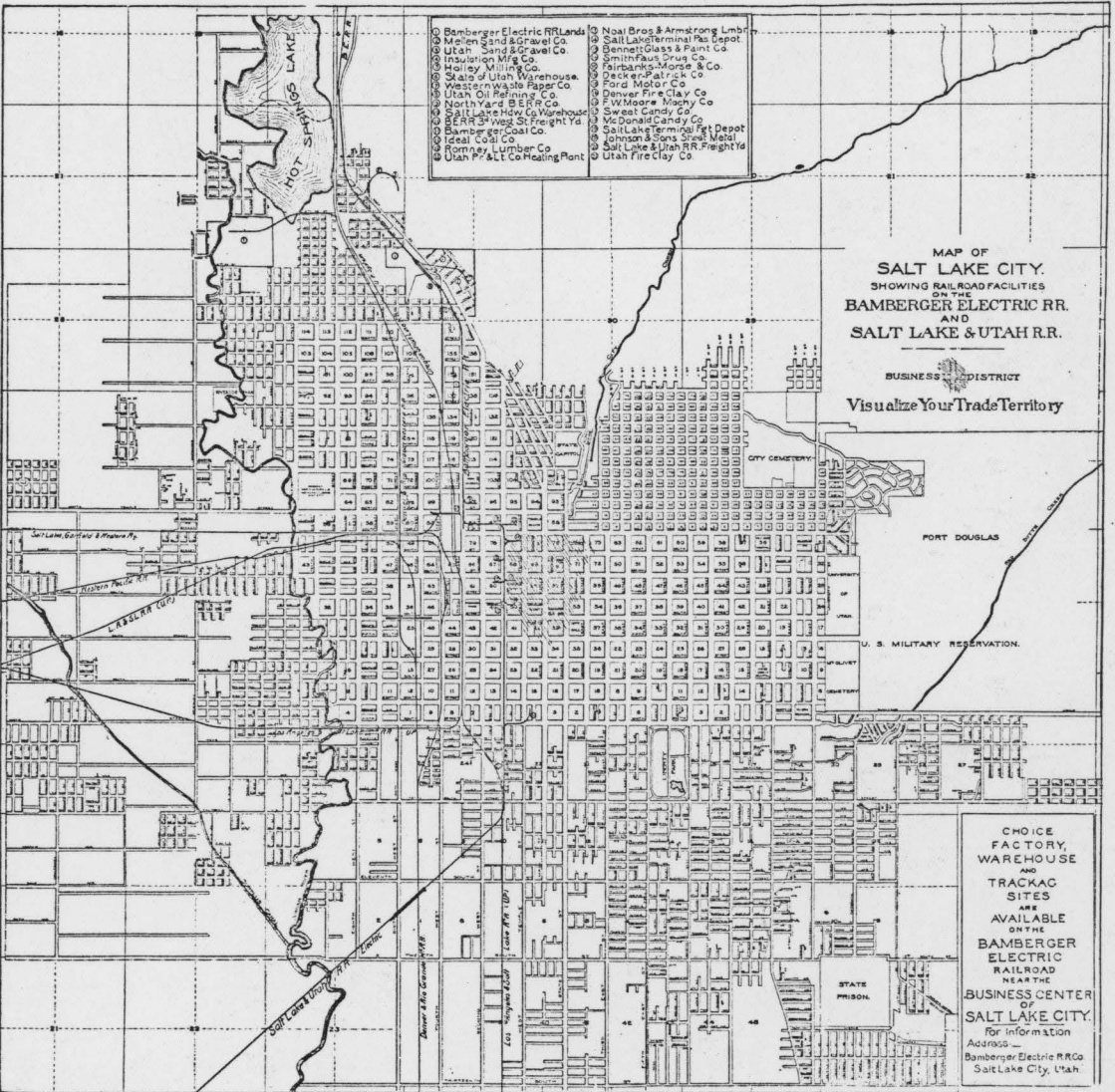
DIESEL-ELECTRIC locomotive 570, shown at right, is the main reason Bamberger Railroad views the future with confidence. Its great hauling capacity (see table at bottom of page) and its independence of the trolley wire means that heavier trains can be hauled with no impairment of the power supply. Its oil-fired boiler, located to the rear of the cab, enables it to haul passenger cars of any type, thus protecting Bamberger's monopoly of the troop train business originating at Hill Field. The locomotive has been equipped with trolleys to operate the Nachod block signals.



THE MAP at the right was made years ago as an advertisement, but is still valuable--for it gives an excellent presentation of the strategic position the Bamberger Railroad enjoys due to the location of its main line along First West St., only a block removed from the downtown district. This advantage will become even greater in years to come, due to the company's recent purchase (for \$100,000) of the abandoned SL&U trackage on the same street from Sixth South St. to Fayette Ave., a block south of Ninth South St. SL&U had not developed this area nearly as intensively as Bamberger did its area north of Sixth South St., but many important business firms located on the SL&U (among them Coca-Cola and Sears, Roebuck & Co.) and this business will now go to Bamberger.

Among the more important points shown on this map are:  
 (11) - Site of the original station of the SL&U.  
 (14) - Present passenger terminal.  
 (19) - Freight depot.

Important points which rose to prominence in later days and which are not shown on the map are:  
 (a) - The Growers' Market, a very large and modern produce terminal; look for block numbered 41.  
 (b) - The Westinghouse plant, on block 78 opposite the rear of the passenger terminal. This building has an inside shipping dock.  
 (c) - Present end of track, on First West St. at Fayette Ave., to the north of circle marked 21. At the last moment before going to press we learn from Mr. Bamberger that ex-SL&U trackage south of Fayette Ave. is being operated by the Denver & Rio Grande Western Railroad; the former SL&U-UP interchange south of Fayette Ave. is now a new Bamberger-D&RGW interchange and is known as "Salt Lake Junction." To reach this interchange, Bamberger trains are operating over D&RGW (ex-SL&U) trackage. Mr. Bamberger states further that "We did purchase the trackage of the Salt Lake & Utah to Walker Field and are operating that trackage." Walker Field is a short distance southwest of the Jordan River crossing.



THE TONNAGE TABLE at the right is from the current employees' time table. A study of the capacities of the various locomotive classes reveals the great improvement made since the war emergency presented itself, back in 1940. Where 527 and 528 are restricted to 450 tons and 525-526 to 600 tons, the four Baldwins walk off with 700 tons, and 570 rings the bell with 1150 tons. This all adds up to a much more efficient railroad.

TONNAGE RATING IN TONS											
FROM	TO	570	502-3 550-1	525 525	527-8	FROM	TO	570	502-3 550-1	525 525	527-8
6th South	So. Temple	1150	*300	*300	*300	Ogden	Arsenal	1150	700	600	450
So. Temple	Parkin	1150	700	600	450	Arsenal	Centerville	2000	1300	750	750
Parkin	Farmington	2000	1300	750	750	Centerville	Parkin	1150	700	600	450
Farmington	Sidney	1150	700	600	450	Parkin	5th North	2000	1300	750	750
Sidney	Layton	2000	1300	750	750	5th North	6th South	1150	*300	*300	*300
Layton	Arsenal	1150	700	600	450						
Arsenal	Ogden	2000	1300	750	750						

\*In series position only.

These ratings may be increased or decreased by Dispatcher.

**OGDEN TERMINAL OPERATION:** Bamberger Railroad and the Utah-Idaho Central have an interesting agreement regarding operation of the terminal used jointly at Ogden: UIC

owns the terminal building and trolley wire, while the land, freight platform and tracks are owned by Bamberger. The entire yard and all terminal employes are under the direction of UIC.

# Locomotives

The Bamberger fleet of locomotives is headed by diesel-electric 570, which is the equal of any 1,000 HP diesel operating anywhere. Next in importance come the four Baldwin-Westinghouse fifty-ton motors (502, 503, 550, 551)---very much the same although built many years apart and for original operating companies in Spokane, San Diego and Milwaukee. Next come three home-built jobs---525, 526, and 530---which are improved versions of the original two locomotives, 527 & 528.

**502:** Built 1912 for Inland Empire's 600 volt line from Spokane to Coeur d'Alene, Idaho. One of the first of B-W's redesigned line of locomotives. Put on sale by Great Northern when it converted the SC&P to diesel operation.

**503:** Built 1906 to the original B-W pattern of full-length box cab and overhanging hoods at ends. 503 came to Bamberger along with 502 (both retained their SC&P numbers) but has not seen as much use.

**525, 526:** When the Ogden carbarn burned in 1918, some of the cars inside were too badly damaged to be rebuilt; it was decided to use their trucks and motors and other salvaged parts and construct locomotives. Thus the 525 & 526 were born from cars 304 and 308. The GE standard locomotive design was followed, which had been introduced to Bamberger by the 528 back in 1913. 525-526 could operated in multiple unit.

**527:** The first electric locomotive that the Great Salt Lake Valley ever knew is today the 527. Little remains of her original McGuire-Cummings lines, for 527 was burned in the Ogden fire and rebuilt along GE lines. Originally just plain locomotive "A", the trail-blazer later became 27 and now is 527.

**528:** SL&O purchased the body from GE and got the trucks from Baldwin; then at Salt Lake the locomotive was assembled and entered service to complete the rout of steam power begun so ably by "A".

**529:** Not a locomotive, but the company's original line car, built by SL&O in 1913. On January 13th, 1928, it was made the O1, taken out of service in 1934, and scrapped in 1937.

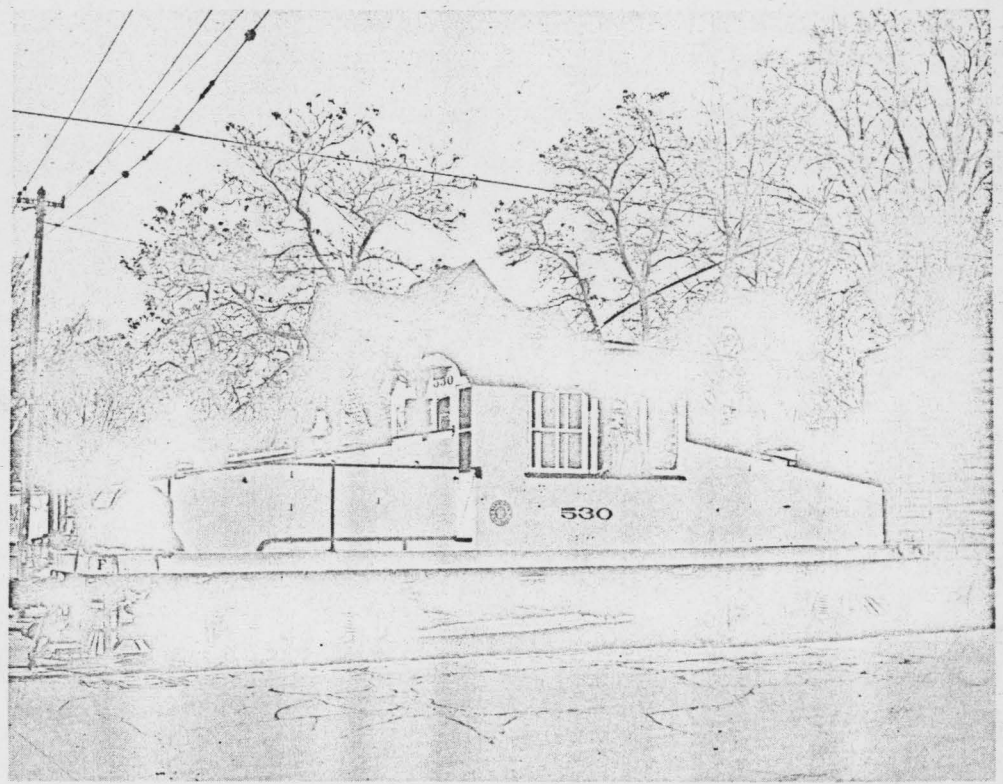
**530:** Largest of the home-built locomotives and only one fast enough to haul passenger trains. Its high speed gears were used to good advantage during the war in hauling the Arsenal train.

**550:** Acquired in 1941 from the San Diego Electric Railway where it was numbered 1025. Built in 1923 and bears B-W number 58,642.

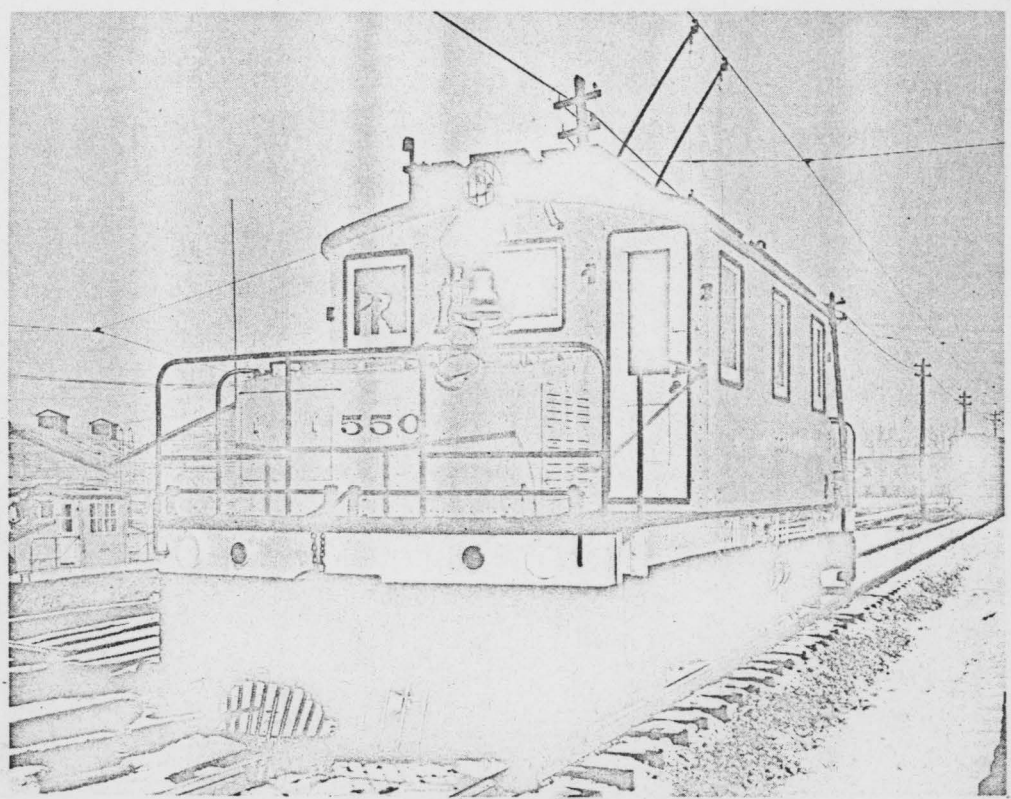
**551:** Acquired in 1941 from the Milwaukee system of the Wisconsin Light & Power Co. where it was the 1000. Built in 1929.

**570:** Standard 1,000 HP diesel-electric road-switcher of American Locomotive-General Electric. Prime mover is a six-cylinder turbo-charged diesel engine which drives a GE generator which in turn delivers 600-volt DC current to four spring-nose-suspended traction motors. This locomotive delivers @ 30% adhesion at starting 71,400 pounds of tractive effort. Continuous rating (@ 8 mph) is 34,000 pounds, while maximum speed is 60 mph. This large locomotive has a wheelbase of 40'4" and a truck wheelbase of 9'4" with 40" wheels.

**PHOTOS:** At top is seen locomotive 550 at the North Salt Lake shops after being repainted in Bamberger colors. To its left is 528. At the immediate right is shown 530, shortly after its completion in 1939. Notice the extreme length of this motor, built from steel of 205 and electrical equipment from II 300 (307).



No.	Builder	Date	Weight	Length	Width	Height	Motors	Ratio	Control	Total HP
502	Baldwin	1912	103,500	32'4"	10'0"	11'10"	W. 337	17:60	W. HL	725
503	Baldwin	1906	107,300	32'8"	10'0"	11'9"	W. 337	17:60	W. HL	725
525	Bamberger	1920	82,540	39'9"	8'6"	12'6"	GE 205B	16:72	GE M	450
526	Bamberger	1919	85,100	39'9"	8'6"	12'6"	GE 207A	16:72	GE M	650
527	McG-C	1911	76,640	32'5"	9'2"	12'8"	GE 205B	15:58	C-36-C	450
528	GE	1913	78,460	33'0"	8'6"	12'6"	GE 205B	15:58	C-36-C	450
529	See Notes on Locomotives									
530	Bamberger	1939	87,400	42'0"	9'5"	13'0"	GE 205B	21:53	C-74-A	650
550	Baldwin	1923	100,000	32'4"	9'9"	12'2"	W-562D5	17:60	W. HLF	725
551	Baldwin	1929	98,800	32'4"	9'9"	12'2"	W-562D5	17:60	W. HLF	725
570	Alco-GE	1943	238,000	55'0"	10'0"	14'5"	GE 7310	17:80	C-173-R2	1000



# Arsenal Train

The United States Government installations at Arsenal and Hill Field were so extensive that their efficient operation was achieved only by the construction and operation by the Government of fairly large railroad systems within the confines of the establishments, operated by diesel power.

Both Arsenal and Hill Field are served exclusively by the Bamberger Railroad, and certain joint trackage is operated by the connecting carriers. On such joint track, Bamberger freight and switching trains have preference over Government trains.

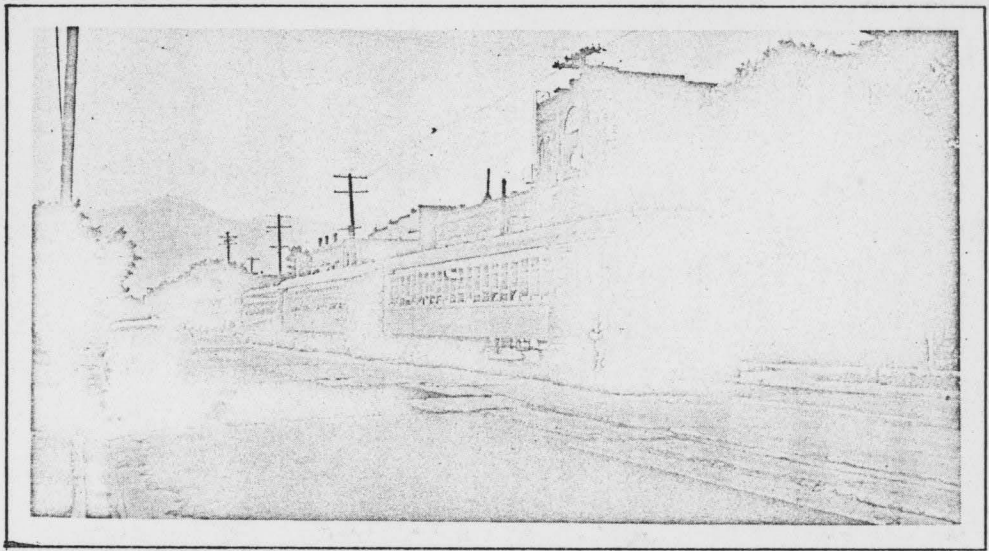
During the war, considerable passenger (troop train) as well as freight business was jointly moved. To accomplish its share of this business, the Bamberger Railroad relied heavily on its large diesel locomotive 570, which due to its method of propulsion was able to operate up inside the Government reservations away from trolley wire. The 570 handled easily heavy Pullman trains, hauling them to both Ogden and Salt Lake City, as the case might be. A motorman on one of the Bamberger trains told me of his first sight of one of these trains:

"It was a dark night and I had orders to go into a siding for some special train, I knew not what. Soon I heard a sound quite similar to a Flying Fortress which were in the air at all times. This sound steadily grew louder, until I began to have visions of an interurban-plane crash. Suddenly, around a bend in the track, swept a bright headlight, followed by a long string of brilliantly lighted Pullmans. This unusual sight, on our railroad which had up until this moment operated nothing longer than four-car trains, filled me with amazement. In an instant the heavy train was upon us, the roar of its locomotive shaking every window. Past us it sped, and it must have been doing sixty for sure. The ten-or-so Pullmans were jam-packed with soldiers, all of whom seemed to be having a wonderful ride. This was my first meet with the 570 and I'll never forget it!"

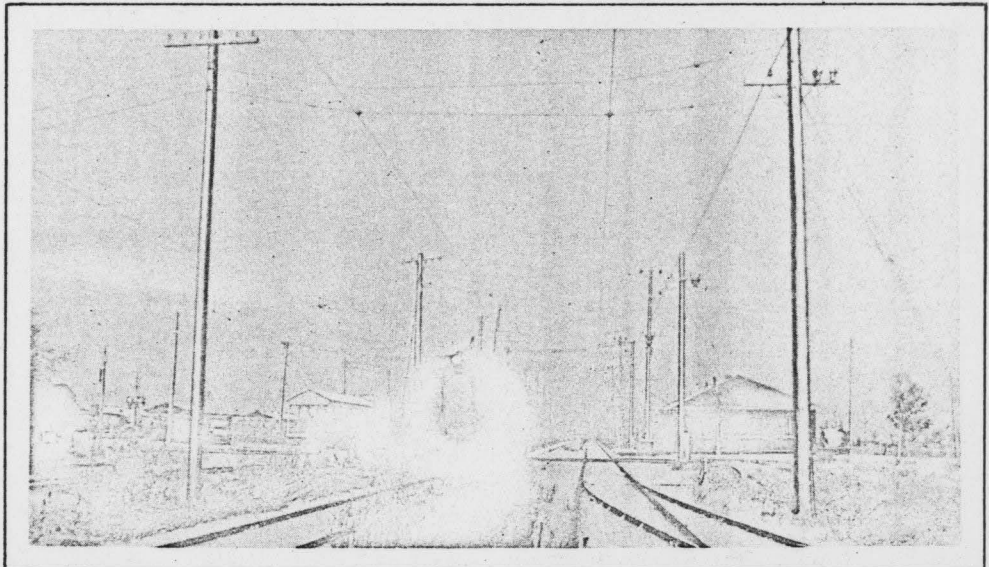
The Ogden Arsenal, because of the nature of its work, employed several thousand civilians. Early in the war the Government asked the Bamberger Railroad to operate passenger service exclusively for these workers, which Bamberger agreed to do. The Government was able to secure passenger cars through the Maritime Commission, obtaining five cars of very large capacity from Oakland, California, where they had been in operation on the lines of the Southern Pacific's electrified segment. Four of these were coaches and one was a combination coach and baggage car. These had previously had their motors removed and were therefore dependant upon outside power for heat, illumination and propulsion. Heat was obtained by putting two coal stoves in each car. Illumination was solved by installing a gas generator in the baggage car with jumpers between that and other cars. Propulsion had to come from Bamberger cars and locomotives. Inasmuch as these cars were not insulated for operation in snowy climate, electric heaters were not considered at first, but now two cars have been equipped with them. Each of these cars (except the combination car) seats 106 passengers. Their present numbers run from 102 to 105 for the coaches while the combo has number 8036. Their previous numbers on the Southern Pacific are not certain; close inspection revealed that car 104 was SP 358 and it is reasonable to assume that other coaches are also in the SP 350 series. The modernization of these cars by the shops at the Arsenal (they are maintained by the Government) includes electric heaters, renewing seats and painting them white, repainting entire interior (using imitation graining around windows and doors to simulate wood) with white ceilings and maroon floors, while the exterior is given a Pullman green color with white lettering and numerals and an orange insignia of the Arsenal. Car 103 was the first to appear after modernization, and it looks better than it ever did in Oakland.

For a short time the Maritime Commission diverted six of the ex-New York, Westchester & Boston 90-seat cars to the Arsenal train, but they were soon removed and taken elsewhere.

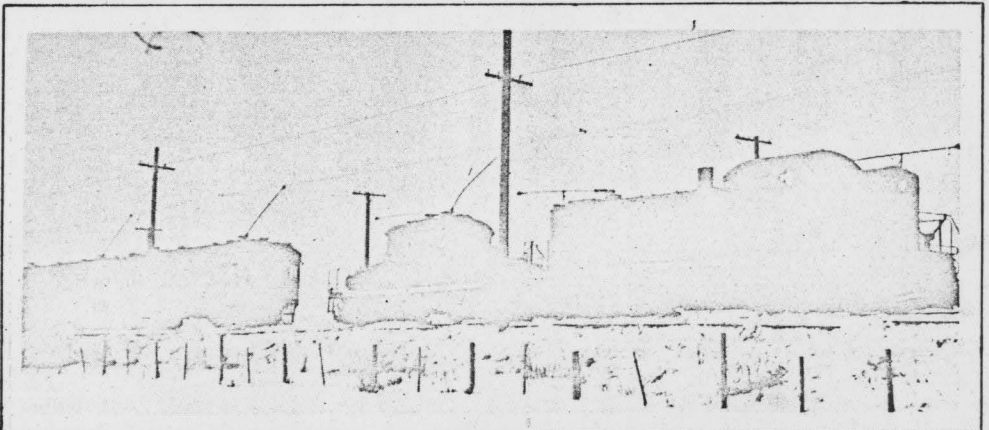
At the height of the war, the Arsenal train consisted of four cars; reconversion has now shortened the train to two trailers and a Bamberger passenger motor.



THE ARSENAL TRAIN TODAY CONSISTS OF DOUBLE-END BAMBERGER MOTOR 322 HAULING TWO OF THE GOVERNMENT CARS. THIS PHOTO SHOWS THE TRAIN AT 24TH & LINCOLN, OGDEN, ON JULY 24TH, 1946. IN COMMENTING ON THE FUTURE OF THIS TRAIN, MR. BAMBERGER SAYS: "TRAFFIC HAS DECLINED CONSIDERABLY AND THE PROSPECTS ARE THAT IT WILL ONLY BE A SHORT TIME UNTIL THIS 'ARSENAL SPECIAL' WILL BE DONE AWAY WITH AND THE SERVICE PROVIDED ON REGULAR TRAINS. WE WILL NOT ACQUIRE ANY OF THE EX-SOUTHERN PACIFIC CARS BEING USED ON THIS TRAIN; THEY ARE TOO BIG AND NOT INSULATED AGAINST COLD WEATHER." (Fred Fellow Photo)



THE ARSENAL TRAIN LEAVES OGDEN AT 7:00 A.M. AND PROCEEDS TO THE ARSENAL. THERE, THE BAMBERGER CARS ARE CUT OFF AND STORED, WHILE A GOVERNMENT DIESEL TAKES THE ARSENAL'S OWN CARS UP INTO THE RESERVATION WHERE THEY DISCHARGE THEIR PASSENGERS. AT 5:00 P.M. THIS PROCEDURE IS REVERSED. THE ABOVE PHOTO SHOWS THE ARSENAL STATION AT RIGHT, CAR 353 SPEEDING NORTHWARD ON THE MAIN LINE, WITH A CORNER OF LOCOMOTIVE 530 VISIBLE AT THE LEFT AS IT WAITS TO PICK UP ITS TRAIN. THE ARSENAL ITSELF IS AT THE FAR LEFT, ITS MAIN ENTRANCE BEING OPPOSITE THE STATION (WHICH IS THE NEWEST AND MOST MODERN ON THE SYSTEM). NOTE 353'S HEADLIGHT BLAZING, A NECESSARY PRECAUTION IN HAZY WEATHER. (Swett)



AN INTERESTING LINEUP NORTH OF LAYTON: CARS 355 AND 324, FOLLOWED BY LOCOMOTIVES 530 AND 570. NOTE THE TREMENDOUS SIZE OF THE 570 AS COMPARED TO THE 530. (Fellow)

