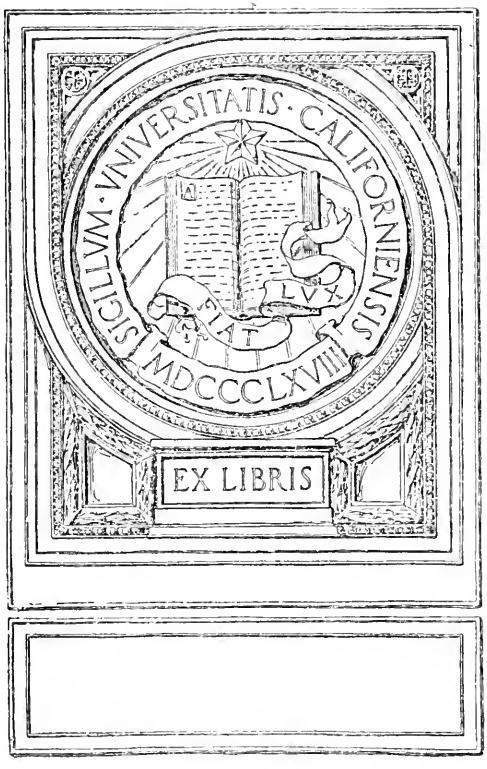
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THE OLD BOSTON AND MAINE STATION IN HAYMARKET SQUARE, BOSTON

Built in 1845, torn down in 1897

From a photograph made about 1865

The Boston and Maine Railroad

A History of the Main Road, with its Tributary Lines

By FRANCIS B. C. BRADLEE

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THE BOSTON AND MAINE RAILROAD.

A History of the Main Road, with its Tributary Lines.

BY FRANCIS B. C. BRADLEE.

It has been remarked often that the present Boston and Maine Railroad system, with its thousands of miles of tracks extending through several States, resembles in composition a patch-work quilt, as with the exception of a very small proportion, the road consists almost entirely of a consolidation of small railroads formerly independent of the Boston and Maine and of each other. Strange, also, as it may seem to the present generation, the Boston and Maine in its infancy, eighty-five years ago, derived its name and its corporate existence from an amalgamation of small branch railroads, which amalgamation was considered by our forefathers as tremendous an undertaking, as the huge consolidations of today, and was looked upon with as much suspicion and disfavor.

In order that an intelligent understanding may be had of the company's early history, it will be best to quote the following Acts of Legislature incorporating the various small railroads which made up what was known as the "old" Boston and Maine road :—

ACTS OF MASSACHUSETTS.

An Act, incorporating the Andover and Wilmington Railroad Corporation, passed March 15, 1833.

An Act, authorizing the extension of the above to Haverhill, passed April 7, 1835.

An Act, authorizing a further extension, from Haverhill to the State line of New Hampshire, and changing the name to the Andover and Haverhill Railroad Corporation, passed April 7, 1837.

An Act, changing the name of the Andover and Haverhill Railroad Corporation to that of the Boston and Portland Railroad Corporation, passed April 3, 1839.

An Act, to incorporate the Boston and Maine Extension Railroad Corporation, bringing the road directly into Boston to the terminus in Haymarket square, passed March 16, 1844.

ACTS OF NEW HAMPSHIRE.

An Act to incorporate the Boston and Maine Railroad Corporation, from the State line of Massachusetts to the State line of Maine, passed June 27, 1835.

An Act, to incorporate the Dover and Winipisiogee Railroad, passed July 2, 1839.

ACTS OF MAINE.

An Act, incorporating the Maine, New Hampshire and Massachusetts Railroad Corporation, passed March 30, 1836.

An Act, in addition to the above, passed April 2, 1841, uniting the above-named corporation into one company, by the name of the Boston and Maine Railroad.

The people of Andover, in the year 1833, desirous of obtaining railroad accommodations for their town and vicinity, petitioned the Legislature of Massachusetts for authority to locate and construct a railroad beginning near the South Parish meeting-house in Andover, and thence to the Boston and Lowell Railroad in the town of Wilmington, a distance of less than eight miles. As before mentioned, the charter, under the name of the Wilmington and Andover Railroad Corporation, was approved March 15, 1833. The corporation was organized in June, 1833, and the first report to the stockholders by the directors, Hobart Clark, Abraham Marland, Amos Abbott, John Smith and Merrill Pettengill, was made in a quaint, amusing, and now very rare pamphlet, dated Oct.

21, 1834.[1] The directors at first had hoped to secure the services of Colonel Loammi Baldwin, a distinguished civil engineer, to survey the road, but as he was unable to undertake the work, Mr. Joshua Barney, also well known in his profession, who afterwards conducted the surveys for the Nashua and Lowell Railroad, was engaged.

An exhibit of the probable income of the road was made up by showing the number of stage passengers and freight that had passed from and through Andover from October 1, 1833 to October 1, 1834, as follows :—

"In the Andover stage, exclusive of way passengers, as per way bills, ...	4,158
"In the Haverhill Company stages during the same time, as also appears from their way bills, . .	8,706
"The Derry stage, which is only one a day, but was formerly two, and is to be two again soon, is estimated at nine per day, making, during the same period, the number of	2,817
"Total number of stage passengers, ...	15,681

The freight tonnage was obtained in the same way, calculating the amount which passed through and from Andover to and from Boston, conveyed in baggage wagons, and amounted to 5,700 tons. Receipts from the above number of passengers and tons of freight per annum was estimated at $23,160. Toll to be paid the Boston and Lowell Railroad on this amount of business was figured at $2,594.34, leaving for earnings on the new road $20,566. The capital stock authorized was $100,000, a large amount being held by the Andover Academy and Theological Seminary; and the expense of operating this road was calculated to be, including six per cent. interest on capital, salaries, repairs and other contingencies, $17,008, which netted, after paying all expenses, the sum of $3,556.41.

It was planned that the road should have a single track, with one or more turnouts, laid with iron rails

[1] First Report of the Directors of the Andover and Wilmington R. R. Andover, 23 pp., 1834.

placed on wooden sleepers, with longitudinal sills, the total cost of which was estimated at $77,002. Very few, if any, iron rails were then rolled in this country, practically all having to be imported from England.

The Andover Branch Railroad was started mainly, if not wholly, with a view to local business, and was entirely dependent on the good will of the Boston and Lowell road for its direct connection with Boston and use of the latter's terminal station there. Nevertheless, that it was considered a formidable undertaking at that time there can be no doubt, as nearly three and one-half years were consumed in its construction. It was, however, after much delay, completed and opened to the public on August 8, 1836.

The only newspaper article on the inauguration of this railroad is a meagre and unsatisfactory account which appeared in the *Salem Gazette*, August 2, 1836 :—

"Andover and Boston R. Rd.

"This road is finished from Wilmington to Andover. The cars were to commence running last week. The Andover route is now only between Wilmington and Andover, a distance of but a little over 7 miles. At Wilmington the road intersects the Lowell road. This road it is expected will be completed from Andover to Haverhill within a year; and will probably terminate at the latter place, not proceeding further north, as was anticipated a year since."

The two original locomotives on the road were the "Andover" and the "Haverhill," and they are described as of "the high pressure type, each of 30 horse power," with two driving wheels. Until about 1848 cabs were unknown on locomotives in New England, the engineers and firemen facing the elements on the open platforms as best they could. In 1837 another locomotive, the "Rockingham," of exactly the same size as the two earlier ones, was added to the road. These three engines were built by the Locks and Canals Works at Lowell, Mass.

We have no means of knowing what kind of passenger cars were first used on the Boston and Maine, but probably they were much like those on the Lowell road, resembling stage coaches mounted on frames. The wheels were

adapted to the rails, and each car was divided into three compartments, with doors on the sides and the passengers sitting back to back.

During the construction of the Andover branch, the people of Haverhill, moved by a desire to place their own town on an equality with Andover, sought and obtained authority on April 7, 1835, "to extend the same in an easterly direction to the Central Village in Haverhill." This extension was opened to Bradford, on the opposite shore of the Merrimac river from Haverhill, 17 miles from Wilmington, on October 26, 1837. Haverhill, then a small village, gave the railroad but a meagre amount of business. Even after the road was extended across the river to what is now a city of over forty thousand inhabitants, one day's entire receipts for tickets amounted to a sum less than three dollars.

About this time the management of the Andover and Haverhill road began to consider an extension of its lines, and after a series of meetings held at Exeter, Dover, N. H., and other places, the project was evolved of extending the line to the Maine State boundary, to connect there with the Portland, Saco and Portsmouth Railroad, then just chartered in the State of Maine. This would make a through road to Portland, to be called the "upper route," in contradistinction to the "lower route," as the Eastern Railroad, then in course of construction, was called. On April 5, 1837, further authority was obtained to extend from Bradford to the New Hampshire line. The latter State had, as far back as June 27, 1835, given permission to build the road through its territory. Unfortunately at this time the Andover and Haverhill company was in debt, its credit gone, and the directors were supplying its immediate wants by their personal security.

In April, 1838, Thomas West of Haverhill was elected a director, and soon after president; he was a man of great energy, foresight and strength of character, and to him, more than to anyone else, is due the completion of the road soon to be known as the Boston and Maine. To retrieve the company and remove its embarrassments, new stock was issued and sold to the stockholders and others at $60 per share; this afforded partial relief. New stock

was again issued and sold at auction in Boston at $72 to $75 per share. These funds, with a loan of the State credit of Massachusetts of $50,000, in addition to the $100,000 previously granted, enabled the company to build a bridge over the Merrimack river at Haverhill and complete the road to South Berwick Junction, Maine, where it connected with the Portland, Saco and Portsmouth Railroad.

It must be remembered that in these early days the only way to obtain funds for a railroad corporation was by means of new issues of stock, or notes endorsed by the directors and principal stockholders. Not until 1854 did the Massachusetts Legislature pass a law allowing railroads to fund their floating debts by means of bond issues. The road was opened to East Kingston, N. H., January 1, 1840; to Exeter, N. H., June 26, 1840; to Newmarket, N. H., July 28, 1841; Dover, to the temporary depot in Coffin's Cut, September 24, 1841; to the permanent depot, July 5, 1842. It finally reached its terminus at South Berwick Junction, February 2, 1843. At this time the present city of Lawrence barely existed, except for two or three houses, and the line of the Boston and Maine did not pass within a mile of it; afterwards the location of the road was changed to include Lawrence, as will be seen later on.

The Portland, Saco and Portsmouth company for thirty years was controlled partially by the Boston and Maine as its connecting link with Portland, so a short account of it may well be included here. On March 14, 1837, the Legislature of Maine incorporated this company with a capital of $1,390,000, in shares of $100 each. By its charter the company was to build a railroad beginning at Portland and running through the towns of Scarborough, Saco, Kennebunk, North and South Berwick (South Berwick Junction was 34 miles distant from Portland), Eliot and Kittery, Maine, to Portsmouth, N. H., 52 miles in length, to connect with the Eastern Railroad at the latter place. Work was begun in 1841, and the road opened between Portland and Saco on February 7, 1842. It was entirely completed November 21, 1842, the total cost of construction amounting to $1,107,240.

On January 27, 1843, the Portland, Saco and Portsmouth Railroad was leased indefinitely to the Eastern and Boston and Maine companies at an annual rental of 6 per cent. with a penalty of $200,000 on each party for a breach of contract. The road, however, was operated independently, and had its own locomotives and rolling stock, although the latter only amounted to five or six passenger cars and about fifty freight cars, as the trains were almost entirely made up of Eastern and Boston and Maine cars which ran through from Boston to Portland. The Eastern train would be taken over at Portsmouth, and when South Berwick Junction was reached the Boston and Maine train was coupled on, and both trains, drawn by one locomotive, would proceed to Portland, the running time from Boston being five hours and the fare $4 on either road. The Portland, Saco and Portsmouth locomotives were always very heavy and large to enable them to draw both trains. Their pioneers were the "Casco," "Saco," "York," "Cumberland," "Kennebec" and "Penobscot."

The first station in Portland was of the "dead end" variety, and was situated on Commercial street, near the steamboat wharves. This location, not far from the water front, was of great importance to the railroad in the case of through passengers and freight, as for some years after 1842 there was no connecting railroad in Maine below Portland, and most of the passengers going further east availed themselves of the water route.

When the railroad to Portland was first opened the various steamboat lines running east from Boston kept up a constant and merciless competition, so much so that in order to meet it the three railroad companies, besides controlling the steamboats "Huntress" and "M. Y. Beach" that plied from Portland to Bath and Bangor, were forced to occasionally reduce their fare to $1 between Boston and Portland. Although the Boston and Maine was joint lessor with the Eastern of the Portland, Saco and Portsmouth, the Eastern, however, always seemed to exert the most influence. Later on it will be seen that the Eastern obtained the sole control of the Portland, Saco and Portsmouth, thus forcing the Boston and

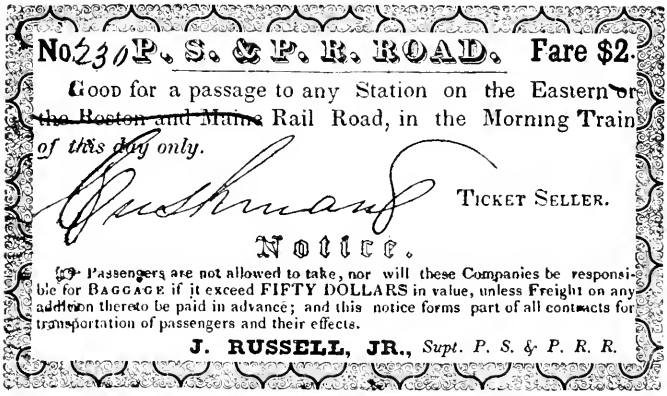
Maine to build their extension from South Berwick to Portland. In April, 1847, a new agreement was made between the Eastern, Boston and Maine, and Portland, Saco and Portsmouth roads, by which the profits of the latter, if they amounted to more than the rates of interest guaranteed, should be divided equally between the two former companies. This was most profitable to the Boston and Maine, as in later years they netted as much as $50,000 in a single year.

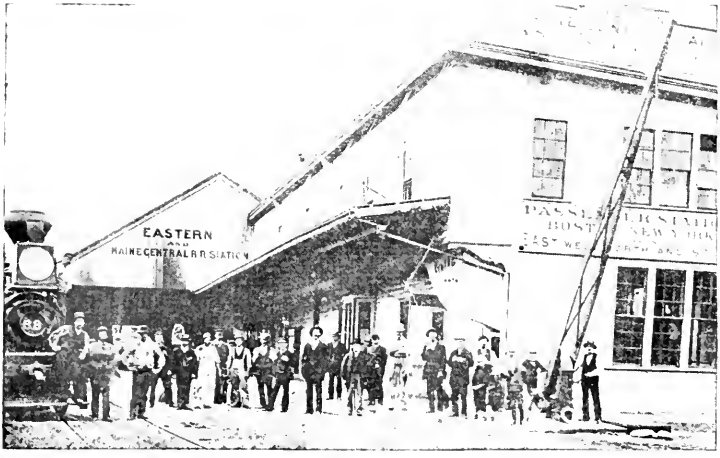
The line of the Boston and Maine to South Berwick Junction was constructed under the superintendence of James Hayward, a director of the company, an eminent civil engineer, whose able associates were John W. Brooks, Israel M. Spelman, afterwards the company's president, and Edward Appleton. All the contract work was executed by Jonathan Crane and his son Edward, of Haverhill, who together at various times completed the entire line. The roadbed of the Boston and Maine was thoroughly gravelled and made elastic and for a long time was considered one of the best in the country. This fine condition of the track and the thorough superintendence it enjoyed made it a remarkably exceptional road as to "accidents," so called, in contrast to the Eastern Railroad, only one severe one having occurred during its entire existence.

From 1839 to 1843 the road was known as the "Boston and Portland Railroad," but in the latter year the more familiar name of "Boston and Maine" was adopted. The original capital of the Boston and Maine consisted of six thousand shares of a par value of $100 each. On July 24, 1843, the road's first branch, from Rollinsford to Great Falls, N. H., a distance of three miles, was opened. From a time-table dated November 1, 1841, and entitled "Boston and Portland Railroad—road opened to Dover—48 miles from Portland," we learn that trains left Boston "at 7 1-2 and 11 1-2 A. M., and 5 P. M. for Andover, Haverhill, Exeter, New-Market, Durham and Dover" . . . returning "left Dover for Boston (and by connection for Lowell and Nashua) at 5 1-2 and 9 A. M. and 3 1-2 P. M. . . . the depot in Boston is on Lowell street, and passengers taking the cars of this road are subjected to no de-

OLD LOWELL STATION IN BOSTON

Built in 1835 and used by the Boston and Maine until 1845





THE RAILROAD STATION AT PORTLAND

Built in 1842 for the Portland, Saco and Portsmouth R. R. and used by the Boston and Maine R. R. until 1873

tention by change of conveyance. Travellers from the northern and eastern parts of New Hampshire, or from any part of the State of Maine, will find that this route has superior advantages in passing to and from the city of Boston. Merchandize Trains will leave Boston and Dover every morning at 6 o'clock." It is not uninteresting, also, to note that a little later Niles' express had been established on the line of the Boston and Maine and advertised itself in the following quaint way :—

NILES'S EXPRESS TO EXETER, NEWMARKET, AND DOVER, N. H.

The subscriber would give notice that he has commenced running an Express, in connection with the Boston and Portland Railroad, to Exeter, New-Market and Dover, and solicits a share of the public patronage. He has been a driver of the Dover and Boston stage for the last twenty years; he flatters himself that he is favorably known as a faithful carrier and competent to the discharge of any business that may be entrusted to his care. He will leave Boston for Dover every afternoon, at 5 o'clock, and any packages left at No. 11 Elm street by 4 o'clock will meet with attention. All packages for Great Falls, South Berwick, Kennebunk, Saco and Portland, as well as for any of the towns in the N. E. part of New Hampshire, will be taken as above, and forwarded by the several stages which he intersects at Dover.

DANIEL NILES.

Boston, Jan. 26, 1842.

Many if not most of the early railroad conductors in New England were former stage drivers. The companies themselves were glad to employ them, for they were, as a class, responsible men and used to the travelling public and its ways.

Another time-table, dated May 20, 1844, after the road was opened in its entire length, is as follows :—

BOSTON AND MAINE RAILROAD.

BOSTON TO PORTLAND.

Summer Arrangement, 1844.

On and after May 20, 1844, Trains will run daily, Sundays excepted, as follows, viz: Leave Boston for Portland at 7 A. M. and 2½ P. M. Leave Boston for Somersworth (Great Falls), at 7 and

10¾ A. M., 2½ and 6 P. M. Leave Portland for Boston, at 6¼ A. M. and 4 P. M. Leave Somersworth (Great Falls), for Boston, at 4¾ and 8 A. M., 3 and 5¾ P. M.

The depot in Boston is at the foot of Lowell street. . . .

Passengers are not allowed to carry Baggage beyond $50 in value, unless notice is given, and an extra amount paid, at the rate of the price of a ticket for every $500 additional value.

Conductors.

Jonathan B. Wadleigh,	Samuel B. Corliss,
Charles E. Dearborn,	Daniel V. Hoit,
Ansell Tucker,	Joseph L. Smith.

TABLE OF DISTANCES OVER THE BOSTON AND MAINE RAILROAD, BOSTON TO PORTLAND.

	Miles		Miles
Medford,	5	South Newmarket,	53
South Woburn,	8	Newmarket,	56
Woburn,	10	Durham,	61
Wilmington,	15	Madbury,	63
Ballardvale,	21	Dover,	66
Andover,	23	Somersworth,	69
North Andover,	26	Berwick,	70
Bradford,	31	South Berwick,	74
Haverhill,	32	P. S. and P. R. Rd.	
Atkinson,	36	North Berwick,	76
Plaistow,	37	Wells,	81
Newtown,	40	Kennebunk,	86
Kingston,	41	Saco,	96
East Kingston,	44	Scarborough,	104
Exeter,	49	Portland,	109

CHA'S MINOT, Sup't.

A picture of a train in the original of the time-table shows a more modern type of car than at first used, resembling in a slight degree those of today. These cars had flat roofs and eight wheels each. They were equipped with platforms and the doors were at the ends; the seats were arranged as at present, each car holding from fifty to sixty persons. Among the early locomotive engineers on the Boston and Maine were David E. Carey, Samuel Veazey, Charles H. Sherman and William D. Hall.

The Boston and Maine was fortunate in the selection of its first superintendent, Charles Minot. Mr. Minot

was a native of Haverhill, Massachusetts, his father being a judge of the Massachusetts Supreme Court. The son, also, was educated for the legal profession, but his mind was of a more practical bent, and he learned locomotive engineering, which led to the office of superintendent of the road. He was a man of great executive ability and very much determined in all he undertook. It is said he was quite democratic with his men, meeting them always on an apparent equality. He, however, was high tempered and not to be trifled with in business.

In 1850 he left the Boston and Maine and became superintendent of the Erie Railroad; so popular was he among the employees that several of the Boston and Maine engineers left with him and also joined the Erie. On the latter road Mr. Minot inaugurated the system of dispatching trains by telegraph. He afterwards was general manager of the Michigan Southern road, but finally retired and returned to Haverhill to live, where he died in 1866.

As has been seen, the main line of the Boston and Maine in 1844 extended from Wilmington Junction to South Berwick Junction, a distance of 58 miles, more than double the entire length of the Boston and Lowell Railroad, with which it connected at Wilmington, depending upon the latter road for the prompt and efficient transportation of its passengers and freight to Boston. The Boston and Lowell, then in its glory, cared but little for the Boston and Maine or its business, and by their unwillingness to subject themselves to any inconvenience or delay caused great embarrassment and vexation to the officials and patrons of the latter company.

The urgent necessity of securing an independent line to Boston was so apparent that a petition was presented to the Legislature of Massachusetts asking for authority to build what was known as the "Boston and Maine Extension" from Wilmington to Boston, a distance of fifteen miles. This plan also involved the construction of a bridge across the Charles river. Permission was granted March 16, 1844, work was immediately begun, and the new line opened to a temporary station in Boston, corner of Traverse and Canal streets, early in 1845.

BOSTON AND MAINE RAILROAD.

RULES FOR RUNNING TRAINS, ETC:

1. Train No. 1—Leaving Great Falls at 6 45 A. M., passes No. 3 at Haverhill.

2. Train No. 2—Leaving Haverhill at 6 45 A. M., passes No. 3 at Reading.

3. Train No. 3—Leaving Boston at 7 15 A M., passes No. 2 at Reading, No. 1 at Haverhill, and No. 4 at Durham.

4. Train No. 4—Leaving Portland at 7 30 A. M., passes No. 3 at Durham, and No. 5 at Reading.

5. Train No. 5—Leaving Boston at 11 30 A. M., passes No. 4 at Reading, and runs only to Andover

6. Train No. 6—Leaving Boston at 2 30 P. M., passes No. 7 at Dover.

7. Train No. 7—Leaving Portland at 3 P. M., passes No. 6 at Dover, No. 8 at Exeter, and No. 10 at Haverhill. After 6 15 P. M. Train No. 8, has the road from Exeter to Somersworth, and No 7 will keep out of its way, leaving no station unless it has time to get to the next station 5 minutes at least prior to the time assigned in the next rule, before which, No. 8 cannot leave that station.

8. Train No. 8—Leaving Boston at 3 30 P. M., passes No. 9 at Reading, and No. 7 at Exeter. If No. 7 does not arrive at Exeter by 6 15 P. M., No. 8 will proceed with care, and will not leave South Newmarket before 6 27 P. M., Newmarket before 6 37 P. M., Durham before 6 52 P. M , nor Dover before 7 07 P. M.

9. Train No. 9—Leaving Andover at 3 30 P. M., and after the arrival there of No. 6, passes No. 8 at Reading.

10. Train No. 10—Leaving Boston at 5 P. M., arrives in Haverhill before No. 7 leaves there.

11. Trains No.'s 1, 2, 3, 4, 6, 7, and 10, will leave their places starting at the hours specified, though trains previously due have not arrived; but other trains must wait the arrival of all trains due before their hours of starting on the same day.

At 6 A. M., the right of any train of the preceding day, to the road, ceases, and after that hour, the Trains, both Passenger and Freight, will run as if all the Trains of previous days had been regular; and any trains of the preceding day delayed beyond 6 A. M., will keep out of the way of *all* Trains of the succeeding day.

12. *No* Train will, under any circumstances, pass any station *before* the time prescribed in the time table, and Conductors and Engine Men will be careful that this rule is strictly obeyed.

13. If a train cannot reach the end of its trip, before the time of starting therefrom of one of the Trains named in Rule 11, whose departure should be regularly preceded by the arrival of this first named Train, this Train will be kept back, giving the other train the road; and it will not pass any Station, unless it have time to reach the next Station ten minutes before the time assigned in the time table for the other Train to leave there.

This rule does not entitle a Train to proceed beyond any way station where it should pass a train, but is intended to apply only to cases where one of the above preferred trains would otherwise be delayed in its hour of starting, by some preceding train previously due.

14. Passenger Trains will *not* wait for Freight Trains. Freight Trains *will* wait indefinitely for Passenger Trains, and must be kept out of their way—giving them the road; also, for other delayed Freight Trains.

15. The train first arriving at a Station where another train is expected to pass, will take the turnout; if both trains arrive at the same time, the train *from* Boston will take the turnout, unless it have a special order to the contrary.

16. Conductors will daily compare their watches with the clock in the Boston Depot, which is the standard of time by which all the clocks at the Station-houses, and all the watches of men employed on the railroad, must be regulated.

17. Freight Trains must *never* be run faster than twelve miles an hour, unless, from some unavoidable delay originating after it passed the last station, it shall be necessary, in order to give a Passenger Train the road.

18. Engine men will not start with the train, till they shall be directed by the Conductor, nor until the bell is rung; and they will run the trains as nearly to their time as possible,—neither arriving at the Stations too soon or too late. They will ring the bell at least eighty rods before passing any road-crossing, and continue to ring till they pass.

19. All roads are to be passed carefully, so as to avoid frightening horses; and the following roads are to be crossed at a rate of speed not exceeding six miles per hour, viz:

Travers and Causeway Streets in Boston; Prison Point bridge and the Cambridge road in Charlestown; the roads within one quarter of a mile of Andover Depot; Essex and Winter Streets in Haverhill; the Hampstead road in Plaistow; Middle Street, in Exeter; the Dover road in Newfields; Franklin Street, in Dover, and the road in Berwick.

20. Every Engine man, in approaching a road or switch, should move at a moderate speed, and see that the way is clear before he reaches it. If the switch be not seen by its lever to be right, he should stop till he is sure,—and NO EXCUSE will be admitted for running off at a switch left on the wrong track, unless it be at night, or in a very unusually dense fog.

21. A red flag by day and a lantern by night, when shown on the track, are signals of danger, and, when seen, the train must stop.

22. If a train break down or stop on the road, a man *must* be sent with a flag or lantern, backwards or forwards, as the case may be, to warn any approaching train; and if any train, followed by another, be delayed on the road, at or near the time and place when and where the other may be expected to overtake it, a man must be sent back from the delayed train to warn the other of the danger.

23. If a train is delayed from any cause on the road so that it cannot reach the next turnout within the time for which it is entitled to the road, it must be backed to the nearest turnout, and there wait the passing of the train then entitled to the road.

24. Trains running at night, if they are to be followed by another train, *must* have a good light hung behind, to warn the train that may follow. In case whenever an extra train or engine is to follow another, notice must be given of the intention to the forward train.

25. Whenever a train passes another at a Station, it will pass it very slowly, not exceeding four miles per hour.

26. The draws on the bridges must be passed slowly, and with great care, and the Engine man must be sure of the situation of the targets on them at a sufficient distance to stop the train in case they are not right.

27. No train will cross the Fitchburg Railroad, unless the telegraph at the intersection is in a vertical position; when it is horizontal, the train must stop.

28. *Carefulness*, ALWAYS, is earnestly enjoined on all.

29. In case of any *uncertainty*, a man must be sent with a signal forwards or backwards, as the case may be, and *kept* at least one hundred rods distant, until the danger is over.

CHAS. MINOT, Sup't.

October 20th, 1845.

BOSTON & MAINE RAIL ROAD

TIME TABLE FROM BOSTON

	No. 3.	No. 5.	No. 6.	No. 8.	No. 10.
Boston	7.15	11.30	2.30	3.30	5 00
Malden	7.27	11.42	2.42	3.42	5.12
N. Malden	7.32	11.47	2.47	3.47	5.17
S. Reading	7.38	11.53	2.53	3.53	5.23
Reading	7.47	12.02	3.02	4.02	5.32
Junction	7.57	12.12	3.12	4.12	5.42
Ballardvale	8.07	12.22	3.22	4.22	5.52
Andover	8.12		3.27	4.27	5.57
N. Andover	8.18		3.33	4.33	6.03
Haverhill	8.36		3.51	4.51	
Plaistow	8.46		4.01	5.01	
Newtown	8.52		4.07	5.07	
E. K. Woodhouse	9.02		4.17	5.17	
Exeter	9.15		4.30	5.30	
S. Newmarket.	9.23		4.38	5.38	
Newmarket	9.30		4.45	5.45	
Durham	9.40		4.55	5.55	
Dover	9.54		5.09	6.09	
Somersworth	10.03		5.18	6.18	
S. Berwick	10.07		5.22		

TIME TABLE TO BOSTON

	No. 1.	No. 2.	No. 4.	No. 7.	No. 9.
Portland			7.30	3.00	
S. Berwick			9.15	4.45	
Somersworth	6.51		9.22	4.52	
Dover	7.00		9.37	5.07	
Durham	7.12		9.50	5.20	
Newmarket	7.24		10.02	5.32	
S. Newmarket,	7.30		10.08	5 38	
Exeter	7.42		10.20	5.50	
E. K. Woodhouse	7.54		10.32	6.02	
Newtown	8.04		10.42	6.12	
Plaistow	8.10		10.58	6.18	
Haverhill	8.22	6.45	11 00	6.30	
N. Andover	8.40	7.03	11.18	6.48	
Andover	8.48	7.11	11.26	6.56	3.30
Ballardvale	8.53	7.16	11.31	7.01	3.35
Junction	9.00	7.23	11.38	7.08	3.42
Reading	9.13	7.36	11.51	7.21	3.58
S. Reading	9.18	7.41	11.56	7.26	4.03
N. Malden	9.24	7.47	12.02	7.32	4.09
Malden	9.29	7.52	12.07	7.37	4.14

A permanent station, the well-known brick building in Haymarket Square, so long in existence, was first used on October 20 of the same year.

The granting of permission by the Legislature to build a new railroad leading directly into Boston caused great excitement at the State House and the measure was bitterly opposed by the Boston and Lowell Railroad management on the ground that the State had promised the Lowell company that, for thirty years, no parallel road should be constructed within four miles on either side of its line. When first built, the Haymarket Square station was the largest in Boston and considered one of the finest in the country. There were two tracks in the train shed, convenient waiting and eating rooms for travellers on the lower floor, while the company's offices were located on the second floor. The amount of business then transacted by the Boston and Maine may be judged by the fact that for some years after the station was built part of the upper floor was rented for a carpet shop.

In 1867 the station, which previous to that time was only 261 feet long from the Haymarket Square front, was extended to Traverse street and a third track built in the train shed. When the Boston and Maine first entered Boston on its own tracks there was a city ordinance forbidding locomotives to cross Causeway street. Accordingly for many years the trains were hauled in and out of the Haymarket Square station by means of horses, and there are men still alive who remember the old passenger cars fitted with ringbolts for the hooks of the towlines.

The following incident, taken from the *Salem Gazette* of September 28, 1855, is well worth reproducing, as it illustrates some of the curious accidents that happened when railroads were comparatively new :—

SINGULAR RAILROAD ACCIDENT.—Yesterday forenoon an accident of a very singular nature occurred on the Boston and Maine Railroad, near the Boston depot. A train was proceeding into Boston, when,—a sufficient momentum to carry the cars to the point where the horse power is applied, having been attained,—the engine was unhitched from the train, and was proceeding forward, when the engineer discovered that the switch had not been properly changed, and reversed his engine, which met the coming train.

When they perceived that a concussion was inevitable, the engineer and fireman jumped off. When the train struck, the force turned the valve so as to again let the steam on, causing the locomotive to again start forward "on its own hook," and soon to gain a rate, we understand, of forty miles an hour. A switchman who perceived the engine dashing forward so rapidly, naturally supposed something to be wrong and very prudently disconnected the track by turning the switch, which turned the engine off, plunging it into the ground.

Had the engine proceeded into the depot at its furious rate, the damage and perhaps loss of life might have been very great. It was certainly an accident of a very singular nature.

The Haymarket Square station was used until the completion of the North Station in 1894; it was finally torn down in 1897 to make way for the present branch of the Boston City Hospital.

At the time of the extension of the road from Wilmington to Boston, Lawrence had begun to show signs of becoming a prosperous manufacturing town; the Essex Company had settled there and commenced an extensive outlay of capital. The directors of the Boston and Maine, with commendable foresight, realized that Lawrence would, in the future, require greater railroad facilities, and so on March 3, 1846, obtained the approval of an act changing the location of the road between Andover and North Andover, running down the valley of the Shawsheen river to a point near Andover bridge; thence along the south bank of the Merrimack river to the old line of the road at North Andover, building a new bridge across the Merrimack to deliver passengers in Lawrence directly upon its north bank.

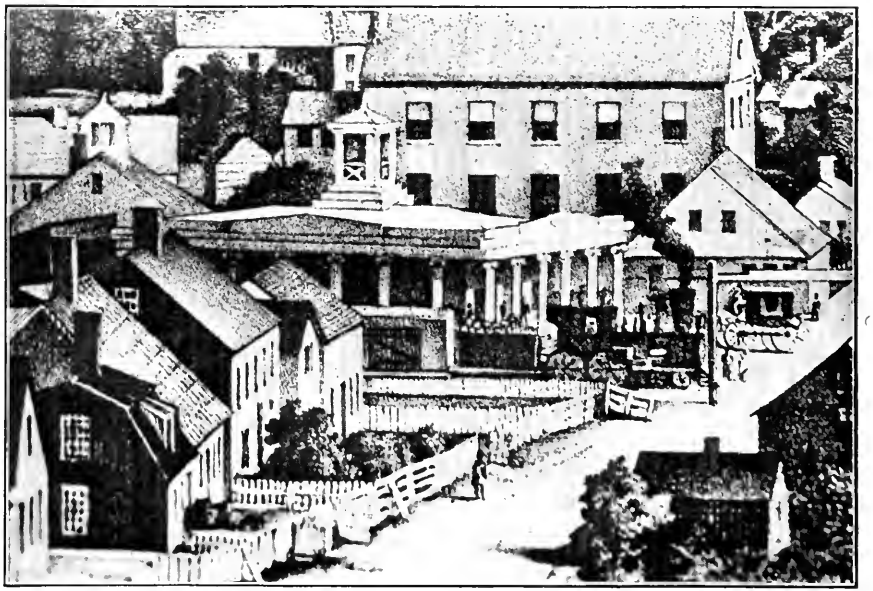
The new line was completed and opened to the public on July 3, 1848. It was built with one track only, the double track at that time extending only as far as Reading, twelve miles from Boston. It was furnished with 60-pound T rails, but the culverts and bridges were constructed for the future reception of a double track. These two extensions of the Boston and Maine had meant the construction of 26 miles of new road and necessitated the removal of the company's repair and car shops from Andover to Lawrence. The outlay of capital had been

large and was met by the issue, at par, of 3,410 shares of stock.

Two branch roads were also constructed by the company at this time, the Medford branch and the Methuen branch. The Medford branch, which extended from Medford Junction on the main road, now called Wellington, three and one-half miles from Boston, to Medford, a distance of two miles, was opened March 1, 1847. It proved a wise investment, as it resulted in a large suburban business, which, however, has fallen off of late years owing to the extension of the trolley cars. The other line, known as the Methuen branch, ran from the south bank of the Merrimack river at Lawrence to the State line of New Hampshire, a distance of two and three-quarters miles. This branch formed part of a railroad twenty-seven miles in length connecting Lawrence and Manchester, N. H., but owing to the different State laws, it was thought best to divide it into two distinct corporations. It was opened on August 27, 1849, but the next year the Boston and Maine very foolishly leased their part of the road to the Manchester and Lawrence Railroad Company. It turned out that the route to Boston was five miles shorter via this line than by way of Concord and Lowell, and in 1867 the Manchester and Lawrence road was leased on a ten per cent. basis to the Boston and Maine's then bitter enemy, the Concord Railroad. Eventually, however, on June 29, 1895, the Concord Railroad itself was leased to the Boston and Maine, and on this occasion the Manchester and Lawrence paid a cash dividend of fifty per cent.

The extensions and additions to the road encountered much and bitter opposition from minority stockholders, who could not foresee the future wants of the company. However, the Boston and Maine became a financial success from the time it entered Boston on its own tracks. Its stock gradually advanced to twenty-five per cent. above par.

The break-down of Hudson, the great railroad king in London, led to a corresponding panic in railroad securities in this country, and the stock of the Boston and Maine road fell to 85 or 90. In their alarm the minority stockholders appointed a committee of investigation, a common



BOSTON AND MAINE STATION, HAVERHILL
From a lithograph made in 1850

occurrence in the early days of railroads when the stability of the investment was still doubted. Edward Crane of Haverhill was appointed chairman, and the committee in its report, May, 1849, suggested to the stockholders that if they would preserve the value of their property they should keep the control of the increase of capital stock in their own hands, and never trust it primarily to the board of directors. After the adoption of a more conservative policy, the affairs of the corporation went on prosperously for many years.

The report of the investigating committee of 1849 also reveals many interesting and valuable facts connected with early railroading which are well worth mentioning. There were then 45,000 shares of stock issued by the Boston and Maine and owned by people of the three States of Massachusetts, New Hampshire and Maine. The books showed an expenditure, from the beginning of the road to June 1, 1849, of $843,532.27. Of that amount bridges had cost $358,683; depots, engine houses, machine shops and other buildings, $404,854, and land and fencing and rolling stock the balance. At that time the road employed 430 persons, and, in view of its development since, the list is interesting. In the superintendent's office there was a cashier who was paid $1,000 a year, two clerks at $480 each, and an office boy at $180. There were nine conductors on passenger trains, five being paid $50 a month, one employed at $45 a month, two at $41.67, and one at $35 a month. Of the four freight conductors one was paid $45 a month and three $40. There were twenty-four ticket agents, the highest salaried man being the official at Boston at $60 a month. Those at Lawrence and Great Falls received $50 a month, while Andover, North Andover, Exeter, Newmarket and Dover paid $40 a month; Somerville, South Reading, Reading, Haverhill and Rochester paid $35 a month; Medford, $33.99; Malden, Ballardvale, Durham and Salmon Falls, $30; Melrose, Plaistow, East Kingston and South Newmarket, $20; Bradford, $16; and Newton, $13. Thirty-seven men were employed at the freight house in Boston, and fourteen at freight houses elsewhere on the system, laborers receiving no more than $1 a day.

There were six train baggage masters at $35 a month, five depot baggage masters at $25 to $35 a month; four porters at stations, ranging from $26 to $30 a month; ten watchmen ranging from $26 to $30 a month; thirteen switchmen, ranging from $15 to $33.33 a month, the highest paid man being at Boston; seventeen engineers, eleven of them at $60 a month, one at $50, one at $45, and three at $40; fourteen firemen, eleven of them at $30 a month and three at $26; fourteen brakemen, thirteen at $30 a month and one at $26; eight gatemen, paid from $26 to $30 a month; thirty-one woodmen, receiving from four shillings and six pence to eight shillings a day (it is curious to note that for several years after 1849 the Boston and Maine continued to pay some of its minor employes in the old-fashioned New England shillings and pence); sixty machinists, car repairers and blacksmiths at the company's shops in Lawrence were paid from 66 cents to $2.20 daily; two roadmasters received $750 a year each; one wood agent, who attended to the purchase of all the fuel for the locomotives, was paid $1,000 a year, and the master of transportation got $900 per annum. The superintendent, who practically managed the whole road, was paid $2,000 a year; the president, $2,000; the treasurer, $1,500.

In 1849 the Boston and Maine owned thirty-five passenger cars appraised at $51,265, and sixteen baggage cars valued at $9,052. The locomotives consisted of the "Andover," "Haverhill," "Rockingham," "Cocheco," "Augusta," "Dragon," "Portland," "Reading," "Malden," "Goliah," "Antelope," "Bangor," "Massachusetts," "Norris," "Lawrence," "Medford," "New Hampshire," "Maine," and Nos. 21, 22, 23, 24, 25, 26, not named, which, with their tenders and other appurtenances, were valued at $121,050.

Like many other railroads at this time, the Boston and Maine built most of its locomotives and cars in its own shops at Lawrence, as the committee of investigation found that by so doing a better grade of rolling stock was produced and at a cheaper price than it could be obtained from the best manufacturers. Another result of the committee of investigation was the resignation of Messrs.

Thomas West and Charles Minot, the president and superintendent, and the election of Messrs. John Howe and Thomas L. Williams to fill their places.

In 1848 the Massachusetts Legislature chartered a railroad which was to be built from South Danvers, now Peabody, to South Reading, a distance of eight miles, there to connect with the Boston and Maine. By using the Salem and Lowell Railroad track between Peabody and Salem, the new road afforded another means of communication between Boston and Salem. In fact, the South Reading Branch Railroad, as it was called, was initiated largely by capitalists of the latter city; David Pingree was its president, and D. N. Pickering, superintendent. The road was opened to the public August 31, 1850, using the Salem and Lowell station in Salem. As its equipment was of the best and its fares lower than the Eastern, it did not take long for the travelling public to avail themselves of the new line. Its competition proved a terrible "thorn in the side" of the Eastern Railroad, and during 1851 the directors of the latter company managed by underhand means and by paying an exorbitant price, $110 a share, to acquire the controlling interest in the South Reading road. At its next annual meeting the independent management was turned out and various directors and officials of the Eastern were installed in their places.

Soon after, the time-table was arranged to discourage travel to Boston by means of the South Reading road and to keep it on the main line of the Eastern. This little episode may be said to mark the beginning of nearly forty years of bitter warfare between the Boston and Maine and Eastern Railroads. The latter corporation accused the Boston and Maine management of building or fostering branch roads, the sole object of which was to tap traffic from their road. Be that as it may, the suicidal rivalry led to an expenditure by both companies of about $16,000,000, without any corresponding benefit to the public. In the early 1870's, when the competition was at its worst, the Boston and Maine added $6,000,000 to its debt, while the Eastern increased its obligations to nearly $10,000,000. The good condition of the Boston

and Maine and its superior financial management, to which may be added its exemption from official dishonesty and corruption which bore down on some other roads, enabled it to endure this immense burden without a collapse, but after all it was a heavy drain and one which was felt in later times.

The Boston and Maine was particularly fortunate in its route, running as it did through thrifty places just remote enough from the coast not to have the competition of water freights, which drained somewhat from the principal stations of the Eastern road; and the development of its local business was immense, under generally liberal management.

For some time previous to 1846 the citizens of Newburyport had harbored a grievance against the Eastern Railroad, and at last a plan was conceived of building a railroad that should connect the city with the Boston and Maine road at Lawrence, and also develop transportation in the interior of Essex County through Georgetown, Groveland and Haverhill. The promoters of the new road aimed to control the traffic of the Merrimack valley, and it was hoped that Newburyport thereby would regain in part her earlier importance as a terminal point for trade. A steamboat line which had been operated on the Merrimack river between Haverhill and Newburyport had proved a wise investment, and by means of the proposed railroad it was hoped to obtain this traffic, and at the same time replace the heavy teaming between Lawrence and Newburyport by the improved methods of transportation by rail.

The town of Georgetown, at this time, was interested extensively in the manufacture of boots and shoes, and as the railroad was to supply a means whereby the raw material and the finished product could be quickly transported, a large number of prominent citizens were interested inthe enterprise. It was largely due to subscribers in Georgetown that the railroad was finally completed. Some of the early meetings, prior to the incorporation of the railroad company, were held in Georgetown, and afterwards many of the annual meetings also took place in Tenney's hall in that town.

NEWBURYPORT
AND
DANVERS & GEORGETOWN
RAILROADS.

NEW & MIDDLE ROUTE
BETWEEN
BOSTON & NEWBURYPORT
VIA.
GEORGETOWN, TOPSFIELD AND DANVERS,

Connecting at WEST DANVERS with Trains to and from SALEM. Trains from BRADFORD and GROVELAND connect with this line at GEORGETOWN for BOSTON.

Depot in Boston, - Boston and Maine Depot, Haymarket Square.
" Bradford, - - - - - - - At Haverhill Bridge.
" Newburyport, - - - - - West of the Tunnel.

FALL ARRANGEMENT.

ON AND AFTER MONDAY, OCTOBER 23, 1854,
TRAINS LEAVE

FOR BOSTON.			FROM BOSTON.		
NEWBURYPORT,	7.45, 11.00 A.M.,	1.45, 5.00 P.M.	BOSTON, - -	8 05 A.M.,	12.00 M., 3.00, 5.30 P.M.
BYFIELD - - -	7.57, 11.12	1.57, 5.12	W. DANVERS, -	8.45	12.35 3.33, 6 08
HAVER'L BRIDGE,	7.45, 11.00	1.45, 5.00	N. DANVERS, -	8.54	12.41 3.44, 6.18
GROVELAND, - -	7.50, 11.05	1.50, 5.05	TOPSFIELD, -	9.08	12.58 3.58, 6.32
GEORGETOWN, -	8.03, 11.18	2.03, 5.18	BOXFORD, - -	9'18	1.08 4.08, 6,39
BOXFORD, - - -	8.09, 11.25	2.09, 5.25	GEORGETOWN,	9.25	1.15 4.15, 6.46
TOPSFIELD, - -	8.18, 11.34	2.18, 5 34	GROVELAND, -	9.31	1.21 4.21, 6.52
N. DANVERS, - -	8.33, 11.50	2.35, 5.50	BYFIELD, - -	9.32	1.21 4.21, 6.52
W. DANVERS, - -	8.42, 11.58	2.43, 6.00	HAV'L BRIDGE,	9.36	1.26 4.26, 6.57
Arrive at BOSTON,	9.19 12.40	3.23, 6.40	Ar. at NEWBP'T,	9.43	1.33 4.33, 7.04

NEWBURYPORT AND BRADFORD.

TRAINS LEAVE NEWBURYPORT FOR BRADFORD at 7.45 and 11.00 A.M., 1.45 and 5.00 P.M.
" " BRADFORD FOR NEWBURYPORT at 8.40 A.M., and 1.45, 2.55 and 6.20 P.M.
" Leaving NEWBURYPORT at 7.45 and 11 00 A.M., and 5.00 P.M., and BRADFORD at 8.40 A.M. 3.45 and 6.20 P.M., connect with Trains on the Boston & Me. Railroad to and from LAWRENCE, and the West and North; also, with Trains going East.

GEORGETOWN AND HAVERHILL BRIDGE.

TRAINS leave GEORGETOWN for HAVERHILL BRIDGE at 8.05, 9.25, 11.18 A.M. and 1.15, 2.03, 4.15, 5.18 and 6.46 P.M.
Leave HAVERHILL BRIDGE for GEORGETOWN at 7.45, 8.25, 11.00 A.M., 12.55, 1.45, 3 50, 5.00, 6 20 P.M.

☞ Passengers are not allowed Baggage above $50 in value, or 80 lbs. in weight, without extra charge. For further particulars, see Railway Guide.

C. S. TENNEY, Sup't.

GEORGETOWN, OCTOBER 18, 1854.

On March 11, 1846, the Massachusetts Legislature passed an act establishing the Newburyport Railroad Company, the incorporators being Dennis Condry, John Huse, Enoch S. Williams, John Wood and Edward S. Moseley. They were given the right to construct a railroad "from Newburyport to or near Georgetown Corner, . . . beginning at some convenient point between the Newburyport turnpike and the present Eastern Railroad depot . . . thence southeasterly over or near Common Pasture . . . to a point near the head of the Downfall Road . . . thence continuing southwesterly crossing Parker River near Pearson's Mills, in Byfield, thence north of the Georgetown road, passing near Dole's Mills in Georgetown at or near a point of land of Daniel Pusey, about one-fourth of a mile northeast of Savory's Hotel in said Georgetown." The capital stock was to be 2,000 shares of $100 par value. The organization and location of the road was to be effected before September 1, 1847, and the construction was to be completed before September 1, 1849.

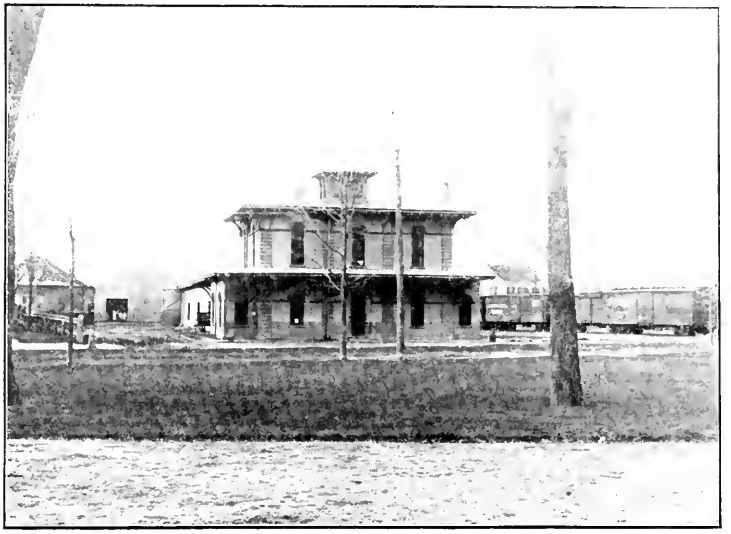
Owing to hard times and the stringency of the money market, it was found to be very difficult to raise sufficient capital to build the Newburyport road, and in January, 1850, it was reported that the work on the railroad had been "prosecuted during the year as rapidly as the means of the company would permit, and at the present time the whole section of 8 miles and 179 rods from Newburyport to Georgetown is in such a state of forwardness that a few weeks of favorable weather will suffice to place it in running order." The total expenditures to date had been $66,504.66. The rails on this road weighed only 50 pounds to the yard, which was even then eight or ten pounds lighter than the rails ordinarily used at that period. In the *Newburyport Herald* for May, 1850, is found the first notice of train service on the Newburyport Railroad, as follows:—

On and after Thursday, May 23, Passenger and Merchandise trains leave Georgetown for Newburyport at 7¼ A. M., 10½ A. M., and 4½ P. M. Leave Newburyport for Georgetown at 9 A. M., 2¼ P. M., 6¼ P. M. All the trains will stop at Pearson's Mills Village. On Wednesday, May 22, the stockholders will pass over the road,

and trains for their accommodation will run as follows: Leave Newburyport for Georgetown, 10 A. M., 1 P. M., 3 P. M. and 5 P. M. Leave Georgetown for Newburyport, 12 M., 2 P. M., and 4 P. M. Stockholders can receive tickets by calling on Thomas Davis, at the Railroad office, corner Essex and State Streets.

For the privilege of using the Eastern Railroad station and a small part of their track at Newburyport, the Newburyport Company paid $2,350. The first accident on the road occurred July 18, 1850, when a train was thrown from the track by coming in contact with a cow, and conductor Benjamin Hilliard, in jumping from the platform of the passenger car, was struck by the car and instantly killed. As fences along the right of way were not constructed in some cases, the cows in feeding wandered on to the tracks, and it was no uncommon thing to strike two or three of the animals on the way to Newburyport from Georgetown. These were the days of hand-brakes, applied by the fireman on the tender and by the brakeman on the passenger cars, one short sharp whistle from the locomotive being the signal for "brakes," and as these never seem to have worked very well, the train collided with the cows, even though they were noticed on the track some yards ahead.

It may be said that the Newburyport Railroad was of the distinctly "one-horse" variety and a constant source of jokes. The slowness of the road was a byword, and it is said that on one occasion the train was so late in arriving at Byfield that many of the citizens gathered at the station to ascertain the cause of its tardiness. Much was their surprise when, at last, conductor Nathan Carter was seen coming up the track with a halter thrown over the smokestack of the engine, leading in the train. The finances of the Newburyport Railroad were in such an uncertain state that all its locomotives and rolling stock were purchased at second hand, having been discarded by other roads. Their locomotives consisted of the "Medford" and "Rockingham," bought from the Boston and Maine, the "Cocheco" and the "Bunker Hill"; the latter was a ten-ton engine built in 1841, and acquired from the Fitchburg road; it distinguished itself by finally blowing up on September 10, 1853, and killing its unfortunate



NEWBURYPORT RAILROAD COMPANY'S STATION, HIGH STREET, NEWBURYPORT

Built in 1854, now used as a freight house

fireman. Before the road from Newburyport to Georgetown had been actually finished, a public meeting was held in Bradford, May 22, 1850, "to take measures in aid of extending the Newburyport Railroad from Georgetown to Bradford." It would seem that the latter corporation, in anticipation of this event, already had secured permission from the Legislature to unite with the Georgetown Branch Railroad, which was to run from Bradford to Georgetown Corner, and had been chartered March 11, 1844, but not constructed.

Work was begun on the new extension of the road and the construction of it was pushed as fast as the very difficult problem of financing could be satisfactorily solved. On September 1, 1851, the roadbed "had been completed from Georgetown to Haverhill bridge," but was not in good running order the entire distance to Bradford. The fifteen miles from the Eastern Railroad station in Newburyport to the Boston and Maine station at Bradford, had cost about $225,000, or "$15,000 a mile with equipment complete." This was believed to have been lower than the cost of any other road in New England. The money market had been tight, which forced the directors to sacrifice much on the discount on the sale of the company's notes, and the land damages, which amounted to $25,000, were more than double what had been at first anticipated. On September 15, 1851, a train was run "from the bridge to Georgetown," to accommodate the stockholders who attended the annual meeting, it being "the first time the passenger cars have run to Haverhill," according to the *Newburyport Gazette.*

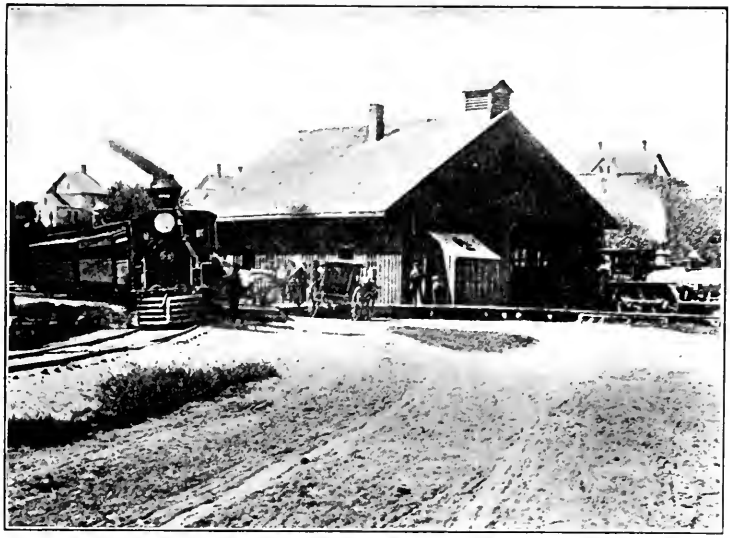
While the road was opened to Bradford for public travel on September 22, 1851, the trains did not run regularly until the latter part of October. A portion of the roadbed was at sub-grade; the depot buildings were not completed; and the arrangements which the directors had been able to effect with the Boston and Maine and Eastern companies at the termini were unsatisfactory and unfavorable. At this time the running expenses of the road, including salaries of the superintendent and treasurer, fuel, oil, etc., engineers, firemen, conductors, brakemen, switchmen, ticket masters, road master and three men,

two repair hands, sawing wood, etc., amounted to $37.59 a day.

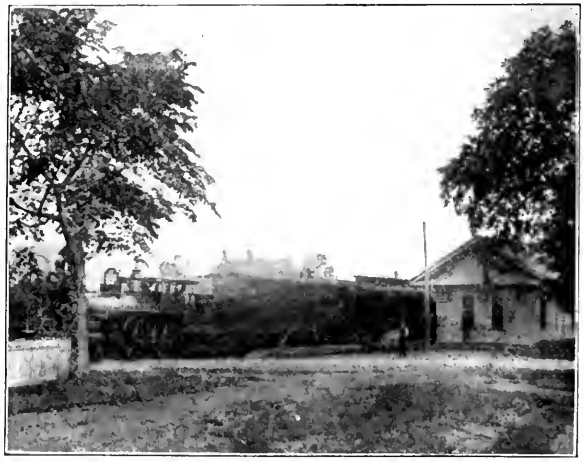
The total income amounted to $83.05 daily. The equipment of the Newburyport Railroad consisted of "Three Locomotive Engines, Three Passenger cars, One eight wheel Baggage Car, one four wheel Baggage Car, four eight wheel House freight cars, two four wheel House Freight Cars, Four eight wheel Platform Cars, Two four wheel Platform Cars, Nine Gravel Cars, Two Hand Cars, and One Iron Car." The company's entire capital when united with the Georgetown Branch Railroad was $300,000 but only $131,000 was paid in, while the total cost of construction was $255,613.

It was not long after the road had been completed before Haverhill began to complain because all the freight for that city had to be teamed across the bridge, for the right to extend the road across the Merrimack river into Haverhill was not granted till March 16, 1855. Naturally the result was a great loss of freight for the railroad. Shortly before this more trouble was occasioned the already sorely burdened Newburyport Railroad by the refusal of the Eastern Railroad to let them share the use of their Newburyport station. They accordingly were forced to build one of their own, situated near the Mall on High street, and only reached by crossing the Eastern Railroad tracks. After the consolidation of the Eastern and Boston and Maine roads in 1890, this structure was changed to a freight house, and is still used as such.

On May 7, 1851, the Danvers and Georgetown Railroad Company was chartered "to construct and maintain a railroad, commencing at some convenient point in Georgetown, thence running through Rowley, Ipswich, Boxford, Topsfield, Wenham, or any of the said towns, to the village of North Danvers, there to enter upon and unite with the Essex Railroad at some convenient point." The capital stock was to be $130,000. At the annual meeting of the Newburyport Railroad, held in September, 1851, at Newburyport, the directors "were requested . . . to petition the next Legislature for authority to unite the Newburyport Railroad Company with the Danvers and Georgetown, . . . provided the Danvers and Georgetown join in such application."



GEORGETOWN RAILROAD STATION, ERECTED IN 1850
From a photograph taken about 1865



TOPSFIELD RAILROAD STATION, ERECTED IN 1854
From a photograph taken about 1872

As far back as 1845, also, an agitation had begun for a railroad from Danvers to the main line of the Boston and Maine at South Reading, now Wakefield, but not until March 15, 1852, was the Danvers Railroad Company incorporated "with power to construct a railroad from some convenient point on the line of the Danvers and Georgetown road in North Danvers, thence running through the towns of Reading, Lynnfield, and South Reading, . . . to unite with the Boston and Maine Railroad . . . at some convenient point in South Reading . . . " The total length of the road was nine miles, and the capital authorized, $100,000; total length of the Danvers and Georgetown road, twelve miles. The Danvers and Danvers and Georgetown Railroads were given power on April 30, 1852, to form a corporate union under the name of the latter road, and were also given power to enter on the Newburyport Railroad at Georgetown, and in addition could lease their roads to either the Boston and Maine or Eastern companies. It was found, however, so hard to finance the construction of these two small roads that, in 1853, the directors of the Danvers company applied to the management of the Boston and Maine for help. The Legislature of Massachusetts had but a short time before passed a bill allowing the Danvers road to receive subscriptions to its stock from the Boston and Maine to an amount not exceeding $40,000. After much hesitation, the Boston and Maine offered to take a lease of the Danvers Railroad, provided an agreement could be made with the Danvers and Georgetown and Newburyport for the joint operation of their respective railroads.

This arrangement was made, and on May 30, 1853, a lease of the Danvers to the Boston and Maine was executed for one hundred years. In doing this the management of the latter road was influenced largely by the fact

that it thus controlled what was known as the "middle route" to Newburyport, which could be used offensively or defensively in fighting the Eastern.

While the Danvers and the Danvers and Georgetown Railroads were opened for inspection on September 2, 1854, they were not used for public travel until October 23 of the same year. The *Boston Transcript* of October 24, 1854, says: "It was a great day for the hard working citizens of several towns of Essex County on Monday, October 23, when a new route between Boston and Newburyport was opened to the public. This road connects with the Boston and Maine at South Reading (Wakefield), and passes through Lynnfield, Tapleyville, North Danvers, Topsfield, Boxford, Georgetown, Newbury, and Newburyport. We understand that a large number of persons from Georgetown, Boxford and Topsfield, who had never travelled with a steam horse, ventured the experiment of jumping on and trying him. . ."

The schedule of trains was as follows: Trains left Newburyport for Boston at 7.45 and 11 A. M., 1.45 and 5 P. M. Returning, they left Boston for Newburyport at 8.05 A. M. and 12 M., 3 and 5.30 P. M. The trip from Boston to Newburyport consumed one hour and thirty-four minutes, and it was accomplished by wood-burning locomotives. In 1858 a saving of 36 per cent., or $1,500 a year, was accomplished by the substitution of coal for wood as fuel.

After the Danvers and Georgetown became part of the Newburyport Railroad Company, that road's credit seems to have vanished completely, and after a precarious existence of a few years, during which matters reached such a pass that the president and directors were obliged to become personally responsible to the Boston Locomotive Works for two new locomotives, the "Newburyport" and the "Yankee," the road was leased to the Boston and Maine for one hundred years from February 21, 1860. The latter company assumed the responsibility for the Newburyport Railroad's bonded debt, amounting to $400,000, its stock being practically worthless.

SAUGUS BRANCH RAILROAD.

ARRANGEMENT COMMENCING

MONDAY, OCTOBER 16, 1854.

Passenger Trains will leave WEST LYNN for BOSTON & MAINE RAIL ROAD STATION, in Haymarket Square, through Saugus, Cliftondale, East Malden, Maplewood, Malden Center, and Edgeworth, as follows:

TRAINS FOR BOSTON---LEAVE

Lynn - - - -	**7,30**	**9,35**	**1,45**	**4,40**
East Saugus -	**7,34**	**9,39**	**1,48**	**4,44**
Saugus Center	**7,38**	**9,43**	**1,52**	**4,49**
Cliftondale - -	**7,43**	**9,48**	**1,57**	**4,54**
East Malden -	**7,47**	**9,52**	**2,00**	**4,57**
Maplewood -	**7,50**	**9,55**	**2,04**	**5,00**
Malden Center	**7,54**	**10,00**	**2,09**	**5,05**
Edgeworth - -	**7,58**	**10,03**	**2,13**	**5,08**

TRAINS FROM BOSTON---LEAVE

BOSTON - - - - - - - -	8,30	12,00	3,00	6,00
EDGEWORTH - - - - - -	8,40	12,10	3,10	6,10
MALDEN CENTER - - - -	8,43	12,13	3,13	6,13
MAPLEWOOD - - - - - -	8,48	12,18	3,18	6,18
EAST MALDEN - - - - -	8,53	12,23	3,23	6,23
CLIFTONDALE - - - - -	8,58	12,28	3,28	6,28
SAUGUS CENTER - - - -	9,02	12,32	3,32	6,32
EAST SAUGUS - - - - -	9,06	12,36	3,36	6,36

The Train on Saturdays, leaving Lynn at 8 P.M., & Boston at 10 P.M., will be discontinued.

ANDREWS BREED, Supt.

Lynn, Oct. 10, 1854.

W. W Kellogg, Printer, Typographic Hall, Over Depot, Lynn.

For a time the Boston and Maine and Eastern companies entered into a traffic agreement to divide the Newburyport freight and passenger business, but in a few years they, as usual, fell out, and several years of sharp competition ensued, so that in 1867 the Boston and Maine reduced its fare for passengers between Newburyport and Boston to fifty cents, much below the regular rates. On September 7, 1905, the Newburyport Railroad Company voted to pay three dollars a share for all outstanding stock, and on October 11, 1905, the Danvers Railroad took the same action. The president, treasurer and directors of these companies at that time were the officers of the Boston and Maine Railroad. The latter corporation was, on September 28, 1906, authorized to issue $306,000, 20-year, 4 per cent. bonds to acquire title to the Newburyport Railroad, and also to issue $152,000 4 per cent. 20-year bonds to acquire title to the Danvers Railroad. These roads accordingly passed out of existence forever.

In 1848 the Massachusetts Legislature had chartered the Saugus Branch Railroad Company, with leave to build a railroad from Lynn Common through Saugus to Malden, a distance of about ten miles, connecting at the latter place with the main road of the Boston and Maine. The whole project was in reality nothing but an attempt on the part of the Boston and Maine to tap some of the Eastern Railroad's Lynn business.

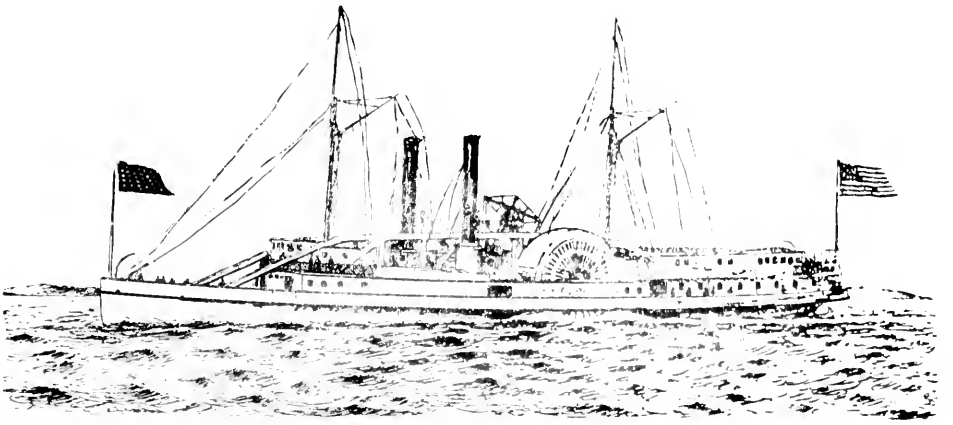
Work on the new line was begun in 1850, and dragged along slowly for lack of funds, but finally, on February 1, 1853, the Saugus branch was opened for travel with four trains each way daily. Andrews Breed of Lynn was superintendent, and, in the beginning, the only intermediate stations were East Saugus, Saugus, Cliftondale, East Malden, now Linden, and Maplewood. In the meantime, however, the ever-watchful Eastern had managed to secure the controlling interest in the Saugus Branch Company, and soon began to complain that this branch, as operated, which then did not join the main line of the Eastern at West Lynn, benefitted no one but their bitter enemy, the Boston and Maine, as they were forced

to keep up separate rolling stock, which could not by any means be of use to them on other parts of their system.

Accordingly the Eastern Railroad petitioned the Legislature for permission to discontinue the connection of the branch with the Boston and Maine at Malden, and instead extend it to join their main line at South Malden (now Everett) Junction, and also extend it at its further end to connect with their main line at West Lynn. This would give them a "loop line" between Boston and Lynn and enable some of the main line trains to be run that way. The Legislature gave the required permission, and the new connections were made in 1855, but traces of the old original roadbed can be clearly seen at Malden. This was long before the days of the trolley cars, or even the horse cars, and it must be remembered that these suburban branch roads near Boston were then of great financial importance as "feeders" to the trunk lines.

In view of the long continued warfare between the Boston and Maine and Eastern companies, it is strange to find them, in 1853, entering into an amicable part-ownership of the steamer "Daniel Webster." This fine, new, side-wheel boat of 900 tons was built at New York to run between Portland, Rockland, Penobscot river landings and Bangor. The "steamboat trains" to connect with her were run by both roads. Direct rail communication between Boston and Bangor was not made until 1857, and the "Railroad line," as the service outlined above was called, always was well patronized, resulting in large dividends for the "Daniel Webster."

The Eastern was not the only road against which the Boston and Maine adopted aggressive measures. In July, 1851, a "New Route" between Boston and Lowell was advertised by the Boston and Maine, which was arranged to use the latter's line to Wilmington Junction, thence the Salem and Lowell road, which was then an independent company, to Lowell. One gains the impression from the advertisement that the trains were through trains, without change of either cars or engines, seemingly an attempt to divert traffic from the rich Boston and Lowell Railroad, then at the height of its glory.



STEAMBOAT "DANIEL WEBSTER," BUILT IN 1853

The Lowell management promptly sued the Boston and Maine for infringement of the special rights secured by their charter, but in spite of the eloquence of Rufus Choate, they got very little satisfaction, as public sentiment was then strongly in favor of as much railroad competition as possible.

Referring once more to the Medford branch, previously mentioned, an article in the *Medford Historical Register* for April, 1914, by Moses W. Mann and others, contains so much interesting matter that it has been thought well to reproduce a portion of it, as follows:—

> This railroad was chartered May 7, 1845, on petition of James O. Curtis and others. In town meeting of June 22, 1845, the petition was endorsed by vote, and another vote instructed the selectmen to appear before the Legislature and look after the town's interests. . . . When the Medford Branch was projected . . . Medford had easy access to Boston, with its own terminal at Medford square, then called the market place. It would have been better if the committee had looked more clearly after the interests of the town than it did, and not have permitted a grade crossing of old Ship street. Of the Branch, Brooks' History says, "It was readily finished and proves to be a productive and convenient road,"—and it was in its infantile days. At the present time [1920] it is a problem to the managers and a small factor in passenger transit.

Describing the Medford station, which still does duty, Mr. Mann goes on to say:—

> Passengers passed through the depot into the train shed that housed two cars; extra cars stood outside. The ticket office had a window in the main building and in the shed also. There were three docks from the river to Ship street. The railroad partially closed two of them. Crossing Ship street, it had a fairly clear route to the main line, running under bridges at Cross and Park streets. At Park street a locomotive tank was supplied with water from an ordinary hand pump mounted on a platform. Spring street and Glenwood were not on the map in 1845-6-7. One old house was at the foot of a lane near the present crossing. The land farther down was a swamp and salt marsh. The road was single tracked; engine built at Lowell, weighed about eleven tons and was without a cab; cars to correspond. . . .

Engineers.	*Conductors.*
Joseph Seavy,	John F. Sanborn,
Robert Gregg,	Ralph Smith,
James B. Rice,	William Crook,
George Folsom,	Edward Weymouth,
John F. Sanborn.	Albert Hamilton.

John F. Sanborn was conductor a short time and then station agent at South Reading; . . . later was engineer on the Medford Branch until the railroad [engineers'] strike in 1877, then to New York Elevated [Railroad], where he died about 1880. Mr. Sanborn will be remembered as the engineer who, feeling bound by his membership in the Brotherhood of [Locomotive] Engineers, left his engine when the strike was ordered. He, however, ran it into the engine house and left it in proper order and safe condition; this in contrast to some others. The strike was unsuccessful, and later a company of Medford citizens asked for his reinstatement. The managers bore testimony to his previous excellent service, but firmly declined, saying, "The men who served us in our need, at the risk of their lives [meaning more than ordinary railroad risk], cannot be displaced to make room for *any* who deserted us." . . .

The original locomotive on the Medford branch was named, appropriately, the "Medford," and the article in the *Medford Historical Register* says:—

After it, came the engine "Cocheco," built at Lowell, on the Branch a long time; weight, twelve tons. And later, and for many years, the engine "Camilla," that weighed twenty tons and was built in Boston. We fancy that Mr. Crook, the conductor, with his hat, dickey and resplendent badge, would create a sensation on the Medford Branch today. . . . We recall that the "flying switch," [just before entering the Boston station the locomotives were uncoupled from their trains and the cars rolled into the terminal on their own momentum and controlled by the hand brakes], was discontinued at terminals at the time of the strike [1877] as a safety measure, and trains since then have been "pulled in." . . . The engine "Camilla" seems to have inspired a former Medford boy to poetic flight, as appears in these verses:—

CAMILLA, 30.

In the golden days of youth,
Of which many of us know
Who lived in old town Medford
Some three decades ago,
There was a steed attractive
To the youthful minds aglow,
'Twas the iron horse "Camilla"
Of thirty years ago.

This creature, almost human,
Was astir from morn till night;
She'd take the road at six-twenty,
And till dark pursue her flight;
Was waited for by hundreds,
And seldom ever slow—
That bright, old, sleek "Camilla"
Of thirty years ago.

The bell upon the depot,
Which is never heard today,
Would call the many people
Who wished to go away;
But there would ring a sweeter one
As through Park Street she'd go,
'Twas that of dear "Camilla"
Of thirty years ago.

We'd hear her on the crossing
And coming round the curve;
She'd always make the "fly-switch"
With very steady nerve,
And over Mystic River,
Where tide would ebb and flow,
She'd make the drawbridge quiver
Some thirty years ago.

The pride of all the round-house,
But especially of John,
Whose full name was John Sanborn,
A name now so well known.
Though not the superintendent,
He was without a foe,
And ran this old "Camilla"
Just thirty years ago.

We loved our old "Camilla,"
  We boys and girls as well;
We loved to ride behind her
  And listen to her bell.
That sound was one of welcome
  Where'er we wished to go,
'Twas our young pride "Camilla"
  Of thirty years ago.

'Twas when Conductor Hamilton
  Would wave his hand, she'd start,
And through the bridge and down the track
  She'd travel like a dart.
Would fly her way to Wellington;
  I'd like to have you know
That none could beat "Camilla"
  Of thirty years ago.

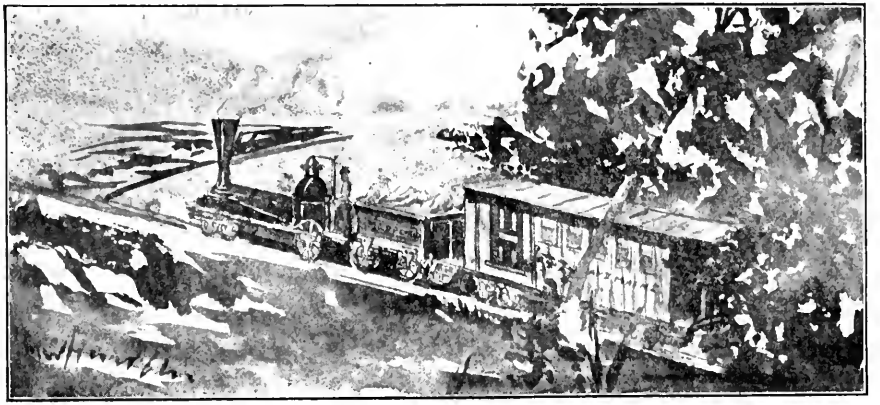
And on the double track
  She was always found in line;
Would reach her place in Boston
  In twenty minutes' time.
But then the cars were smaller
  And "links and pins" to go,
And air brakes unfamiliar,
  Some thirty years ago.

But things since then have changed,
  And also numbers too,
And engine names have gone,
  While many men are through
Who used to work and wonder
  And travel to and fro
Behind dear, passed "Camilla"
  Of thirty years ago.

As boys and girls we are no more,
  As in the days gone by,
We have grown and scattered,
  And some of us lie
Awaiting the train—of angels—
  Heaven's bright call, and lo!
The "reward" long promised
  Of the golden years ago.

—CHARLES E. PRESTON.

New York City.



LOCOMOTIVE "MEDFORD," AND THE FIRST TRAIN ON THE MEDFORD BRANCH, 1847

From a water color sketch

The "Camilla" was an "insider," i. e., the steam cylinders were inside the space between the forward trucks. The power was exerted upon the cranked axle of the forward driving wheels, a type of locomotive now rare.

Soon after the "Camilla's" retirement three new engines were put in service, named "Medford," "Mystic" and "Cradock," the latter larger than the others. They were outside connection and "double enders," having head-light and "cow-catcher" at the end of the tank, this low enough to allow the engineer view of the track as the backward run was made. These did away with the turntable at the engine house. The turning around of the engine was always of interest to the boys of Medford as elsewhere.

The names and ornamental brass have gone, but the "double-enders" are still in commission on the Branch. Another thing gone is the bell on the roof. It became cracked and went to the railroad "graveyard." Its ringing was a public convenience missed by many. The station master would deal out his tickets and make change with one hand and pull the bell-rope with the other, and experienced patrons and listeners knew by the sound of the bell how brisk the last minute's patronage was. A time card, probably the earliest issued, October 4, 1847, announces trains:

From Medford, 7, 8 1/4 A. M., 1 1/2, 3 1/2 and 5 P. M.

From Boston, 7 1/2 A. M., 12 M., 2 1/4, 4 1/2 and 6 P. M.

Saturday evening, from Medford, 6 1/2 P. M.; from Boston, 9 P. M.

Fare, 12 cents.

There was a time when it seemed probable that the Medford station would become a way-station by the building of an extension to Stoneham, but the project failed to materialize, and a terminal it has remained.

From the annual report of the Boston and Maine for 1851 is learned the interesting fact that although railroading was then in its infancy and a furious competition quite the order of the day, through tickets were sold at its Boston station for 131 stations on 21 different railroads, viz., to the Kennebec, Penobscot and Calais at the East, and to St. Johnsbury, Burlington, Ogdensburg, Niagara Falls, Buffalo, Michigan and Chicago at the North and West; also to four lines of steamers. It would seem, too, that the Boston and Maine was the only road which sold tickets for all the five different routes to the White Mountains.

A short description of the practical management of the trains in the early days may not be out of place here. Through the kindness of Mr. William Merritt of Somerville, Mass., formerly superintendent of the Western Division of the Boston and Maine Railroad, it has been possible to reproduce in fac-simile an exceedingly rare "Boston and Maine Time Table and Rules for Running Trains" for 1845, the same year in which the road reached Boston on its own tracks. The author is also largely indebted to Mr. Merritt for much valuable information pertaining to early days, which it would have been hard, not to say impossible, to obtain in any other way. Many of the early operating rules read rather quaintly to us today, but they show grasp of the important principles, and, without boasting, it may be said that in many important regulations the Boston and Maine was far ahead of other railroads.

For example, the "flagging rule," probably the most important of all, and today more strictly insisted upon than any other, we find in full force as early as 1845. There is no specific mention of it in the regulations of the Eastern Railroad, the Boston and Maine's principal competitor, until 1859. By 1853, the time-table and rules of the Boston and Maine had increased from four small printed pages to a pamphlet of sixteen good-sized pages. Thomas S. Williams was the superintendent, and there were then 27 daily trains in each direction, three being freights and the remainder passenger trains. Through trains for the North and Portland left Boston at 8.40 A. M., 1.15, 6.10 and 8 P. M., the last being the "steamboat train." There were six trains each way on the Medford branch and a "theatre train" on the main road as far as Reading on Thursdays only. The outward trains had the low numbers and the inward trains the high numbers, this being the universal practice on all railroads at that time. Branch trains had no numbers, and freight trains were designated as "freight train Number 1," etc.

On Thursday afternoon, January 6, 1853, one of the worst accidents that ever befell the Boston and Maine Railroad occurred, in which Benjamin Pierce, the young

son and only surviving child of Franklin Pierce, then President-elect of the United States, was instantly killed. The train left Boston at 12.15 o'clock P. M., and Mr. and Mrs. Pierce, with the boy, boarded it upon its arrival in Andover, Mass., where they had spent the preceding night at the home of Mr. Pierce's brother-in-law, Mr. John Aiken. The boy had been visiting there several weeks, and they were starting on the return trip to their home in Concord, N. H. When between two and three miles from the town of Andover the train was derailed by the breaking of the forward axle of the tender on the left side. The train happened to be on a slight curve and along a high embankment built up largely of rubble-stone. The shock threw the cars from the track, some of them falling down the embankment. The President and his wife were substantially unhurt, but the son, who was standing, looking out of the window, was killed. About half a dozen others were killed and many were injured, nearly all of the victims belonging in Lawrence.

Mrs. Pierce, who was an invalid, never recovered from the shock and grief, which is said to have hastened her death a few years later. Naturally the railroad company was sued by many of those injured, but Mrs. Pierce, who was very pious, believed the accident to have been a visitation of Providence to take the son away from the President, that he might be better prepared to devote himself wholly to the duties of his great office. Not only did she decline to sue, but induced her husband to have retained General Benjamin F. Butler, then at the height of his legal fame, to defend the Boston and Maine Railroad. The negligence relied on in the evidence was that the axle, which broke at the journal,—that is, at the line inside of the box in which the axle runs, and between it and the wheel,—had been cracked for a very long time. The crack had opened entirely around the axle, which was two and a half inches in diameter, and the wheel had been wabbling backward and forward on that crack until the faces of the iron in the axle had all been worn and pointed, yet not absolutely smooth. A portion a little

less than an inch in diameter in the centre of the axle alone held it at the moment when it broke.

As soon as General Butler had the opportunity, he went to the repair shop to look at the broken axle. This case was for many years considered a very celebrated one, so that it may not be uninteresting to show General Butler's method of defence, quoted from his "Book:"—

I saw that it [the axle] was of fine iron or it would not have held as long as it did. I examined particularly the man detailed to inspect axles by tapping them with a hammer. . . . He assured me with great positiveness that he had struck the axle twice, but found no signs of a crack. I did not believe much in that, because, in the first place, I doubted if it would show by the sound whether it was cracked and I also thought he would say what he did say whether he had heard it or not. I then caused an axle of the same size and of the same iron to be broken square off by hydraulic pressure, the ends showing the same grain of iron as was shown in the centre of the one broken in the accident. I had a piece of this newly broken axle put solidly in a vise. I then asked a skilled mechanic to take a fourteen-pound hammer used for rivetting large rivets, and with such blows as he would use in heading a rivet, keeping an account of them accurately, to make the broken end of this axle as nearly an exact fac-simile as possible of the one broken under the tender. . . . Next, I interviewed the engineer and fireman of the train, and asked them if anything to attract their attention had happened to the train after it left Boston. They said there had not until they got to Andover, but in passing the street at Andover they struck a very severe blow on a frog, which afterwards was found to have been misplaced, and although they slowed up the speed of the train, they could see no evil effects from this, and therefore went on until the time of the accident, when suddenly the axle broke and the train was derailed.

They said on the next morning they went down to this spot where they felt the shock and found the frog was very much bruised by something having struck it, and upon inquiry they had learned that a heavy load of stone had passed over the upper portion of the frog and displaced it so as to push the end of it away from the line of the track on which the train was running at the time of the accident.

I had a very careful measurement made of the distance between the frog and the place of the derailment of the train. The fireman said that he was on the tender throwing down wood at the time of

the blow, and that apparently it was very much heavier on the tender than it was on the engine. Assuming that the axle was cracked back there at the frog, and that the crack opened and closed at least once with every revolution of the wheel, by taking the circumference of the wheel I was able to calculate that the crack would open and close more times in running the distance than it took blows of the hammer to smooth the end of the axle experimented upon, provided the weight of the tender was as effective only as the blow of the hammer. The prosecution evidently had not reflected upon these circumstances, if they knew of them. They put on the stand a very honest, reliable and competent railroad machinist, from the Boston and Providence Railroad. . . . They showed him the axle and asked him to explain to the jury how it broke. He said in substance that a crack had been started around the axle in the line made by the tool in turning out the journal; that after it was cracked, as the wheel revolved, the pressure was brought upon every part of that crack as the surfaces separated by the crack were brought together; and that pressure would tend to wear the surface of the iron in the crack until it was given the appearance shown in the axle. . . . He supposed that it broke at the moment that it did because of some shock in turning the curve. He was asked how far the wheel would have run in order to have the broken face worn down as much as it was. . . . He thought that it might have run for three months to make the axle look as it was; how much more he could not say, and it might be considerably less, but he thought not much.

Upon cross-examination I presented him with my fac-simile of the axle and asked him what difference, if any, he could see between it and the one broken in the accident. He looked at them very carefully and said he saw no special difference. I asked him if my fac-simile could be made by ordinary blows with a riveting hammer of fourteen pounds weight. He said he thought it might.

"Well," said I, "would the weight of the tender, as the wheel revolved, make an impact as heavy as an ordinary blow of such a hammer?"

"When the crack first started," he said, "it might not, but subsequently and especially towards the last it would be very much heavier, because the crack then would have got so far open as to give an actual blow when it closed."

"Here," I said, "is another piece of axle broken short off. Will you, if I will pay you for your time and trouble as I ought to, after you leave the stand, take this to a neighboring machine shop and put it in a vise, and see how long it will take you to make this last

piece of axle resemble as nearly as possible the broken one of the tender?"

"Yes, if it won't take me too long," said he, very good-naturedly.

"I hope it won't keep you too long," I said, "but I want you to keep an account of the blows that you strike, and also keep an account of the time, and in the morning I will finish your cross-examination."

When he came in the morning he brought in his work, and he had made rather a better fac-simile than mine. I asked him the number of blows used, which he gave me, and which I now forget.

"Now," said I, "suppose that by some sudden jar this crack had been started in the axle under the tender and had gone on until it broke, would not the broken end look exactly as it does now and as the one you have made with the hammer?" He said he did not see why it would not.

"First the circumference of the wheel we know as so much," I continued. "Now, the cracked surface of the axle would receive a blow at least every time the wheel revolved in running the distance of two and one-half miles. Won't you take your pencil and calculate and tell us whether it would not receive more blows in going that distance than it took you to smooth down the end of the axle which I gave you?"

He started back after he got through his calculation, saying, "I never thought of this before; I shall have to take back my answer about how long it would take to put the axle in this condition after the crack began, and saying I don't know anything about it." I then put on my own testimony upon the matter and showed that some quarter less blows were used in preparing the end of the other axle than the broken axle received in going the distance from the frog in Andover to where the derailment took place.

I then put on the testimony of my engineer and fireman, who gave their evidence in a very straightforward, honest manner. I also put on my man who said he tapped the wheels, but after he left the stand I told the jury I was bound to call him, but I didn't place any special reliance on his testimony, because he was under great temptation to tell the story as he did to save himself from harm, although I believe he honestly thought so. It went to the jury, who gave us a verdict. There were no other cases drawn out of this derailment tried to my knowledge. I am happy to say that the verdict of the jury entirely confirmed Mrs. Pierce in her belief, and as she thanked me more than once for my exertion in ferreting out the matter, I certainly did not enter into any discussion as to her faith.

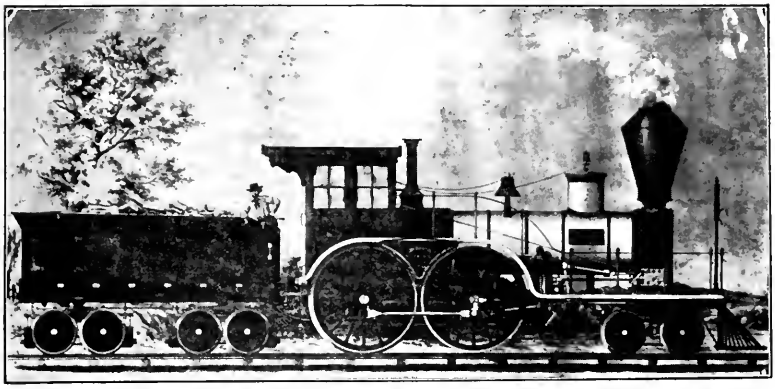
Until the introduction of the air-brake, or, rather, the vacuum brake, which was used by the Boston and Maine for some years before they adopted the present Westinghouse air-brake, the trains, both passenger and freight, were equipped with hand-brakes only, usually of the "Hodge patent" wheel variety. On trains of four, five or six cars, it was the duty of the brakeman to stand up near the brakes between the two rear cars; the through Portland trains usually had two brakemen. The link and pin couplings were used and caused the loss of many an arm or hand; the platforms of the cars were so far apart that one had to jump from one to the other. The link slanted at about forty-five degrees as it hung down, and in making a "hitch" it had to be raised to a level, inserted in the opposite draw-bar, and the pin dropped in. Many careful men carried sticks with them to lift up the links in making "hitches."

The train crews were supposed to know the road sufficiently well to make the regular stops without the engineer whistling for "brakes," and, as before stated, the brakeman applied the brakes between the two rear cars, the baggage master on the two forward cars and the fireman on the tender. Neither the conductor nor engineer touched the brakes except in cases of urgent necessity. When either end of the route was reached, the baggage master and brakeman unloaded all the baggage, swept and cleaned the cars, attended to the stoves, and provided the latter with coal or wood for the return trip. The conductor, in addition to running the train and collecting tickets and fares, was obliged to take charge of the tin boxes containing the money collections at the various stations along the line of the road, a matter of no small responsibility.

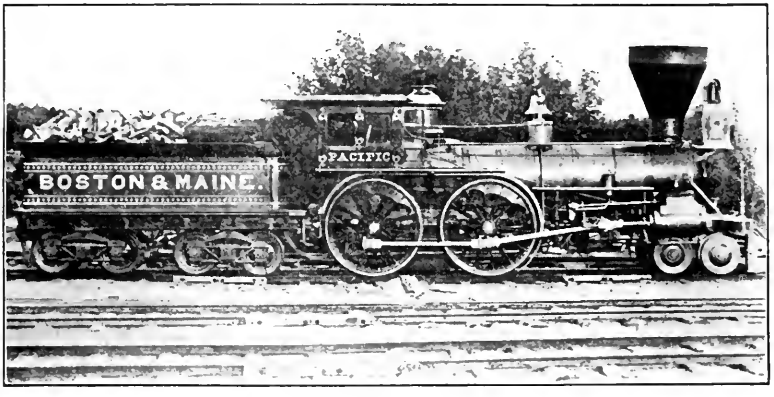
Many of the early freight cars had no brakes, a "brake car" attached to the rear of every freight train supplying the need. On either side of the draw-bars of the early freight cars were two six-inch blocks of wood, with an iron face called the "bumpers." These deadly "bumpers" claimed their victims but too often, and were the one thing dreaded by the old-time railroad men. In the

early eighties came the modern draw-bar and coupler combined. It is said that this was invented by an old man named Mitchell, a car cleaner at Lancaster, N. H., but like most inventors, he received neither the honor nor financial benefit from it. After the memorable Revere disaster on the Eastern Railroad, in 1871, the New England railroads adopted many safety devices little thought of until then. Thus, in 1872, the Boston and Maine Railroad introduced the Miller platforms and couplers on passenger cars and the vacuum safety-brake, controlled by the engineer and thought by many railroad men to be superior to the air-brake. The first Pullman parlor cars also are thought to have been first run by the Boston and Maine in 1872.

All the early locomotives were named and more or less ornamented. The bells and whistles were polished to a high silver brightness, and bright shining brass bands encircled the boilers. The tenders and cabs were ornamented with fancy scroll designs, and the oil cups and other parts of the running machinery were kept polished and cleaned by the fireman, this work consuming, sometimes, two or three hours of his time each day. The engineer's position was entirely different from that occupied by him today. He was master of his engine, often running the same one for many years; his word was law as to its repairs, which he superintended. The work of an engineer comprised not only the entire care of a locomotive as to its running, but he also cared for all the journals, and renewed boxes, bolts, nuts, in fact any worn parts that two men, the fireman assisting, could attend to at the end of the run. By 1850 the engines were all provided with cabs for their occupants' shelter from storm. It may be stated, also, that the Boston and Maine was one of the last, if not the very last, of the New England railroads to keep up the practice of naming its engines. Many of the early locomotives were of a type now obsolete, called "insiders," shown in the picture of the "Lawrence," i. e., the cylinders were close together under the forward end of the boiler. These required a cranked axle for the forward pair of driving wheels.



LOCOMOTIVE "LAWRENCE," WEIGHT TWENTY-FIVE TONS
Built by the Lawrence Machine Shop, 1853



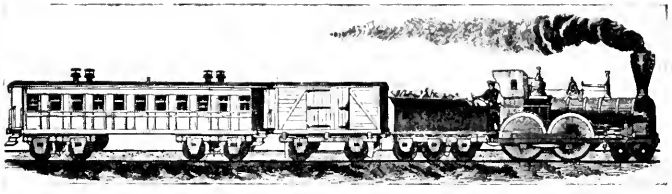
WOOD-BURNING LOCOMOTIVE "PACIFIC," BUILT IN 1857

In 1855, Mr. Thomas L. Williams resigned as superintendent, and the directors elected in his place Mr. William Merritt. Mr. Merritt belonged to the well-known Salem family of that name. He began his railroad career in 1842 as brakeman on the Boston and Maine, and was soon after baggage master and conductor on the old Essex Railroad, operated by the Eastern Railroad, now known as the Lawrence branch, between Salem and Lawrence. From there he went to the Cocheco Railroad of New Hampshire as superintendent, later returning to the Boston and Maine as general freight agent, which position he filled until his election as superintendent.

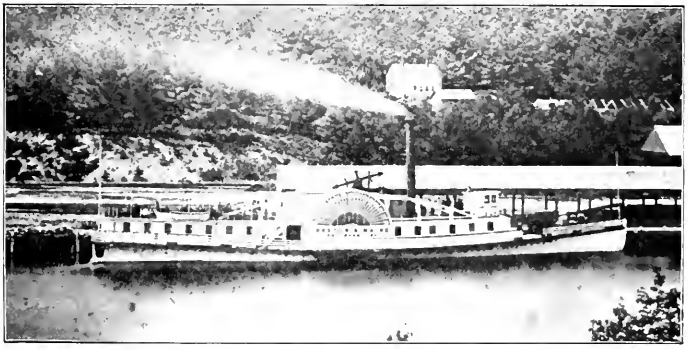
In those days the superintendent of a railroad practically ran his particular road, and was not, as today, a mere chief clerk, with no real authority. Mr. Merritt was a man of great executive ability, and soon placed the road, in regard to its practical operation, on a firmer footing than ever. Under him the use of the telegraph in train operation was begun; at first only occasionally, in case of wrecks or snow storms when trains were badly disarranged. Previous to the early 1860's the regular Boston and Portland Telegraph Company's wires were depended upon; their headquarters were on State street in Boston, and much inconvenience was caused by the delays in running between the telegraph office and the station in Haymarket square. The Boston and Portland Co. was eventually absorbed by the Western Union Telegraph Co. About 1861 or 1862, Mr. Merritt had telegraph wires installed in his office in the Boston station, and employed an operator during the day to control the trains, a train sheet, so called, being used to record the movement of trains. In 1872, after the Revere disaster on the Eastern Railroad, which was largely due to the telegraph not being used, the Boston and Maine and nearly all the other large New England railroads introduced this new method of dispatching trains by telegraph, with day and night operators at the more important stations. It was not until 1884, however, that trains were placed under complete telegraphic control; previous to that time the trains were run according to the time-tables and the rules printed therein regarding their rights.

The time-table for 1870 shows that the Boston and Maine ran thirty-seven trains each way daily, five of them freights and the remainder passenger trains. The fact also is revealed that the Boston and Maine then controlled and operated what was called the Dover and Winnipiseogee Railroad from Dover, N. H., to Alton Bay, N. H., a distance of twenty-eight miles. This road is now extended to Lakeport and called the Lakeport branch. Originally chartered by the New Hampshire Legislature on June 28, 1847, the Cocheco Railroad, as it was at first called, was to have been built from Dover, N. H., to Meredith, in the same State, there to connect with the Boston, Concord and Montreal Railroad. This project, however, never materialized, although the Cocheco road was put under construction in June, 1848, opened from Dover to Farmington, a distance of eighteen miles, on September 21, 1849, and from Farmington to Alton Bay in September, 1851. After a fierce and bitter warfare of several years with the Boston and Maine, due to differences in regard to the amount claimed by each corporation for through passengers and freight, the Cocheco road was reorganized and renamed "Dover and Winnipiseogee Railroad," in April, 1863, and in November of the same year was leased to the Boston and Maine for a rental of $29,000 a year, and finally absorbed by it on June 30, 1892.

Through its connection with the Winnipiseogee Railroad, the Boston and Maine became interested in steamboats running on Lake Winnipiseogee, or Winnepesaukee, which is the modern way of spelling the name. These were, at first, the "Dover," a wooden side-wheeler, built in 1852, afterwards rebuilt and called the "Chocorua;" she measured about 400 tons, 170 feet long, and 32 feet beam. In 1872, the Boston and Maine had the side-wheel steamboat "Mount Washington" built at Lakeport especially for traffic on the lake. She is 750 tons gross, 180 feet long, 5 1-2 feet draft, and is fitted with a powerful vertical beam engine. As the "Mount Washington" is run only a few months in the summer in fresh water, she is still in active service and bids fair to last many years longer, having been rebuilt in 1914.



TYPE OF RAILROAD TRAIN OF ABOUT 1850 SHOWING THE BAGGAGE CRATE



STEAMBOAT "DOVER," LAKE WINNEPESAUKEE
Built in 1852, afterwards named the "Chocorua."

Mr. John Howe resigned as president in 1853, and soon after accepted the presidency of the Eastern Railroad. He was succeeded by Mr. James Hayward, who remained in office until 1857, when Mr. Francis Cogswell of Andover became president, continuing in this office until 1863. The directors then elected Mr. Israel M. Spelman of Cambridge as president. Mr. Spelman was a civil engineer by profession, and had originally helped survey a portion of the road.

Early on the morning of November 21, 1862, occurred the second of the three bad accidents that have taken place on the line of the Boston and Maine Railroad. The passenger train from Reading was run into the open draw of the bridge almost at the entrance to the Boston station. It so happened that the train had stopped at the Charlestown station just before going on to the bridge, and, at the time of the accident, was moving at a speed scarcely faster than a man could walk ; and yet the locomotive, the "Bangor," was entirely submerged, as the water at that point was deep. Probably the only thing that saved the train was the fact that the draw was so narrow and the cars so long that the foremost car lodged across the opening, its forward end only being beneath the water. At the rate the train was moving, the resistance thus offered was sufficient to stop it, though, even as it was, no less than six persons lost their lives and a much larger number were more or less injured. Notwithstanding all the precautions imposed by law had been taken, the accident was due to the neglect of the corporation in not having the draw and its system of signals interlocked in such a way that the movement of the one should automatically cause a corresponding movement of the other ; and this neglect in high quarters made it possible for a careless employee to open the draw on a particularly dark and foggy morning, while he forgot at the same time to change his signals.

Probably no railroad was ever so much "investigated," and with so little result, as the Boston and Maine. For example, in 1866 a report was made by a committee consisting of J. E. Bartlett and W. B. Dodge on the man-

agement of the road for the previous ten years. The report begins with these words: "It is proposed in the following pages to examine into the condition and management of the Boston and Maine Railroad for the last ten years, to compare the same in some essential particulars with other first class railroads terminating in Boston, and finally to inquire why it has come to pass that this railroad, which stood at the head of the list ten years ago, should, in all important results, now be found at the bottom." One cannot read the report of 1866 without feeling that not a little of the company's present day embarrassment has come to it by inheritance.

By 1855, as a result of their management of the property, the directors of the Boston and Maine had raised the market price of the stock above that of any of the other seven roads entering Boston. In 1866 the stock held the fourth place and not the first, but worse than this was the fact that its percentage of gain during the ten-year period was much less than that of any other Boston railroad stock. In trying to account for this, the committee brought to light some rather surprising facts. It prepared a table showing the "progress and amount of business that came to the Boston and Maine Railroad through the Manchester and Lawrence Railroad, from the year 1852 to 1856." From this table it appears that the Boston and Maine, in the year 1852, received business from the Manchester and Lawrence to the amount of $35,996. In 1856 this business amounted to $80,095, and continued at about that rate until May, 1865, when it suddenly fell off, the result for the eleven months preceding the committee's report being $26,430. The question immediately arose, "What has become of that northern and western business?" Investigation showed that it had gone to the Boston and Lowell and the Fitchburg Railroads. It must be admitted that the report of the committee in 1866 made a very poor showing for the Boston and Maine management.

Take such a case as the following: "In the matter of ice, the Boston and Maine Railroad excels all other roads terminating in Boston as to the facilities for obtaining an

ice crop, to wit: Ponds in the immediate vicinity of its track, within ten miles of Boston, to the number of four, having a united capacity of seven hundred acres. Amounts of business done in ice from October, 1864, to October, 1865:—

Whole number of tons,	13,491
Received for its transportation,	$9,390

"In the same article of ice, the Fitchburg Railroad has the following facilities, to wit: Ponds in the immediate vicinity of its track, within ten miles of Boston, to the number of two, having a united capacity of three hundred acres. Amount of business done in ice from December, 1864, to December, 1865:—

Whole number of tons,	157,000
Received for its transportation,	$90,000

Why should the Fitchburg Railroad, with less than one-half the facilities for obtaining an ice crop, do ten times more business than the Boston and Maine Railroad?" The answer was, that the Fitchburg had some *limited* facilities for shipping, the Boston and Maine having *none.*

This is only one of a number of cases which might be cited. The Boston and Maine had no suitable accommodations for ice, coal, lumber, lime, or other bulky, water-borne freight. At the same time the road suffered from inadequate equipment. It was said, in 1866, that no material addition had been made to the rolling stock of the road for the last ten years, and that a vast amount of business had been lost in consequence. But, asked the investigating committee in 1866, "how did it happen that, notwithstanding the meagre business, regular dividends had all along been declared?" The answer was easily found. To make up the deficit occasioned by the loss of business which had been drawn from the Manchester and Lawrence Railroads and from other directions, and in order, as it was claimed, to meet increased expenses incident to the state of the times, particularly during the Civil War, a resort was had to an advance in the rates of freight and passenger fare levied on those who, on ac-

count of their location, would still be obliged to patronize the Boston and Maine. The rates from Boston to Lawrence, for example, were increased fifty per cent. in 1865. The first consequence of this policy was an outburst of indignation and an appeal to the Legislature for relief, which, however, was not readily forthcoming. This aspect of the situation is extremely interesting, showing as it does how sentiment has changed in the last sixty years. Then it seemed a perfectly natural thing for a railroad to increase its rates in order to provide itself with sufficient funds to pay its dividend, and to legislators it seemed a right enough thing for it to do. Times have certainly changed.

The investigating committee of 1866 drew two corallaries from the facts which they discovered. The first was: "No permanent prosperity can be reasonably expected to come from an exorbitant increase in the rates of freight and fare levied on such communities as may seem, from their peculiar relation to the road as to location, to be obliged to submit, but who are quite likely to invent some method of relief or retaliation." The second corollary was: "No railroad can afford to alienate the good will of its best friends." The suggestion which the committee made was that suitable and adequate provision should be made immediately at the Boston end of the line to accommodate and develop the business that legitimately belonged to the road. Other roads, it said, had been ready with the needed facilities, and had reaped their reward. The Boston and Providence, for example, standing at the bottom of the list ten years previously, was in 1866 at the head. The secret of its success was obvious. It made, in season, ample provision for its business. The Boston and Lowell, only twenty-six miles long, although it controlled the Nashua and Lowell to Nashua, forty miles in all, had *thirty acres* of land at the Boston end of its line, and though ten years previously, through "lack of enterprise" on the part of its managers, it appeared to be smitten with premature decay, had since arisen "like a giant from his slumbers," and owing to the energy of its new president, Hon. Francis B. Crown-

inshield, protected itself on every side, and also stood "ready for a foray in any direction which offers a chance for spoils."

Four hundred thousand dollars had been expended for improvements in Boston during the year preceding the report of the investigating committee of 1866. The Fitchburg, with ninety-three miles of road, owned fifteen acres of freight ground in Boston, besides ten acres or more belonging to private parties, below the bridges and on deep water, with which it was connected. The Old Colony, which "fifteen years ago seemed to have neither beginning, middle, or end," had since extended itself three fold, secured twenty acres of land, expended four hundred thousand dollars for that and other improvements at the Boston end of its line; paid more dividends in the aggregate for the ten years preceding 1866 than any other road running out of Boston,—all in great measure, says the report, through the constant "foresight and vigor" of the master at the helm. Contrast all this with what the Boston and Maine had been doing:—

With its 147 miles of road, and only six acres of land at the Boston end of the line, on which are crowded machine shop, engine house, wood-shed, car-house, repair-shop, freight houses, passenger station, etc.; and after an existence of twenty years since it entered Boston on its own tracks, is found today without a single berth at which to lay and discharge a vessel by authority of law,—what has the Boston and Maine done at this vital point to meet the growing demands of business, and to maintain its true position with the living competitors on every side? If a single fourpence-half-penny has been expended for such purposes we would be glad to know when it was done and where it was laid out.

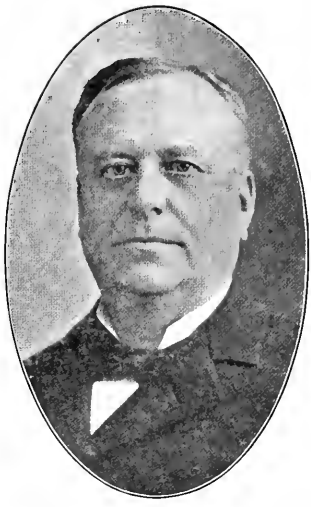
But [continued the committee of 1866], has there ever been any specific suggestion made or plan executed by which the exigency can be met? Most assuredly there has been. More than a dozen years ago the engineer who planned and built the extension into Boston [James Hayward], and who was, at the time referred to, president of the road, testified before a committee of the Massachusetts Legislature, that the freight accommodations of the Boston and Maine were at that early day inadequate to the business of the road; that to make the road what it was intended to be—a first class railroad connecting with navigation on deep water—from

twelve to fifteen acres of wharves and land at the nearest available location about a mile from the present station in Boston were needed. Liberty was obtained to make the improvements. Leave to connect the same with the Boston and Maine Railroad by a branch railroad was also given. Improvements larger in amount than is named above were soon made, and seven years ago the Boston and Maine Railroad was respectfully notified that the wharves were ready for the uses for which they were authorized and created. They answered, they "thought the subject was worth *considering*."

After an interval of seven years, during which, in the opinion of a gentleman whose official duty obliged him carefully to examine the capabilities and the performances of this road, "they lost from half to three-quarters of a million dollars for lack of these facilities"—the improvements having been nearly doubled—twenty-five acres of the best arranged wharves that ever has been or ever can be built in Boston harbor for the accommodation of the business of the Boston and Maine Railroad, . . . the attention of the directors was recently recalled to the subject by a specific proposition by which the Boston and Maine, at the trifling outlay of $25,000 on their part, might be connected with all these wharves; and they answered, "they considered the subject worth *thinking* about."

It is in no spirit of captious criticism that the above facts are recited. When the whole Boston and Maine situation of today is summed up, the lack of foresight of the management sixty years ago will perhaps play no insignificant part. It has been seen that the Portland, Saco and Portsmouth Railroad was under a joint lease to the Eastern and Boston and Maine companies at six per cent. yearly rental. If a breach of contract should be made by the lessor, it should pay to each of the other roads, lessees, the sum of $100,000, or in all $200,000. During and after the Civil War the stockholders of the Portland, Saco and Portsmouth were very much dissatisfied that their dividends were paid in depreciated currency instead of gold, and so in January, 1870, the company decided to break the contract and pay the stipulated penalty. And then began a contest which gave rise to much private and public feeling. It became evident that the control of the Portland, Saco and Portsmouth was essential to any railroad which expected to receive business from northeastern Maine and the British Provinces.

Hon. ISRAEL M. SPELMAN
President of the Boston & Maine
1862-1866



LUCIUS TUTTLE
President of the Boston & Maine
1893-1909

WILLIAM MERRITT
Superintendent of the Boston & Maine
1855-1873

CHARLES MINOT
Superintendent of the Boston & Maine
1842-1850

The Portland, Saco and Portsmouth now put itself into the market to excite competition among the three roads, the Maine Central, the Boston and Maine and the Eastern. Six, eight, and finally ten per cent. was offered. At length the Eastern Railroad also offered ten per cent., and the new contract in perpetuity was awarded to it, largely because the people then in control of the Portland, Saco and Portsmouth road happened to be more interested pecuniarily in the Eastern than in its competitor, the Boston and Maine. As soon as the Eastern became the sole lessor of the Portland, Saco and Portsmouth, it refused to take on the Boston and Maine trains at South Berwick Junction, as always had been done in the past, and haul it to Portland as part of its own train. The conductors of the Eastern trains were instructed: "On your arrival at South Berwick Junction you will connect with the Boston and Maine cars, but if latter are not in sight or whistle heard, you will proceed immediately to Portland without waiting." Heretofore the rule had been to wait one hour if the train were delayed. Very naturally, on occasions, the Boston and Maine train was late, and then the passengers would be dumped out at South Berwick, a most uninteresting spot in which to waste time.

This condition of affairs precipitated a most serious situation for the Boston and Maine, or, as its management expressed it in the annual report:—

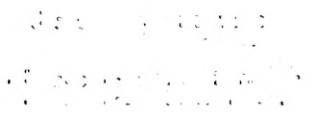
> The termination of this contract [the Portland, Saco and Portsmouth lease] left us with a road 74 miles in length, terminating in the woods in the town of South Berwick. Unable to make any arrangement, whether for the joint use with the Eastern Railroad of the road from that point to Portland; or for the separate use of the same, by lease, contract, or otherwise, application was made to the Legislature of the State of Maine for authority to extend this road from South Berwick to Portland.

The act authorizing this extension, 41 miles in length, was approved February 17, 1871. Work was begun on it in the autumn of the same year, and the road opened to travel on March 17, 1873. A young newspaper reporter was the sole representative of the press on the first train of the Boston and Maine to run through to

Portland on its own line. He went in company with Mr. James T. Furber, who at that time had just become the operating head of the Boston and Maine. Mr. Furber had a sturdy and vigorous personality, and later as general manager of the Boston and Maine through its first stages of expansion, did so much to lift it on to a broader plane. No notice had been given that the operation of the new extension was to begin that day. When South Berwick Junction was reached the Eastern train had not yet arrived, and no intimation had been received by the Eastern people that they were not to connect as usual with the Boston and Maine train. The then young newspaper man says he well remembers Mr. Furber's triumphant laugh as he gave orders for the train to keep on and leave the Eastern to itself then and forever after. He then accompanied Mr. Furber to the locomotive and rode there with him the rest of the way to Portland. The extension was built at the cost of several millions of dollars, and it is said the expense was at least thirty per cent. above what it would have been had good judgment been used. Land damages, the road-bed and the masonry were unduly expensive from the extreme haste which characterized the precipitate undertaking. The new entrance into the city of Portland also entailed a vast expenditure, a high bluff of clay and rock having to be penetrated and streets bridged. For terminal purposes the old Walker House on Commercial street was purchased and remodelled into a passenger station and used as such until the present Union station was built in 1889.

Mr. William Merritt resigned as superintendent in February, 1873, he having met the year before with a severe fall, from the effects of which he never recovered. The directors elected Mr. James Furber, the station agent at Rochester, N. H., to take his place, and at the same time appointed Mr. Merritt's son, William, Jr., assistant superintendent. In 1869, the capital of the Boston and Maine was increased from $4,155,000 to $4,550,000, entitling each holder of ten shares to one new one at par; in 1871 the capital stock was again increased to $5,000,000, and the next year to $7,000,000. No sooner had the "extension" been opened to Portland than the company

"WALKER HOUSE" STATION OF THE B. AND M.
Commercial Street, Portland, 1873-1889
Originally a hotel, now a Railroad Y. M. C. A.



found themselves once more "pocketed," so to speak, by the Eastern Railroad, for that corporation, by the purchase of 15,274 shares of stock of the Maine Central Railroad, at a cost of $1,220,538, far above the market value, obtained the control of the latter road. At this time the Boston and Maine could not sell a ticket below Portland, nor would the Maine Central haul any of their passenger cars. Between Boston and Portland a competition more furious than ever was maintained between the two rival railroads; in fact, the war of rates was estimated to have cost the Eastern road alone $10,000 to $12,000 per month.[1] Finally, in November, 1874, an arrangement was entered into between the Eastern and Boston and Maine which in a measure stopped the ruinous competition, but the relations between the two roads were never very friendly.

The Boston and Maine also found an outlet at Portland by connecting with the tracks of the Grand Trunk Railway. This was accomplished in September, 1874, and at the same time the change of gauge for the whole distance between Detroit and Portland was fully consummated, so that both passenger and freight cars were enabled to run from Boston to San Francisco. This connection secured to the Boston and Maine much better facilities in the transportation of passengers and freight from points on their road to points on the Grand Trunk and beyond. The construction in Maine of the Lewiston and Auburn Railroad, five miles long, connecting with the Grand Trunk, opened to the Boston and Maine the cities of Lewiston and Auburn, and beginning in September, 1874, their passenger cars ran through between Boston and Lewiston without change. Another valuable acquisition made by the company was the purchase of Smith's wharf on Commercial street, Portland, "by means of which we were enabled to place our cars within the yards of the largest lumber dealers in Portland, and within the means of close connection with steamers for Halifax, St. John, Bangor, Mt. Desert, etc.[2]

[1]The 41st Annual Report, Eastern R. R. Co.
[2]Annual Report, Boston and Maine R. R., 1874.

The Lowell and Andover Railroad, now known as the Lowell branch, from Lowell Junction, on the main road of the Boston and Maine, to Lowell, a distance of eight and one-half miles, was placed under construction during 1874, and opened for business on December 1, 1875. Before its completion it had been leased to the Boston and Maine, and as it opened a new route between Boston and Lowell, it immediately brought that company into collision with the Boston and Lowell Railroad. The want of deep-water terminals in Boston, previously mentioned, had been partially met by the construction of a wharf 1,200 feet long on the southerly side of the Mystic river in Somerville, authority having been previously obtained from the Massachusetts Legislature of 1873.

In 1876 came the notable "race" between the Eastern and Boston and Maine, the following interesting account of which is derived from an article by Winfield S. Nevins, at that time Salem correspondent of the *Boston Herald*, and published in the *Salem Evening News*, February 9, 1917:—

> At that time the Maine Central Boston trains ran out over the water at Portland to Cape Elizabeth and then back into the Portland station over the Eastern or P. S. and P. tracks. The Boston passengers for the Boston and Maine road were transferred at the transfer station not far from where the present Union station is located, the station of the Boston and Maine being on Commercial street directly opposite the Eastern and Maine Central union station of those days. When this race began on Monday, the first train of the week from Portland, old "64," now "40," came from Bangor in charge of conductor "Gus" Lincoln, a veteran of the Maine Central. [From 1873 to 1877 the Eastern and Maine Central train crews alternated in running through from Boston to Bangor—245 miles.] The Eastern won by eleven minutes, having more cars and less mileage. . . . It was 114 miles to Boston over the Boston and Maine and 109 over the Eastern. On Tuesday the Eastern won out by a few minutes. Everybody waited for Wednesday, when that old veteran, "Dan" Sanborn, should bring the train from Bangor to Boston.
>
> Over the Maine Central trains had to make regular time, but when they reached the tracks of the Eastern and Boston and Maine all semblance of "Time" was banished. "Dan" Sanborn had for engineer one of the best men who pulled a throttle in this or any

other country at that time—"Bill" Johnson. As quickly as Johnson's locomotive could be coupled on to the train . . . he struck for Boston. Sanborn and Johnson constituted about the best "team" that ever attempted to handle a train. I well remember when they came out of Salem tunnel and into the station with old "64" that afternoon . . . it was some fifteen minutes ahead of scheduled time. The old locomotive fairly roared and raged as it came tearing across Norman street. It pulled down, the mail was dumped off and taken on; no baggage was taken and no wait was made for passengers. Sanborn swung his arm to go ahead, grabbed the writer of this article and pushed him up the step, and away we went for Boston. In Lynn the same thing was done—leave and take mail, while passengers looked on with wonder and perhaps anger, to be left on the platform. Then off for Boston. "Mile a minute time" was rare on New England railways then, but we made it. Sanborn and the writer stood looking out of the rear door of the rear car watching for the Boston and Maine as the train made that curve just this side of Somerville station. Today, at thirty miles an hour, it will throw a man down if he is not prepared. We were prepared that afternoon, but we lurched over almost in a heap, and both thought the car had gone off the rails. It had not, and on we rushed across everything on into Boston. "Deadhead" stops had to be made at the Boston and Maine crossing in Somerville and at the Fitchburg crossing in Charlestown. We made the first one fully, but the wheels did not cease entirely to roll before we went over the Fitchburg, arriving at 5.04 P. M.

The writer jumped off the train and ran for the Boston and Maine station in Haymarket Square, which he reached before their train arrived at 5.08½, just in time to inform my old friend, "Jim" Furber, superintendent of the road, that I had come in on the "64," and to greet my friends of the Boston and Maine on the train.

The Boston and Maine was much chagrined over this defeat. I wrote an account of it for the *Boston Herald*, with which I was then connected, and for the *Bangor Whig and Courier*. The Boston and Maine officials sought to break its force by denying that there was any "race," but they were met with indisputable facts. They did not attempt to deny the statements of the *Herald*, because all Boston knew them to be true. There was no real effort on the part of either road after Wednesday to do any serious "racing." The Eastern won the "race." Now the Eastern lies down with the Boston and Maine, like the lamb that laid down with the lion. It is interesting to note that the running time of the Eastern train that day, under those conditions, was three hours and twenty-six minutes, the train consisting of seven cars, one Pullman only, if

any. The Boston and Maine had five cars and made sixteen stops, and its running time was three hours and thirty-eight minutes. Today [1917] the Eastern division train makes the run in three hours and fifteen minutes, with ten or twelve cars of much heavier build. The "express" to Portland left Boston at 8.45 A. M. and reached there at 1 P. M., or in four and a quarter hours. On the occasion of this race the run from Lynn to Boston in twenty minutes was chronicled as something phenomenal.

The locomotives used were the "Atlantic" on the Eastern train and the "North Star" on the Boston and Maine road. A former official of the Boston and Maine in service at the time of the above occurrence has informed the writer that there really was no race at all. The whole thing, in his opinion, was gotten up for advertising purposes by George Bachelder, then superintendent of the Eastern Railroad. A special telegraph message was even sent to the conductor and engineer of the Boston and Maine train not to depart from their running time under any circumstances whatever. Since the foregoing was written, it has also been learned that another and apparently more realistic race took place between the Eastern and Boston and Maine roads in 1857 or 1858, when it was actually a question of the United States mail contract. As every one who took part in this first trial of speed is dead, very little can be found out concerning it except that the Eastern train won and the two locomotives used were the "City of Lynn" on the latter road and the "Massachusetts" on the Boston and Maine. The mere fact of there having been two races has greatly confused the matter, and it has been only with the greatest difficulty that any information has been obtained.

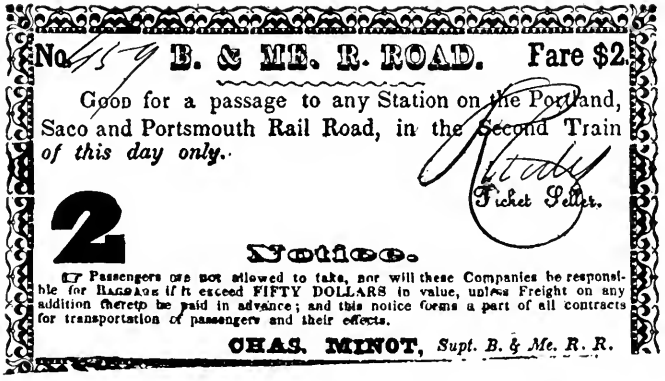
In the meantime, in 1872, a branch known as the West Amesbury Branch Railroad had been built from the main line of the Boston and Maine at Newton Junction to Merrimack, Mass., a distance of four and one-half miles. It was leased to the Boston and Maine on January 9, 1873. At one time it was contemplated to extend this line to Amesbury and thus compete with the Eastern Railroad, but the lease of the latter corporation to the Boston and Maine put an end to the scheme. Of late years service on this and on many other of the Boston and Maine branches has been practically abandoned, due partly to the competition of the electric street railways,

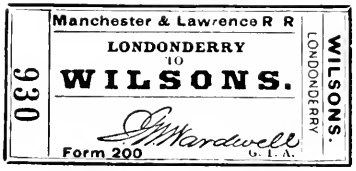
but also in large measure to the absolutely demoralized condition of the whole Boston and Maine system. Trains, passenger and freight, were taken off when this country entered the European struggle, with the distinct understanding that they would be replaced at the close of the war. This has not been done, and a deep feeling of hostility against the road has been aroused in many localities through which it passes and which it will take a long time to overcome.

Not many of the present generation realize that the splendid system of time under which the railroads of the United States are now operated was not always the same. But such is the fact, and not until 1883, when the first time convention was called, was there any relief in sight for the time tangle. The duty of this time convention was to work out a system of time that would do away with the crude and confusing system then in effect. The convention met and the result was the establishment of what is now known as standard time. Besides clearing up the time situation, the convention formed a permanent organization which is called the American Railway Association. It is this organization which has given us standard rules and has done much to bring about safe practice in train operation. Before standard time was adopted there were more than fifty standards of time in use by the railroads for train operation throughout the United States, and the chaos that existed, where a matter of connections was concerned, can well be imagined. A traveller who had to journey over three or four railroads was unable to count on connections with any certainty. Even on the same road it was unusual to have the same kind of time on any two districts. Passengers were subjected to further inconvenience and confusion by frequent time changes, especially by the smaller roads, and to make matters still worse, few conductors could tell the kind of time in use on connecting lines. Under the present system there are four different times used in the United States, with the exception that the Canadian Pacific Railway uses Atlantic time on its lines east of Vanceboro, Maine. All the standards of time are an even hour apart, with an elastic boundary line between the hour sections, the exact point at which a road shall change time being specified. The

four principal times are based upon the 75th, 90th, 105th and 120th meridians, and for purposes of designation they are called Eastern, Central, Mountain and Pacific time respectively.

Prior to 1883, some lines were so situated that it required six or seven kinds of time for trains to get over the road on, and so complex had the situation become that very few operating officials could state the time that was used upon any road except their own, and, in some cases, its immediate connections. As had been previously arranged, the change to standard time was made on a Sunday in November, 1883. When the hour of noon arrived the bells of St. Paul's Chapel, New York, tolled the hour of local time, and just four minutes afterward the Western Union time-ball fell and Trinity's chimes rang out the new standard hour, in accordance with an electric signal from the Naval Observatory at Washington City. This splendid arrangement of time was planned by Mr. W. F. Allen, secretary of the American Railway Association. It marked a new era in railroad operation. In the old days on the Boston and Maine the regulating clock in the Boston station was the standard time for all parts of that road, and the rule regarding regulation of watches, etc., taken from time-table No. 96, to take effect May 2, 1870, was as follows: "Conductors and engineers must daily set their watches by the regulating clock in the Boston station, which is the standard of time for the clocks at the stations and the watches of all men employed on the road. It is made the duty of the oldest freight conductor to see that all the clocks of the way stations east of Reading conform to the standard. The Reading passenger train conductor will regulate the clocks from Reading to Boston, and the Medford conductor the clocks of the Medford branch." The old Eastern Railroad, on the other hand, while requesting their conductors and engineers to "compare time daily" ordered that all clocks and all the watches of the employees must be regulated according to "Willard's time." Willard was for many years a well-known watchmaker, and his father invented the celebrated clock bearing his name.





TICKETS IN USE FROM 1840 TO 1870

The first of the present railroad labor unions was the Brotherhood of Locomotive Engineers, organized May 8, 1863, at Detroit, Michigan. A New England division was formed during the following December at Lebanon, N. H., by the engineers of the Northern Railroad of New Hampshire. The engineers of the various roads entering Boston united to form Boston Division, No. 61, on January 6, 1865. The order of Railway Conductors was first organized at Mendota, Ill., in the spring of 1868, and, until 1878, was known as the Conductors' Brotherhood. Not until 1884 did this Order spread to New England, when Boston Division, No. 122, was organized on July 20 of that year. At first, in New England, the brotherhoods were purely social and charitable organizations, but during the hard times following the panic of 1873 the Brotherhood of Locomotive Engineers brought pressure to bear on some of the roads for higher pay. During the course of 1877 there were serious strikes on the Pennsylvania and the Baltimore and Ohio systems. On January 15, 1876, the directors of the Boston and Maine ordered a ten per cent. reduction in the wages of all employees. At that time the engineers were receiving $3.50 per day, and if they ran any one month without having an accident for which they were responsible, they received a bonus of twenty-five cents per day for the entire month, which made their pay $3.75 per day. The ten per cent. cut would have reduced their wages to $3.37 1-2 per day, but the directors decided to make it $3.40. It was also promised that when general business conditions improved the original rate of pay would be restored. The engineers were dissatisfied, and as the enginemen on other Boston roads were paid $3.50 per day, they wanted the same rate, but the directors of the Boston and Maine ruled that they could not, in justice to the other employees, give their engineers any preference. Dissatisfaction began at once, and the engineers' committee had

many conferences with the management, at which the situation was fully discussed.

The directors were firm in the stand they had taken, and the enginemen, failing to get their request granted, called upon the Brotherhood of Locomotive Engineers, to which they all belonged, to take the case up with the management of the railroad. The late P. M. Arthur, for many years chief of the Brotherhood, came to Boston in the interest of the engineers, but the directors refused to deal with him or any committee from the Grand Lodge, and said they would deal only with a committee of their own men. At this time the president of the Boston and Maine was Nathaniel G. White of Lawrence, and the directors were George C. Lord, Amos Paul (a former engineer on the road), Nathaniel J. Bradlee, William S. Stevens, James R. Nichols, John Felt Osgood, Samuel E. Spring and Nathaniel W. Farwell. Mr. Arthur, soon after, ordered the engineers to strike. Thereupon their committee notified the Boston and Maine management on February 12, 1877, at 2 P. M., that unless their demands were granted, they would strike at 4 P. M., and that the firemen would leave work with them. However, Superintendent Furber had been busy for some time in hiring engineers and firemen to take the places of his men should they strike. The men, 137 all told, did go out at 4 P. M. and remained with their engines until 6 P. M., and then "dumped" their fires and let the water out of their boilers and tanks. Some of them gave up their locomotives in good condition without making trouble for the men who took their places; others uncoupled their engines from the trains between stations and ran them back and forth, so as to prevent anyone from taking their places, and when they finally abandoned their locomotives they were without fires or water. The substitute engineers had been riding on the passenger trains for some time previous to the strike, learning the road and the operation of the trains. As soon as the notice was given that the strike would take place arrangements were made to sidetrack all

freight trains. On the night of February 12 train service was badly demoralized, but the railroad managed to keep a few moving, and by so doing many passengers reached home.

The next day more trains were in operation, and by the end of the week a distinct improvement was made. People who usually patronized the Boston and Maine, returned home by the Boston and Lowell or Eastern roads, when convenient to do so. The engineers who took the places of the strikers were competent men, having been employed on other roads, and at that time were out of work on account of the poor business conditions then prevailing all over the country. It would appear strange that other engineers in good standing should be willing to work against the strikers, but in many cases they had a grievance against the Brotherhood of Locomotive Engineers on account of having been refused membership and for other reasons. At any rate none of the strikers were taken back by Superintendent Furber. Many of them were hired by the Eastern Railroad as firemen and started over again at the bottom of the ladder at $1.80 per day. During the trouble it was feared that some of the other New England roads would be affected, but nothing materialized. This strike has been dealt with at length because it created a great deal of comment at the time. It has its historic significance by reason of its being one of the first railroad strikes in the country and the very first manifestation of trouble in New England, where the brotherhoods took root very slowly.

Forty years ago, or even twenty years ago, railroading in New England was vastly different from what it is today. The roads were small, the officials knew all the men and called many of them by their first names; this created a feeling of solidarity which, today, is conspicuous by its absence. In those days the runs were not as at present bid for by the men, seniority prevailing; all the crews were assigned their runs by the superintendent or master mechanic respectively. The time-table, taking effect on June 19, 1882, shows that the Boston and Maine then ran fifty-four passenger and freight trains on the

main line each way on week days; on Sundays eleven trains each way were run.

In 1883 the Kennebunkport Branch Railroad, four and one-half miles long, was built to connect Kennebunk on the main road of the Boston and Maine with the former seaside town. It was leased to the parent road on May 15, 1883, and opened for business on June 18 of the same year.

Very few of the employees of what was called the "old Boston and Maine," before all the consolidations took place, are in active service today. One of the best known of these is J. E. Alger, a former engineer, who retired in October, 1918. A recent communication of his, published in the Boston and Maine Bulletin for February, 1920, is well worth reproducing, as it mentions many "old timers" familiar to travellers a generation or two ago, and also brings to light some interesting facts of days long gone by :—

OLD-TIMERS.

READING, MASS.

MR. JOHN ROURKE, Superintendent, Portland Division, Boston & Maine Railroad.

DEAR SIR: It has not been my privilege to meet you personally; still I have felt that, as my superior officer on the road, we had an acquaintanceship.

When a pension draft for the month came to me, I felt that I could not let it go by without an acknowledgment of the receipt of it.

My service on the Boston & Maine Railroad has been a fairly long and very pleasant one. I recall the faces of men who first met me in Superintendent Furber's office, February 10th, 1877. I was not a novice at railroading, beginning in the Boston & Albany shops in Boston on November 30, 1868, firing January 13, 1873, and running July, 1874, on a narrow gauge railroad between Grafton Centre and North Grafton on the B. & A. I helped build the engine for the road at the shop of Jerome Wheelock in Worcester, Mass.

Born a railroad boy on March 28,1850, and the record begun by my father in December, 1846, is still being carried on by my brother, A. W. Alger, on the Boston & Maine.

Two of the men I met in Mr. Furber's office, February 10, 1877, I meet occasionally, William Merritt, at that time assistant to Mr. Furber, and John A. Meloney of Wakefield, Mass., a clerk in the

office. All the others are gone, so far as I can find out. There are in service to-day only two that were in the old Haymarket Square station at that time: Charles H. Nowell, paymaster at that time, and Ash Bartlett, now in service at the North Station, or I should say the Terminal Division. I know of no others.

The oldest man in the train service to-day of the old Boston & Maine is Conductor George Lunt, who began in 1869, and was a baggage-master on a run in from Danvers in the morning, to Newburyport at 12.40 p. m., back to Boston and home to Danvers at night. John Bedell began in 1870, I think.

The conductors of that time have all passed on, so far as I can find out. Still, railroad men reappear sometimes, and there may be some living to-day. John Coombs was conductor of the train we brought into Boston the afternoon of February 12, 1877; Tom French and I, and George Lunt was baggage-master; John Estabrook was conductor of the 7 a. m. train for Lowell when I started out on February 13, and Ed. Barrett was baggage-master and pilot. John and I ran together until he was taken sick October 15, 1885. I had one or two different conductors for a time, and then had Ed. Barrett for a long time as regular conductor. John Estabrook rode once with us after the interlocking was installed at Wilmington Junction. He died on April 30, 1886. A nice man to run with. Harris Amazeen was the conductor on the 2.30 p. m. to Lowell. We got along well together, and I can see him now at Lowell Junction giving the motion and shouting out, "All right, Ed., go ahead, stop at the poorhouse and the graveyard"—Tewksbury and Cemetery.

Single track over the Lowell branch then. "Trains from Lowell have right of way over trains to Lowell ten minutes after their regular time of departure, and trains to Lowell can use five minutes of the ten." How we used to sail the train to make the double iron over the bridge crossing the Concord River down into the Central Street station. After Harris Amazeen got through I had George Stone and "Captain" Ricker for running mates. The old-time men were all right, but had their peculiarities. Joe Amazeen and Orrin Hamilton, running Portland trains, used to sport tall hats and ruffled shirt-bosoms. Albert Hamilton, on the Medford train, was not quite so sporty as his brother. William Plaisted, Ned Weymouth and George Wyatt were quieter men. William Carter and Skinner were on the Reading trains. Some of the names of the old conductors can be found as far back as 1849, Ansel Tucker among the passenger conductors and Hollis Smart freight conductor, $50 and $45 a month. Hollis Smart was a passenger conductor in 1851, at $50 a month, and M. E. Wood appears on the list. He was in charge of Haymarket Square station in 1877. The name of William

Smith appears as engineman in 1851, $55 a month. He was engine dispatcher in 1877, later master mechanic and superintendent of motive power; died in February, 1892.

And so, as the years pass by, we find new names creeping in, and in May, 1857, Orrin Hamilton and William T. Plaisted were conducting trains, at a salary of $58.33 1-3 a month. Augustus Colby, assistant to M. E. Wood, used to run as conductor on the Sunday train to Haverhill; two trains Sundays in 1877, the train from Great Falls in the morning, returning at 6 p. m., the 8 a. m. to Haverhill leaving on the return trip at 5.25 p. m., due in Boston 7 p. m. Any passengers for Boston along the line took that train home or stayed all night.

The locomotives were small when I came here to this road. The Portland No. 2, built in 1842, delivered to the road on March 16, thirteen tons weight, cylinders 11¾x20, with one pair of drivers, was doing passenger switching in Boston. There was a time when she hauled an express train. Newburyport No. 29, 23 tons, cylinders 14x22, built about 1860, the first locomotive I handled here, at one time before I came to the road every third week used to make 158 miles a day. Reading to Boston, Boston to Newburyport and return, eight-car train, 6 p. m.; Boston to Lawrence, four stops, forty-two minutes; Lawrence to Boston, Boston to Reading, and put up. Elbridge Smith, now living in Reading, seventy-eight years of age, was the engineer.

I think I had better stop my chatter. Of the boys who came here with me in February, 1877, but one remains in active service, E. I. Tucker. Not many more years for him now.

I wish in closing to thank you, and through you all in the passenger department who have so kindly borne with me while we have been co-laborers in the service of the Boston & Maine.

Hoping that, while my name has disappeared from the list of enginemen, some may still remember the "Deacon," I remain,

Sincerely yours,

J. E. Alger.

While on the subject of reminiscences, the following little poem may be found amusing, for, with many apologies, it refers to South Berwick Junction, Maine. In the early 1870's, when the "war" between the Eastern and Boston and Maine roads was at its height, the former company, which then controlled the Portland, Saco and Portsmouth R. R., refused to wait for the B. and M. cars at South Berwick Junction, unless "they were in sight or

whistle heard." Hence many annoying delays occurred to innocent passengers. The newspapers of the time teem with letters of protest from indignant travellers.

AT A RAILROAD JUNCTION.

BY EDMUND VANCE COOKE.

Lo ! Here am I at Junction Town !
At slow and woeful Junction Town,
Where devils laugh and angels frown
To see a traveller set down;
Where trains run only with a view
To help a restaurant or two;
Where rusty rails and barren boards
Are all the point of view affords.
But O, the barren board of all
Is that within that eating-stall !
Yes, stall, I said, and well deserved
The name ! where beastly feed is served.
And so I say without compunction
My curses on this Railroad Junction.

What shall I do at Junction Town ?
At drear and weary Junction Town ?
The martyr's cross without the crown
Awaits the stranger here set down.

O, one may wait and wait and wait,
Or one may sail against his fate,
Or eyes and ears may strain and strain,
As later, later grows the train,
The while the lagging minutes mock
His witless watching of the clock;
Or one may watch the station clerk
Performing his relentless work.
O, wretched man, of wretched function,
Existing at this Railroad Junction.

God's pity on this Junction Town,
This dead and dreadful Junction Town !
O, what nepenthe-well can drown
The cares of travellers here set down ?
The thought may give some passing cheer,
One may escape within a year,
Or else the sentence be commuted

And only death be executed !
And if't be so, I only pray
There be no Resurrection Day,
For think of Gabriel coming down
And finding one at Junction Town !
And so I say with fervent unction,
God's pity on this Railroad Junction !

Early in the 1880's important changes took place in the management of the Boston and Maine; new interests entered the directory, and then began the policy which converted this small railroad controlling barely two hundred miles of track into a system comprising 4,250 miles. For a long time it had been felt that if the three railroads running in the same direction on the northern side of Boston—the Eastern, Boston and Maine and Boston and Lowell—could be consolidated into one corporation, it would secure a fair dividend to its stockholders, while saving to the community two-thirds of the cost required to maintain triplicate equipments and boards of directors. Unfortunately, instead of the wise policy of one corporation mentioned above, the system of leases was adopted in the various consolidations, and eventually the whole question became inextricably mixed up with Massachusetts and New Hampshire politics—some of it of a not very high order—and that, with financial jobbery, was partially responsible for the present practically bankrupt condition of the Boston and Maine.

When the consolidation of the Eastern and Boston and Maine roads was first talked of it was generally assumed that the Eastern would take the lead and logically it should have done so, but the Boston and Maine was then much stronger financially. The lease was to have taken effect in October, 1883, but the whole project was bitterly fought by the minority stockholders of the Eastern. They carried the matter before the Massachusetts Supreme Court, which deemed the proposed lease invalid owing to a technicality. The next year a new lease, running for fifty-four years and conforming to the opinion of the court, was agreed upon by the directors and approved by the stockholders of both roads, and on December 2, 1884,

BOSTON, CONCORD AND MONTREAL RAILROAD
LOCOMOTIVE "MT. WASHINGTON," NO. 29
Built in the 1870's to draw trains to base of Mt. Washington

the property was handed over to the lessee. Under the terms of the lease the Boston and Maine was to assume all the liabilities of the Eastern. The profits were to be divided pro rata between the two roads. No dividends were guaranteed on the Eastern stock. While the lease was ratified, twelve to one, by the Boston and Maine stockholders, it was only accepted by a five to one vote of the Eastern stockholders. It had always been the intention of those at the head of both roads that they eventually should be unified, the lease being considered a mere stepping-stone to that effect. Accordingly, in 1888, the required legislation was secured in Massachusetts, New Hampshire and Maine, and on May 9, 1890, the Eastern Railroad Company passed out of existence as a corporate body.

The stock was taken over on the basis of one share of Eastern for 83.28 per cent. of Boston and Maine stock, and the Portsmouth, Great Falls and Conway road was taken over on the same terms. By this consolidation and for other purposes, the Boston and Maine's capital was increased to $18,738,300, and a special stock dividend of $14.68 per share was paid May 24, 1890.

In 1885, the year after the taking over of the Eastern Railroad by the Boston and Maine, that company also leased the Worcester, Nashua and Rochester Railroad for fifty years, at a rental of $250,000 per annum. The reason given for this further consolidation was that the line of the Worcester, Nashua and Rochester paralleled for some distance the main road of the Boston and Maine, but the transaction was a very good thing for the "insiders" who were understood to have been identified with the Boston and Maine management of that day and who had acquired the Worcester, Nashua and Rochester stock at very low prices. This lease occasioned a great deal of discussion, and there was some legislative inquiry, which, however, did not disturb the equanimity of those who had benefitted by the transaction that involved a stock dividend. However, the value of the acquisition to the Boston and Maine was so problematical that not a few shrewd observers predicted that it would be a case of loss offsetting victory.

In 1887, the Boston and Lowell Railroad had grown from a small line twenty-six miles long to be one of the large systems of New England; in fact, at this time it was generally referred to as the "Lowell System." By a system of leases its managers had endeavored to obtain possession of a complete line between Boston and Montreal, a project which, in its main features, seemed likely to succeed, until the New Hampshire Supreme Court broke it up, early in 1887, by refusing to ratify the lease of the Northern Railroad of New Hampshire to the Boston and Lowell. Thereupon, the directors of the Lowell road proposed a lease of their line and its allied roads to the management of the Boston and Maine, as they thought that the latter, by means of their already existing leases and contracts with other companies, would be better able than they to affect a consolidation of the "upper" roads. The lease was ratified by the stockholders of both lines, and took effect in June, 1887, but dated back to the previous April. It was to run for ninety-nine years; the Boston and Lowell stockholders were guaranteed dividends at the rate of seven per cent. yearly until 1897, and after that at the rate of eight per cent. The Boston and Lowell corporation was to assume the responsibility of its own leases.

This consolidation left practically only two independent railroads of any size in New Hampshire; the Concord road between Nashua and Concord and in which the State of New Hampshire owned an interest, and the Boston, Concord and Montreal road, which itself was controlled by the Concord Railroad. In September, 1889, both these corporations were united in one new one, called the Concord and Montreal Railroad. This road did not fall into the Boston and Maine "maw" until 1895.

The late eighties and early nineties were, in fact, an exceptionally interesting period in the history of this railroad property. There were various changes in large blocks of stock, a number of new influences, from time to time, being projected into the enterprise. The management was subjected to a good deal of contemporary criticism, and even to-day is subject to not a little censure, though some of the most prominent figures have

long since departed from the stage. But after everything is said, the fact remains that it was at that time that the Boston and Maine emerged from a state of parochialism into one of national importance.

It was in 1892-3 that the late A. A. McLeod, a well-known Wall street speculator, had a short but well remembered career in New England railroading. He had gotten control of the old New York and New England Railroad, always in a state of chronic bankruptcy. He also made himself the president of the Boston and Maine, and proposed a scheme which should give Boston new connections with the West,—with these roads as the means, and using the Poughkeepsie bridge. Mr. McLeod was not so powerful as the New York, New Haven and Hartford Railroad, then just beginning to stretch its arms outside of its domain, the State of Connecticut. Before he could develop his plan, Mr. McLeod went down before reorganization, and from the flurry there emerged bondholders producing the New England Railroad in 1895, with the New York and New Haven owning the bonds. In 1898, the New Haven leased the road, but since that nearly all the stock had been exchanged, so to-day the old "narrow escape" road, as it was always nicknamed, has not the semblance of individuality. Mr. McLeod's dream of 1893 has been realized by the New Haven, through its ownership of the New England Railroad and the Poughkeepsie bridge route.

The most spectacular accomplishment of Mr. McLeod was the capture by the Boston and Maine of the Connecticut River Railroad in 1892. This corporation, with a paying property and a surplus of $1,000,000 in the treasury, was coveted by the New York and New Haven. The directors of that road had completed an arrangement with the Connecticut River board, whereby the line was to be leased to the New Haven, which only needed ratification by the stockholders, and this had been apparently assured. Three or four days before the Connecticut River stockholders' meeting, Mr. McLeod and a party of influential friends canvassed the owners of the Connecticut River road and gathered up a control of the shares. They took

it from the extended hand of the New Haven and secured it to the Boston and Maine on a ten per cent. rental, with the $1,000,000 surplus divided among the shareholders. The New Haven people never forgave McLeod for his *coup*, and they punished him by ousting him from the New York and New England, and later used their influence in retiring him from the presidency of the Boston and Maine. The late Lucius Tuttle succeeded him in that office and managed to steer the Boston and Maine successfully through the lean years that followed the panic of 1893; in fact, in one of the annual reports issued during the hard times, Mr. Tuttle declared that the leased lines were earning their rentals, a significant statement considering the acute conditions then prevailing.

With the acquisition of the Boston and Lowell system, the Boston and Maine fell heir to the political contest in New Hampshire, with the Concord and Montreal Railroad as an opponent; finally, however, the latter succumbed, and in 1895 was leased to the Boston and Maine for ninety-nine years, at seven per cent. annual rental.

Having absorbed all the connecting lines in New Hampshire, the Boston and Maine in 1900 was ready for more aggression in Massachusetts, and after a spirited opposition, took over the Fitchburg Railroad under a lease guaranteeing five per cent. dividends on the latter's preferred stock. The opponents of the lease asserted, with a good deal of reason, that the Boston and Maine as a monopoly had for some time been a deterrent to commercial enterprises in its territory, charging higher passenger and freight rates than the Fitchburg did as an independent road. It was also shown that the Boston and Maine had done little or nothing towards developing the foreign export trade of Boston; the Fitchburg, a small road compared to its competitor, had itself contributed no less than fifty-nine per cent. of the foreign exports from Boston.

With the lease of the Fitchburg to the Boston and Maine, the State of Massachusetts straightened out its affairs as an owner of railroads, for the Commonwealth held practically all the common stock of the Fitchburg Railroad, issued in payment for the Hoosac Tunnel and

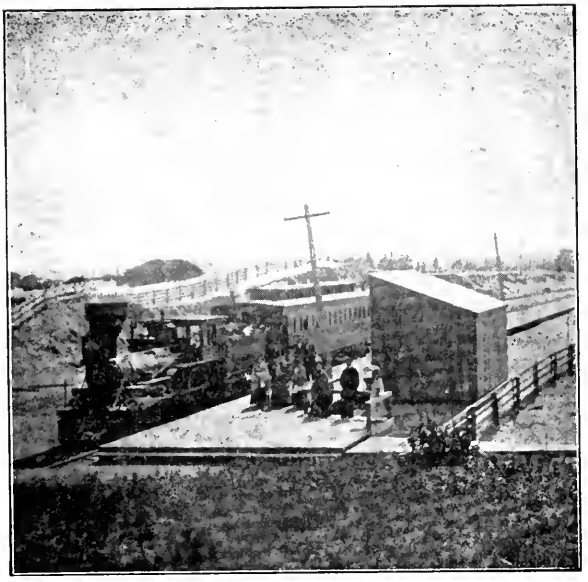
the Troy and Greenfield Railroad. The original Fitchburg Railroad, upon its purchase of the franchise of the Charlestown Branch Railroad, from Boston to West Cambridge, was constructed to the city which gave it its corporate designation ; it was opened to Waltham in 1842, and completed in its entire length in 1845.

As a part of the low grade through road across the State, the Vermont and Massachusetts was built from Fitchburg to Greenfield, but as the Hoosac mountain was an apparently impenetrable barrier to a complete line, the Vermont and Massachusetts was built to Brattleboro, Vermont. As soon as the opening of the Hoosac tunnel was imminent, the Fitchburg leased the Vermont and Massachusetts in 1874, and with it secured rights through the tunnel with several other companies. Soon afterward the section of the road from Miller's Falls to Brattleboro, Vermont, was sold to the New London Northern Railroad.

A company of men in 1848 took up the Hoosac Tunnel project, which had been agitated periodically since 1825, when it was proposed to bore through the range for a canal. The Troy and Greenfield Railroad was the corporate name of the tunnel road, and from 1848 until 1887 there was hardly a session of the Massachusetts Legislature which did not consider some action affecting this road. The State made its first advance to the Troy and Greenfield in 1854, and time and again more money was furnished until the work was abandoned by the contractors, whose ingenuity and resources failed to pierce the rock. In 1862, after being refused what was considered a reasonable demand, the stockholders of the Troy and Greenfield finally gave up the task and abandoned the road. The Commonwealth of Massachusetts, which had advanced $778,695, took possession. At that time the road had been practically constructed from Greenfield to the east entrance of the tunnel and from the west side of the Hoosac mountain to the Vermont State line. The State inherited the Southern Vermont Railroad, which traversed the southwest corner of Vermont to connect with the Troy and Greenfield.

State millions rehabilitated the railroad, the Southern Vermont was leased to the Troy and Boston—a new corporation formed to operate the old Troy and Greenfield road—in perpetuity, for a rental of $12,000 annually, and trains were operated on both sides of the mountain, passengers being driven over the summit in stage-coaches to make connections. In 1868, the Shanlys, a Montreal contracting firm, undertook the completion of the tunnel, and on November 27, 1873, daylight penetrated through the hole in the mountains. About a year later the tunnel was ready for trains, and with a State manager,—Jeremiah Prescott, formerly superintendent of the Eastern Railroad,—to maintain the property and handle its movement of trains, the Fitchburg, Troy and Boston, Boston, Hoosac Tunnel and Western, and the New Haven and Northampton Railroads paid tolls sufficient to meet expenses and the interest, and, in part, the sinking fund of the debt of nearly $14,000,000 which the State had incurred. The Commonwealth of Massachusetts ran the road in this fashion until 1887, when the Fitchburg absorbed the Boston, Hoosac Tunnel and Western, whose road ran from Rotterdam Junction, N. Y., to the Vermont and Massachusetts line, and the Troy and Boston, and purchased the State-owned Troy and Greenfield. The Fitchburg Railroad, in payment for the Troy and Greenfield and the Hoosac Tunnel, issued to the State $5,000,000 in fifty-year bonds and $5,000,000 in common stock, which latter paid no dividends.

In 1900, upon the lease of the Fitchburg, the Boston and Maine bought the common stock from the State, and Massachusetts then became only a bondholder. It was during this period that such outside interests as the Pullman Company and the American Express Company acquired large holdings in the Boston and Maine. This fact is also of more than academic interest, as it was the American Express Company's holdings that the New York, New Haven and Hartford acquired, when, in 1907, it began to secure control of the Boston and Maine. During the first few years of the present century, also, the railroad brotherhoods, hitherto a negligible quantity in New England, began to press for and receive higher



EASTERN RAILROAD LOCOMOTIVE "CONWAY"
at Old Orchard Station, Maine

HOOSAC TUNNEL UNDER CONSTRUCTION, 1871

wages and better working conditions. This added expense, together with the almost crushing dead weight of the rentals of the leased roads, soon began to tell on the Boston and Maine and was reflected in the stock market by the constant decrease in the value of its stock. It was then that the management may be said to have committed its greatest error; instead of reducing or altogether passing its seven per cent. dividend on the common stock and putting most of its earnings in the up-keep of the road, which sadly needed the same, the usual interest was kept up long after ordinary prudence should have dictated its reduction. How much the late President Tuttle was responsible for this state of things is a debatable question. However, for years the spectacle was witnessed of worn-out equipment vieing with an equally "gone to seed" road bed. Even some of the principal bridges and trestles on the system were a constant source of jokes to the initiated that would have been very funny indeed had there not existed so many tragic possibilities.

Another feature which has always characterized the Boston and Maine is the extremely old-fashioned way in which the road was operated practically. As other railroads were taken over by it and run as divisions, the operating rules in force when the particular road was run independently were generally retained. Sometimes these conflicted with rules used on other parts of the Boston and Maine system, with resultant confusion. For example, on the Fitchburg Railroad a white light was used for safety, but on the Boston and Maine a green signal meant safety. When the Fitchburg was taken over in 1900, the Boston and Maine made no change, so that for some years a most dangerous condition of affairs existed, particularly at Boston, Greenfield, Bellows Falls, and other places where the two lines were interwoven. Until after the terrible Baker's Bridge accident on the Fitchburg division, in October, 1905, when an express ran into a slowly moving accommodation train, with the loss of many lives, block signals were practically unknown on the Boston and Maine system, except, perhaps, when nearing Boston. It may be conceded that nowadays many trains, particularly passenger trains, are over-manned, but twen-

ty or more years ago many of the Boston and Maine passenger trains were as badly under-manned. The author can testify to the fact that, in 1901, he was on a long passenger train, far behind time, and when nearing Boston, close to the old Boston and Maine paint shop in Charlestown, then considered one of the most dangerous spots on the road, the train was for some reason stopped. The only brakeman had been sent back with a danger signal some time before. Another following train was close behind, and there seemed to be no one at hand to warn it, when the American Express messenger seized a red flag and ran back as fast as he could and was believed to have averted a bad collision. The phrase so often heard, "Boston and Maine luck," may be said to signify a good deal more than is implied by the empty words.

In 1907, occurred the event which in the last few years has been discussed more than any other in connection with Boston and Maine affairs,—namely, the purchase of the control of the Boston and Maine by the New York, New Haven and Hartford. It is needless to discuss this transaction at length, as the particulars are still fresh in the public mind. It is sufficient to say that under an agreement with the Department of Justice of the United States, it was arranged for the New Haven Company tc transfer to five trustees its holdings in the Boston and Maine, which had been previously segregated into a corporation known as the Boston Railroad Holding Company, to be sold under the order of the court. These holdings consist of 6,543 shares of the preferred stock and 219,189 shares of the common stock of the Boston and Maine Railroad.

The legality of the New Haven's purchase and its advisability from the point of view of public interest have been hotly debated. There existed, also, a bitter and fast-growing feeling of discontent throughout New England that almost its entire transportation system should be under the control of New York capitalists. On February 7, 1914, the United States Senate passed a resolution authorizing the Interstate Commerce Commission to investigate and report upon the financial transactions of the New York, New Haven and Hartford Railroad Com-

pany. The Interstate Commerce Commission reported that the purchase of Boston and Maine control by the New Haven was illegal under the Massachusetts laws, and, without serious doubt, under the Federal anti-trust law.

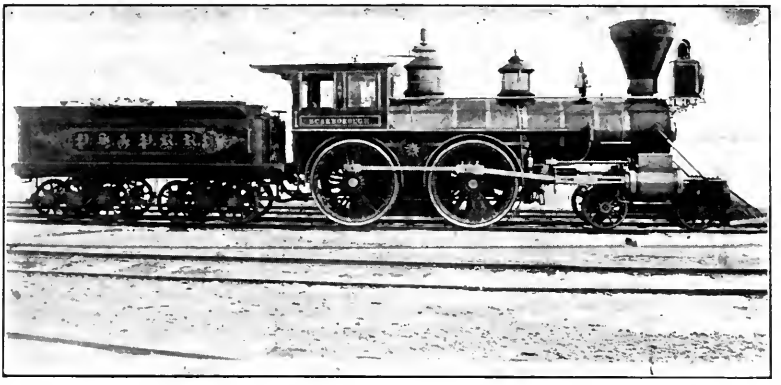
As regards the purchase from the point of view of public interest, it was shown that the downward movement of the Boston and Maine stock did not begin seriously until the New Haven management was forced upon the road; that the depreciation of the Boston and Maine stock after coming into control of the New Haven was rapid; that "the financial strength of the Boston and Maine, which had been made manifest for more than half a century [there seems reason to doubt the entire correctness of the latter statement, especially as applied to later years], was converted into financial weakness in half a decade after passing into the control of men who had the reputation of being eminent financiers;" that the management of the Boston and Maine by the New Haven was unwise, beginning in illegality and in a lust for extended monopoly, and resulting in great depreciation and serious impairment of credit. It would be an interesting task to examine these statements carefully and minutely in the light of the previous history of the road.

In the meantime had come the financial crash of the New Haven system, which dragged the Boston and Maine down with it, resulting in the demoralization of transportation and the ruin and distress of many persons heretofore in comfortable circumstances all over New England. Mr. Charles S. Mellen of the New Haven, who had succeeded Mr. Tuttle in 1909 as president of the Boston and Maine, retired in 1913, and his place was taken, for a short time, by Mr. James McDonald, president of the Maine Central Railroad, and a few months later Mr. James H. Hustis was elected president. Matters soon went from bad to worse, and it became increasingly evident that the road would be unable in the long run to pay its enormous burden of guaranteed dividends to the leased lines. In the case of a break-up of the Boston and Maine system there was much speculation about the Boston and Lowell Railroad becoming once more inde-

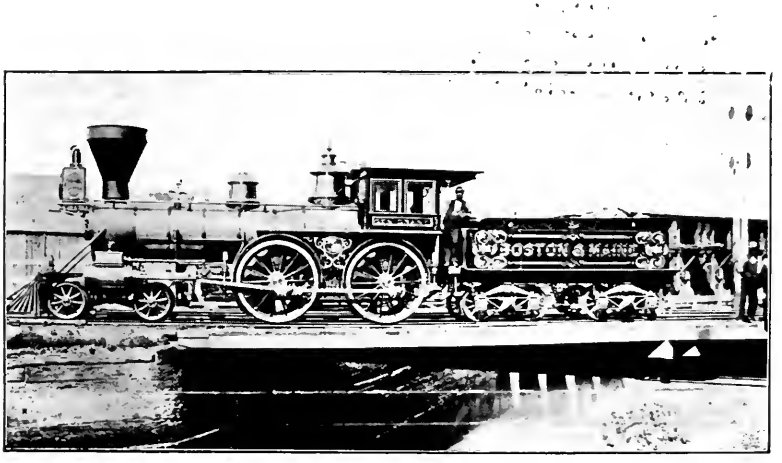
pendent. In fact, this road, with its leases of a through line to Canada, its ownership of forty per cent. of the Boston Union Station, the East Cambridge freight terminals, and the Mystic wharf property, was rather considered to have been the "tail which wagged the dog."

During the first years of the European war and before this country entered the struggle, business recovered from the depression of 1913-14 and an era of good times set in, in which the railroads participated. In the twelve months ending in August, 1916, the Boston and Maine, in spite of its heavily waterlogged condition, earned 9.81 per cent. on its common stock, against less than nothing the year before. Several schemes of reorganization were brought forward, but, as often, came to nothing, owing to the attitude of the leased roads, which refused to accept a reduced rental, and in the meantime the Boston and Maine had, by order of the court, lost its fifty-one per cent. stock control of the Maine Central Railroad, acquired as far back as 1885, when they had taken over the Eastern Railroad. Finally, as the best way out of an apparently hopeless situation, the Boston and Maine Railroad was, on August 23, 1916, petitioned into bankruptcy by the Intercontinental Rubber Company of New Jersey. The court appointed President James H. Hustis receiver.

It was generally expected that the leased lines' dividends would be at once reduced, but it was not found expedient to do this. Then came the entry of the United States into the war, followed by the period of government operation of the railroads, which certainly did not tend to the improvement of the Boston and Maine system. Towards the end of the government control, the present plan of Boston and Maine reorganization was, after many delays, finally accepted and put through. This scheme, which met with Director-General McAdoo's approval and co-operation, was, briefly, as follows: The Boston and Maine was to be consolidated into one compact system, eliminating many of the leased lines; stockholders of the leased lines were given the right to exchange their holdings into preferred stock of the Boston and Maine proper, which bears four-fifths of the dividend rate formerly paid on the leased-line stocks, for the next five years, and the



PORTLAND, SACO AND PORTSMOUTH RAILROAD LOCOMOTIVE "SCARBOROUGH"
Built by the Portland Local Works in 1871



LOCOMOTIVE "GEN. GRANT"
Built by the Manchester Locomotive Works in 1867

full dividend rate thereafter. It is believed that this will reduce the fixed charges upon the system by $2,500,000 per annum, laying a foundation for the flotation of a new mortgage, securing, on equal terms, all outstanding bonds and notes, and providing a good margin of safety for new issues. The Government will advance $20,000,000 in cash, meanwhile, and a further issue of $12,000,000 preferred may be raised during the next five years to repay the amount now advanced. This plan was agreed to by a very large majority of the stockholders of the leased lines as well as of the Boston and Maine itself, with the result that many of the old corporations went out of existence and their stockholders exchanged their shares, par for par, into new preferred of the Boston and Maine, increasing the outstanding amount by $38,817,900.

The lines directly leased to the Boston and Maine comprise the Boston and Lowell, Concord and Montreal, Connecticut River, Fitchburg, Lowell and Andover, Manchester and Lawrence, and Kennebunk and Kennebunkport. The bonds of both the Boston and Maine and the leased lines will remain as they are. The $13,000,000 of short term notes whose renewal proved so bothersome a few years ago, will be met from the proceeds of the $20,000,000 cash advanced by the Government. What the future will bring to the Boston and Maine no one can, of course, predict, but just now the situation is far from cheering. The vicissitudes of the road have been many and quite unlike those of the newer western lines. The Boston and Maine should have millions spent on its roadbed and bridges ; it needs new equipment of every kind, particularly locomotives and cars. Some of its stations are a disgrace. In the writer's opinion, also, the company is heavily burdened with an overplus of officials, particularly minor ones. A reduction of these, if accomplished, would also mean a much needed paring down of the clerical force. There exists, too, a great want of cooperation in the various departments, particularly in the operating department. If a sudden flurry or accident arises, it seems to be, "every man for himself and the devil for us all."

The Portland Division, with its 530 odd miles of track, is a consolidation of the old Eastern and Western Divisions. In the interest of safety and efficient management it should be divided; 530 miles of road is too much for one man to supervise properly, and it is also far too much for the train and engine crews, particularly the latter, to know *properly*. With conservative and efficient management, however, the Boston and Maine, serving as it does a thickly populated district of New England, should, in years to come, become one of the country's great transportation systems.

APPENDIX 1.

FLUCTUATIONS AND DIVIDENDS OF THE COMMON STOCK OF THE BOSTON AND MAINE RAILROAD FROM 1838 TO 1920. PAR, $100.

Year	Highest	Lowest	Dividend Per cent.
1838	....	....	*$3.00
1839	85	....	*$6.00
1840	....	43½	*$3.50
1841	80	74	*$5.50
1842	86	75	*$6.50
1843	106	82	6
1844	109	102¾	6
1845	117	107¼	7
1846	114⅛	107¾	7
1847	118¼	108	7½
1848	119	106	9½
1849	109½	100	4
1850	107¾	101	8½
1851	106½	102	5½
1852	110	102	7
1853	109¼	102	7½
1854	105¼	92	8
1855	101½	83¾	7
1856	84	74½	6
1857	87	73½	6
1858	100¼	77	6
1859	107	96¾	7½
1860	112½	102	8
1861	115½	100¼	7½
1862	129	105	6
1863	135½	121	8
1864	141	124	8
1865	126½	106	8
1866	133	115	9
1867	138½	125	10
1868	141¾	131	10
1869	146	132⅛	10
1870	153	140	10
1871	155¼	138	8
1872	147	124	10
1873	127	101	8
1874	116	101¾	8

*Andover, Wilmington and Haverhill R. R.

Year	Highest	Lowest	Dividend Per cent.
1875	124¾	105½	8
1876	110	91⅓	6
1877	100⅛	87	5
1878	110	96½	6
1879	120½	108⅜	6
1880	150⅝	119	7½
1881	165⅛	145	8
1882	158⅜	139½	8
1883	167	148¾	8
1884	167	145	8
1885	185½	166½	8
1886	212	181	9
1887	239	207½	10
1888	216	175	9
1889	216	152	9
1890	235	188	9½
1891	209½	157	9
1892	185¾	159	8
1893	178	130	8
1894	162	126	6
1895	180	160	6
1896	171	149	
1897	170	156¼	6
1898	200	160	7
1899	210	170	7
1900	202½	187	7
1901	200	189	7
1902	209	190½	7
1903	195	161	7
1904	175½	158	7
1905	185½	158	7
1906	180½	160	7
1907	170	129	7
1908	140	114	7
1909	153	132¼	7
1910	152	118	7
1911	122⅜	96½	7
1912	100½	94	4
1913	97	35	4
1914	55	30⅓	none
1915	37½	20	none
1916	52	34	none
1917	45	15	none
1918	40	19	none
1919	38½	28	none

APPENDIX 2.

COMPONENT PARTS FORMING THE PRESENT BOSTON AND MAINE SYSTEM.

Old Boston and Maine Railroad.

Boston and Maine
Boston and Portland
Andover and Haverhill
Andover and Wilmington
Boston and Maine Extension
Danvers Railroad
Dover and Winnipesaukee
Kennebunk and Kennebunkport
Lowell and Andover
Manchester and Lawrence
Medford Branch
Methuen Branch
Newburyport Railroad
Georgetown Branch
Orchard Beach Railroad

Portland and Rochester Railroad
York and Cumberland Railroad

Eastern Railroad System.

Eastern Railroad proper
Portland, Saco and Portsmouth
Portsmouth, Great Falls and Conway
Portsmouth and Dover
Great Falls and South Berwick Branch
Rockport Railroad
South Reading Branch
Marblehead and Lynn
Wolfeboro Railroad
Essex Branch
Newburyport City Railroad

Worcester and Nashua Railroad
Nashua and Rochester Railroad
Worcester, Nashua and Portland Railroad

Boston and Lowell System.

Boston and Lowell
Nashua and Lowell
Salem and Lowell
Central Massachusetts
Connecticut and Passumpsic Rivers
Lexington and Arlington

Lowell and Lawrence
Manchester and Keene
Massawippi Valley
Middlesex Central
Peterboro Railroad
Stanstead Branch
Stoneham Branch
Stony Brook Railroad
Wilton Railroad
Boston, Concord and Montreal
Concord Railroad
Concord and Portsmouth
Nashua, Acton and Boston
Mystic River Railroad
Northern Railroad, N. H.
St. Johnsbury and Lake Champlain
Vermont Valley

Fitchburg System.

Fitchburg Railroad proper
Boston, Barre and Gardner
Boston, Hoosac Tunnel and Western
Brookline and Milford
Brookline and Pepperell
Cheshire Railroad
Hoosac Tunnel and Saratoga
Monadnock Railroad
Peterboro and Shirley
Southern Vermont Railway
Troy and Bennington
Troy and Boston
Troy and Greenfield and Hoosac Tunnel
Vermont and Massachusetts
Winchendon Railroad
White Mountains Railroad
New Boston Railroad
Pemigewasset Valley

York Harbor and Beach Railroad
Connecticut River Railroad
Mount Washington Railway
Sullivan County Railroad
Mechanicsville and Fort Edward.

APPENDIX 3.

LOCOMOTIVES OF THE BOSTON AND MAINE R. R. IN 1860.

Name	Weight	Diameter of driving wheels	Diameter of cylinders and length of stroke
Antelope	13 tons	5 ft. 6 ins.	11¾ x 22 ins.
Bangor	20 tons	5 ft. 6 ins.	14 x 18 ins.
Boston	20 tons	5 ft.	14 x 18 ins.
Bay State	24 tons	5 ft. 6 ins.	15 x 20 ins.
Ballard Vale	20 tons	5 ft.	14 x 18 ins.
Cocheco	12 tons	5 ft.	12 x 18 ins.
Dragon	14 tons	4 ft. 6 ins.	13½ x 20 ins.
Dover	24 tons	4 ft. 6 ins.	15 x 20 ins.
Exeter	24 tons	4 ft. 6 ins.	15 x 20 ins.
Essex	24 tons	5 ft. 6 ins.	15 x 18 ins.
Granite State	24 tons	5 ft. 6 ins.	15 x 20 ins.
Hinkley	24 tons	5 ft. 6 ins.	15 x 20 ins.
Lawrence	23 tons	5 ft.	15 x 18 ins.
Massachusetts	22 tons	5 ft. 6 ins.	14¼ x 18 ins.
Maine	25 tons	4 ft. 6 ins.	15 x 24 ins.
Malden	13 tons	5 ft. 6 ins.	11½ x 20 ins.
New Hampshire	25 tons	4 ft. 6 ins.	15 x 24 ins.
Norris	23 tons	5 ft. 6 ins.	15 x 22 ins.
Ogiochook	20 tons	5 ft.	14 x 18 ins.
O. W. Bayley	24 tons	5 ft. 6 ins.	15 x 20 ins.
Portland	13 tons	5 ft. 3 ins.	11½ x 20 ins.
Reading	13 tons	5 ft.	11½ x 20 ins.
Rockingham	24 tons	4 ft. 6 ins.	15 x 24 ins.
Vermont	23 tons	4 ft. 6 ins.	15 x 20 ins.
Swampscott	14 tons	4 ft. 6 ins.	13½ x 20 ins.
United States	25 tons	5 ft.	15 x 24 ins.
Merrimack	25 tons	5 ft. 6 ins.	16 x 20 ins.
Thomas West	25 tons	5 ft. 6 ins.	16 x 20 ins.
Atlantic	25 tons	5 ft. 6 ins.	15 x 22 ins.
Pacific	26 tons	5 ft. 6 ins.	15 x 22 ins.
Yankee	23 tons	5 ft. 6 ins.	14 x 22 ins.
Newburyport	23 tons	5 ft. 6 ins.	14 x 22 ins.
Camilla	21 tons	5 ft.	14 x 20 ins.
Mystic	21 tons	5 ft.	14 x 20 ins.

APPENDIX 4.

LOCOMOTIVE ENGINES OF THE BOSTON AND MAINE R. R. IN 1885.

1. Dragon.
2. Portland.
3. Reading.
4. Medford.
5. Norris.
6. Swampscott.
7. Antelope.
8. Memecho.
9. Massachusetts.
10. New Hampshire.
11. Maine.
12. Lawrence.
13. Wannalancet.
14. Boston.
15. Ballardvale.
16. Essex.
17. Bay State.
18. Granite State.
19. Hinkley.
20. O. W. Bayley.
21. Rockingham.
22. United States.
23. Thomas West.
24. Merrimac.
25. Atlantic.
26. Pacific.
27. Haverhill.
28. Mystic.
29. Newburyport.
30. Camilla.
31. Andover.
32. Durham.
33. Hercules.
34. Exeter.
35. Strafford.
36. Alton Bay.
37. Hobart Clark.
38. James Hayward.
39. Shawmut.
40. Lion.
41. Gen. Grant.
42. Gen. Sherman.
43. Middlesex.
44. Dover.
45. Gen. Sheridan.
46. N. G. Paul.
47. Achilles.
48. Suffolk.
49. Machigonne.
50. North Star.
51. Saxon.
52. Titan.
53. Mercury.
54. Sachem.
55. Forest City.
56. Francis Coggswell.
57. Minerva.
58. Wm. Merritt.
59. Columbia.
60. Pepperell.
61. Old Orchard.
62. Cumberland.
63. Transport.
64. Pilot.
65. Samoset.
66. Decatur.
67. Comet.
68. Casco.
69. Escort.
70. J. C. Ayer.
71. South Berwick.
72. Lowell.
73. Saco.
74. S. A. Walker.
75. Malden.
76. Melrose.
77. Wakefield.
78. Eagle.
79. Bradford.
80. Danvers.

81. Biddeford.
82. Everett.
83. Somerville.
84. Arlington.
85. Camp Ellis.
86. Bay View.
87. Newton.
88. Kingston.
89. Atkinson.
90. Plaistow.
91. Kennebunk.
92. Madbury.
93. Wilmington.
94. Newmarket.
95. Methuen.
96. Rollinsford.
97. Gen. Meade.
98. ——.
99. Hinkley.
100. Cradock.
101. Maverick.
102. Gen. Hancock.
103. Wenham.
104. Ipswich.
105. Penobscot.
106. Forbes.
107. Union.
108. Lynnfield.
109. Mousam.
110. Scarborough.
111. Montrose.
112. Arundel.
113. Tiger.
114. Bonnebeag.
115. Binney.
116. Rockport.
117. Linden.
118. Gen. Lander.
119. Mayflower.
120. Washington.
121. Agawam.
122. Moat Mountain.
123. Wellington.
124. Kearsarge.
125. City of Lynn.
126. Beverly.
127. Conway.
128. Byfield.
129. Augusta.
130. Conqueror.
131. Atherton.
132. Bell Rock.
133. Carroll.
134. Boxford.
135. Seabrook.
136. John Howe.
137. Faulkner.
138. Cape Ann.
139. Peabody.
140. Chelsea.
141. Great Falls.
142. Amesbury.
143. Cocheco.
144. Huntress.
145. Wm. Smith.
146. Puritan.
147. Topsfield.
148. Hampton.
149. Rowley.
150. Point of Pines.
151. Madison.
152. Henry L. Williams.
153. Nahant.
154. Salem.
155. Devereaux.
156. Portsmouth.
157. North Wind.
158. Farmington.
159. America.
160. Pilgrim.
161. Champion.
162. Rochester.
163. Prides.
164. Wolfeboro.
165. Gloucester.
166. Ossipee.
167. Newington.
168. Beach Bluff.
169. Boscobel.
170. Rye Beach.

171. Naumkeag.
172. George Hood.
173. Bangor.
174. Somersworth.
175. John Thompson.
176. Saugus.
177. Salisbury.
178. Passaconaway.
179. Hamilton.
180. Col. Coleman.
181. Excelsior.
182. Enoch Paine.
183. Manchester.
184. Laconia.
185. Agamenticus.
186. Atalanta.
187. Lebanon.
188. Wells.
189. Revere.
190. Piscataqua.
191. Chocorua.
192. Kennebec.
193. Glenwood.
194. Gov. Goodwin.
195. Francis Chase.
196. Greenland.
197. Tewksbury.
198. Gov. Endicott.
199. York.
200. Sagamore.
201. The Wentworth.
202. Montserrat.
203. Eliot.
204. Kittery.
205. Bryant.
206. Magnolia.
207. Lovell.
208. Broadway.
209. Wamesit.
210. Longfellow.
211. James Bowdoin.
212. Major Rice.
213. W. P. Fessenden.
214. Falmouth.
215. Middleton.

The locomotives numbered 101 and upwards were those belonging to the old Eastern Railroad when it was leased to the Boston and Maine in December, 1884. At that time these engines were no longer named, the Eastern having given up the practice. The Boston and Maine proceeded to rename them, reviving some of the former Eastern names and adding other new ones. The custom of naming locomotives was given up about 1895, the Boston and Maine being one of the last roads in this part of the country to keep up the practice.

LD 21–50m-1,'3