Canadian National 4-4-0 #40

A Preliminary Report on the Known Documents

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1. Introduction:

In 1967 the Canadian Science and Technology Museum (CMST) acquired a steam locomotive now known as Canadian National (CN) 40. This engine was built in 1872 by the Portland Company of Portland, Maine, for the Grand Trunk Railway of Canada (GTR). The Portland Company's shop number for the engine was 233. Its original road number was GTR 362 and changed to GTR 40 in 1898. This number was kept by lumber Baron John Breakey, of Breakeyville, Quebec, when he bought the engine from the GTR in January of 1903. CN kept the number when it acquired the engine from Breakey's Chaudiere Valley Railway (CVR) in 1947 or 1949.[1]

CN 40 is believed to be the only surviving Portland Company 4-4-0, a type of locomotive that was the standard North American engine of the nineteenth century. CN 40 is also the oldest surviving passenger locomotive of the GTR, Canada's first major railway system, making it the oldest surviving passenger locomotive in Canada. Literally millions of people saw CN 40 during the 1950s when it was part of CN's traveling "Museum Train". Many more saw the engine when it was on display at the CMST exhibition building in Ottawa.[2]

Several attempts have been made to gather information about CN 40, but without much success. In 2007, however, the CMST decided to make a concerted effort to document the engine in order to be able to interpret the locomotive as it now exists, and possibly to restore it,.

This report presents the first results of the renewed attempt to document CN 40. It is based on archival research carried out between May 1 and July 31 of 2007. The goal of this research was to collect and digitize as much evidence about the physical history of the engine in the time available. It was not intended to interpret the existing engine in light of the information gathered, but it has proven necessary to offer various interpretations of the evidence gathered.

The evidence is presented below in sections corresponding to the phases of construction and ownership of CN 40, beginning with its building by the Portland Company and continuing with the years it was owned by the GTR, the CVR, CN and the CMST. The section concerning construction is by far the longest. It contains the first comprehensive collection of information about CN 40 ever assembled. The following sections deal for the most part with photographic evidence. Some tabular data has been placed in the text. Most of the detailed tabular data appears in the Appendices. Almost all the documents referred to, as well as this text, are provided in digital form on the accompanying DVD.

A great deal has been learned about CN 40 during this initial phase of investigation. But it is also clear that much has been lost. Various scholars, archivists and annotators have said things about CN 40 for reasons that are no longer evident. Documents that once existed are now missing. There is, however, good reason to believe that many of the

[1] There is a question both as to how and to when CN acquired CVR 40. See the discussion in section 5 below.

[2] The engine is no longer on display. It has been stored in a nearby building for several years.

missing documents still exist. Hopefully, the information contained in this report will not only contribute to a better understanding of CN 40, but will alert other investigators to the potential significance of the "lost" documents when they come across them and encourage them to make this information known to both the railway history community and the CMST.

2. Construction by the Portland Company.

As noted in the introduction, the steam locomotive known as CN 40 was constructed in 1872 by the Portland Company of Portland, Maine, for the Grand Trunk Railway of Canada. Its Portland shop number was 233. It was delivered to the GTR on November 27th, 1872 as GTR number 362.[3] Since Portland's records are organized in terms of shop numbers, the engine will be referred to in this section as Portland 233.[4]

The Portland Company was founded by John Alfred Poor (1808-1871) in 1846 to build railway equipment. The company produced 631 locomotives between 1848 and 1906. Almost all of these engines were built before 1895.[5] Most were of the 4-4-0 type, with four leading wheels, four driving wheels, and no trailing wheels, which was the standard type of locomotive used by North American railways between 1850 and 1898, after which they were rather quickly phased out.[6] The Portland Company also built marine engines, marine boilers, and many other kinds of machinery, and stayed in business until 1982. Much of the company's historical material was donated to the Maine Historical Society (MHS) in the 1960s.[7]

Of the 631 engines produced by the Portland Company, 259 were made for Canadian railways, accounting for approximately 41 per cent of total output. One hundred and nineteen engines were built for the GTR, making the GTR Portland's biggest Canadian customer.[8] Some of these orders may have resulted from the special relationship between the GTR and Portland, which became the eastern terminus of the GTR system in 1853.[9] The GTR maintained large shops and yards there.[10]

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[3] The only document I have seen that officially makes the connection between Portland 233 and GTR 362 is Maine Historical Society, Collection 242, Portland Company, Vol. 15, Casting Book, p. 252.

[4] A published list of Portland Company locomotives is found in Richard F. Dole, "The Portland Company," *Railroad History* 139 (1978): 5-38. A list of Portland's total output is also given in Appendix 1. An electronic version of the spreadsheet is found on the accompanying DVD.

[5] John Alfred Poor was the brother of Henry Poor, the founder of *Poor's Manual of Railroads*.

[6] See John Loye, "Locomotives of the Grand Trunk Railway," *Bulletin of the Railway and Locomotive Historical Society* 25 (1931): 12-29.

[7] For more details on the history of the Portland Company, see Dole, "The Portland Company." For an illustrated history see David H. Fletcher, *The Portland Company, 1846-1982*, Portsmouth, New Hampshire: Arcadia Publishing, 2002.

[8] The number 119 does not include numerous engines purchased for GTR subsidiaries. See Dole, "The Portland Company," as well as Appendix 1. For a list of GTR engines built by the Portland Company, see Appendix 2.

[9] Portland became the ice-free terminus of the system when the GTR acquired control of the Atlantic & St. Lawrence and the St. Lawrence & Atlantic Railways in 1853. These were the American and Canadian lines, respectively, connecting Portland to Montreal. Several of the shareholders of the Atlantic & St. Lawrence were also shareholders in the Portland Company. Although the Portland Company was a major supplier of engines to the GTR, it was in no way the only supplier. The GTR purchased large numbers of locomotives from all the major North American builders (like Baldwin, Schenectady), and also built

The first Portland engine built for the GTR was delivered in 1854. Forty-two more engines were delivered by January of 1872, all but three of which were the "wide" or "colonial" gauge of 5 feet, 6 inches (66 inches altogether).[11] It was in 1872, however, that the GTR decided to convert all its existing track to the standard North American gauge of 4 feet 8 1/2 inches (56 1/2 inches altogether).[12] As a result, the GTR was suddenly in need of a large number of standard gauge locomotives. Accordingly, Portland 233 — the future CN 40 — was one of a batch of 22 almost identical standard gauge 4-4-0s ordered from the Portland Company by the GTR in late 1871, or early 1872. Delivery of these engines began in November of 1872 and continued into 1873 as more orders from the GTR poured in.[13] See Table One.

Table One - Portland Company Engines from the Same Batch as Portland 233/GTR 362.[14]

Shop No.	GTR No.	Delivery Date
229	372	1872/12
230	373	1872/12
231	360	1872/11
232	361	1872/11
233	362	1872/11
234	363	1872/12
235	364	1872/12
236	374	1873/1
237	375	1873/1
238	364	1873/1
239	365	1873/1

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engines in its own shops. Chas. S. Given, "The Portland Company," *Bulletin of the Railway and Locomotive Historical Society* 9 (1925): 9. For a complete listing of GTR motive power see Edson, William D., and Raymond F. Corley, "Locomotives of the Grand Trunk Railway," *Railroad History* 147: (1982): 42-183.

[10] For the history of the GTR see: A. W. Currie, *The Grand Trunk Railway of Canada*, Toronto: University of Toronto Press, 1957; and G. R. Stevens, *History of the Canadian National Railways*, New York: Macmillan Company, 1973.

[11] It is generally believed that wide gauge was the idea of the Portland shareholders of the Atlantic & St. Lawrence Railway who wanted to make it more difficult for GTR customers to ship their goods through Boston and New York by making it necessary (and thus costly) to transship their goods into standard gauge cars. See Currie, *Grand Trunk Railway of Canada*, pp. 56-57. Railroad historian John Loye, however, believed the choice was originally made by British authorities who wanted to make it more difficult for any invading US army to use Canadian railway lines. See, John Loye, “Canadian Locomotives of the Fifties,” *Bulletin of the Railway and Locomotive History Society* 18 (1929): 8-19.

[12] Whatever the reasons for its original choice of wide gauge, by 1872 the GTR realized there was much more money to be made by interconnecting with US lines. The process of conversion to standard gauge began in 1872, but was not actually completed to Portland until November of 1873. See Currie, *Grand Trunk Railway of Canada*, pp. 120.

[13] For the date of delivery of engines in the same batch as Portland 233, see the last page of Maine Historical Society, Collection 242, Portland Company, Vol. 15, Casting Book, p. 252. A total of 32 Portland locomotives were delivered to the GTR in 1873 according to published lists of Portland production. See Appendices 1 and 2 for lists of Portland locomotive output for the GTR.

[14] MHS, Portland Company, Vol. 15, Casting Book, p. 252.

240	367	1873/2
241	368	1873/2
242	369	1873/3
243	370	1873/3
244	371	1873/4
245	376	1873/4
249	325	1873/5
250	326	1873/5
251	377	1873/6
252	378	1873/6
253	379	1873/7

2.1 Related Contract Specifications

One assumes the process of ordering new engines began with some sort of correspondence between the GTR and the Portland Company concerning the number of engines wanted, the need for variations based on experience with previous engines, the availability of new technology, and so on. No such correspondence concerning Portland 233 has been found.

The next step in the process of ordering was the drafting of a contract to which a specification was attached. No contract or specification has been found for Portland 233, or for any other engine in the batch. However, two examples of the kind of contract and specification that would have been made can be found in the National Archives of Canada (NAC). Two more contract specifications are in the archives of the Canadian Railway Historical Association (CRHA) at Exporail in Brossard, Quebec.

Of the documents in the NAC, one is a handwritten draft of an agreement to convert a number of existing wide-gauge engines to standard gauge.[15] The second is a contract for 11 new engines, dated July 21, 1874.[16] This second contract states that the new engines were to be delivered by September 20th, 1874, and mentions a few physical details: for example, that they should have Smith Vacuum Air Brakes on the tender and driving wheels, and that the headlights should be of an approved pattern with a reflector of 22 inches diameter. The contract is accompanied by a detailed specification, written out on a pre-printed form provided by the Portland Company. Attached is a handwritten note asking for items like screw jacks and jack bars, hammers, torches, and oil cans. These documents confirm the fact that ordering normally began with documents that went back and fourth between the two companies before they were formally printed and signed.

The documents in the CRHA consist of the pre-printed specifications that would have accompanied a complete contract package.[17] There is no indication of what locomotives

[15] National Archives of Canada, RG 30 12603, Agreements Grand Trunk Railway 1853-1923, No. 324. The engines to be converted are named as GTR 109, 110, 114, 120, 122, 123, 125, 129, 131, 132, 133, and 134.
[16] National Archives of Canada, RG 30 12603, Agreements Grand Trunk Railway, 1853-1923, No. 323.
[17] The originals may be found in the CRHA archives at the Exporail Museum near Montreal. Copies may be found in the CMST Museum Train file and in the Maine Historical Society, Portland Company, Box 4, Folder 1. Digital copies of the specifications are included on the DVD.

they refer to. The first specification is for an “eight-wheel” coal burning engine, dated Dec 16, 1872 (just after delivery of Portland 233), and was apparently ordered by an American railway.[18] The second specification is for an "eight-wheel," “wood or coal burning” engine and dated to June 10th, 1874. The second document states that the tires for the driving wheels were to be made to GTR standard sizes and gives the tank capacity in Imperial gallons, so this order is almost certainly for a GTR engine. However, the document is dated more than a year and a half after Portland 233 was delivered.

Although neither of the CRHA documents specifically concern Portland 233, they represent the nearest known specifications in terms of date, and are therefore important. A detailed comparison of their contents is made in Appendix 3. The details show that the earlier engine was to have 16 by 24 inch cylinders, boiler tubes made of iron, and weigh 32 tons when fired and ready. The later engine was to have 17 by 24 inch cylinders and boiler tubes made of steel, which allowed an increase in the number of boiler tubes from 145 to 162, as well as several other minor changes in an engine estimated to weigh 34 tons, fired and ready. As Appendix 3 shows, however, in almost all other respects the two specifications are more or less identical as to the dimensions and the materials to be used.

The similarity between the two specifications is important because it is an indicator of the slow rate of design and/or technological change in locomotive construction at the Portland Company. This slow rate of change means that evidence from many different locomotives may be relevant to the understanding of Portland 233. Portland 233 resembled the engine in the earlier specification more than the later engine but — with caution, of course — both specifications can be used as aids for interpretation.

2.2 The Portland Company Casting Books

Once an engine was ordered, the Portland Company's next step was to prepare a detailed list of the parts and materials needed. The list was copied onto printed forms in the company’s "casting book," which covered (in order):

- Iron castings for the engine;
- Iron castings for the tender;
- Brass and “compo” castings for the engine;
- Iron forgings for the engine;
- Iron forgings for the tender;
- Plate iron for the boiler;
- Plate iron for the tank;
- Miscellaneous iron for the engines,
- Tubing and etc. for the engine;
- Timber for the tender; and
- Timber for the engine.

[18] This conclusion is suggested by the fact that the tank capacity is not specified in Imperial gallons, as is the case with the second specification.

As the list shows, more than castings were included in the casting books, where some 500 specifications could be made for each engine. The casting books provide the single biggest source of detailed information for any Portland engine.

The data for Portland 233 is found in Casting Book, Volume 15, which contains a list of the specifications used for shop numbers 229 to 245 and 251-253. A full transcription of the casting book may be found in Appendix 4.[19]

Original entries in the casting book were made in blue ink. These entries give the dimensions and/or the materials of various parts, and are sometimes accompanied by very small drawings. Later annotations were added in pencil, but it is not known by whom. The hand looks modern, and annotations in the same hand appear to have been made to all the casting lists at about the same time.

One of the peculiar features of the casting book is the inclusion (in blue ink) of what will be called the "same as" numbers for various parts. The first entry for the Portland 233, for example, states that the boiler saddle is the "same as 152." The next entry states that the cylinders and pistons are the "same as 153, 155." The majority of entries in the casting book have these "same as" numbers, while some are blank and others are stated as being "same as the draught." The “same as” numbers turn out to be the shop numbers of earlier engines. The saddle of 233, for example, is identified as being the same as the saddle of shop number 152, while the cylinders and pistons are identified as being the same as the cylinders and pistons of shop numbers 153 and 155.

The earliest "same as" number in the casting list for Portland 233 is 112, an engine delivered to the New York and Boston Railway in April of 1864. The latest "same as" number is 222-225, which refers to a batch of engines that were ordered by the GTR before Portland 233, but delivered at various times in late 1873 and early 1874.[20] The "same as" numbers help confirm the point made above about the slow pace of technical change in the locomotives built by the Portland Company. An engine like Portland 233, for example, incorporated parts that were originally designed more than six years and 100 Portland engines earlier.

The data in the casting list confirms the similarity between Portland 233 and the contract specification dated December 16, 1872, beginning with the fact that Portland 233 also had a 48-inch diameter boiler and 16 by 24 inch cylinders. A more detailed comparison of the specifications is out of place here, but confirms the similarity as to both dimensions and materials.

[19] There are actually two versions of the list, one in Casting Book Vol. 15 and one in Vol. 16. The second list includes only the iron castings for the engine, the iron castings for the tender, and the brass and compo fastening for the engine. Although the wording of some of the entries is slightly different, most of the entries, and all of the numerical data in the two casting lists are the same. The second, shorter list does not contain any drawing numbers. Moreover, the second casting list says it applies to Portland 226-245 rather than 229-245 and 251-253. A copy of the second list, but not the first, is in the CMST Museum Train file. Digital copies of both lists are on the DVD.

[20] See Appendix 2 for these orders.

The casting book also reveals differences between engines in the same batch. The list says, for example, that the drivers for Portland 231-237 and 251-253 were to be 5 feet 2 inches in diameter (or 62 inches total), while the wheels for the other engines in the batch were to be 4 feet 8 inches in diameter (56 inches total).[21] Dimensions for the tires are given as 5 feet 6 inches in diameter (or 66 inches total) for engines 231-237 and 251-253, and 5 feet diameter for the other engines. The tires were to be 2 ½ inches thick. It is not clear from the casting list whether the dimensions of the wheels and tires are for the inside or the outside diameters. The numbers do not add up directly.[22]

Given the different size of driving wheels for different engines in the batch, there was a corresponding difference in the size of truck wheels. The casting book states that the truck wheels for Portland 231-237 and 251-253 were to be 30 inches in diameter, and 28 inches for the other engines.[23] The wheels of the tenders are given as 33 inches in diameter, so the tender was originally higher than the engine truck. Naturally, the pilot for the engines with the larger wheels was bigger than the pilot for the smaller engines. Interestingly, the data for the pilot is contained in the section of the casting list that is for timber to be used in building the engine.[24]

2.3 Portland Company Drawings

Originally, the casting books contained no direct references to drawings. However, before any engine could be assembled, the right drawings had to be found so that the right castings, forgings and other parts could be made.[25] This suggests that there was once some sort of registry relating the "same as" numbers to the drawings for required parts.[26] This registry can no longer be found.[27]

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[21] MHS, Portland Company, Casting Vol. 15. The information is given on the first page, p. 241.

[22] A best guess would appear to be that the inside diameters are given. If the inside diameter of the tire was 66 inches, then the rim of the wheel must have been approximately 4 inches thicker than the 62 inch (inside) diameter given for the wheels. Assuming this to be so, the outside diameter of the wheels and tires would be approximately 68 ½ inches, or perhaps a little smaller to allow for the shrinkage of the tires onto the wheels. If it is the outside diameters that are given, 66 inches minus 2 ½ inches would give 63 ½ inches, meaning that the inside diameter of the tire was still considerably larger (by 1 1/2 inches) than the outside diameter of the wheel.

[23] MHS, Portland Company, Casting Book, Vol. 15, p. 241 and 252.

[24] MHS, Portland Company, Casting Book, Vol. 15, p. 252.

[25] Dole, “The Portland Company,” p. 12, suggests that a complete set of new drawings were made for each engine. This appears to be an exaggeration. Some new drawings were made some parts and are therefore stated as being the same as the "draught" in the casting list. However, as will become clear below, the Portland shops generally re-used drawings made for earlier engines.

[26] The Maine Historical Society’s Portland Company collection does include printed forms for the first 50 Portland locomotives that were at least *supposed* to list the drawings used to make each individual engine (the lists are not complete). It is not clear whether these forms are original, or the production of a later archivist who never completed the task of cataloging the drawings. Regardless, the existence of such forms implies the existence of some sort of registry relating specific drawings to parts of specific engines.

[27] The Portland Company donated its historical documents to the Maine Historical Society in the sixties, while it was still a going concern. This raises the possibility that missing documents, particularly the drawing registry, could be in the company’s remaining papers. I have been told that these papers have not been donated to any archive and are stored in an old building in the Portland Company yards.

Fortunately, the pencil notations added to casting book Vol. 15 give the drawing numbers for many of the parts of Portland 233. Better still, these drawing numbers appear to be quite accurate. Each number leads to a drawing for the expected kind of part. All but two identify the correct part for the correct engine, according to the "same as" number. For example, drawing 1187P is indeed for the cylinders of engines 153 and 155, while drawing 1619P is indeed for the main valves of shop numbers 188 and 189. The "P" means the drawings were made on paper. Other drawings, designated "L" were made on linen. A complete list of drawings relating to Portland 233 is given in Appendix 5.[28]

In several cases the pencil notes identify drawings of parts for which no "same as" number is given in the casting book, or for parts that are described as being the same as the draught. In these cases, it is not possible to vouch for the absolute accuracy of the information, except to say that the majority of the other drawing numbers are correct, and they all appear to have come from some sort of registry.

Another oddity of the casting books is that several parts are identified as being the “same as” those of earlier engines, but the date on the actual drawing is not only later than the engine referred to, but later than the delivery of Portland 233. This indicates that drawings for various parts were reused many times over the years, then re-drawn once they wore out, but not updated to reflect the number of the latest engine for which they were used. This is likely because the missing drawing registry, like the casting books, referred to the drawings by their “same as” numbers.

A detailed analysis of the drawings of Portland 233 is beyond the scope of this report.

2.4 Related Elevations

The Portland Company generally produced an elevation for each of the locomotives or batch of locomotives it built, showing the completed engine from the side. No elevation for Portland 233 or for any other engine in the batch has been found. If fact, almost all of the elevations for engines built at this time are missing. This may be because the elevations, of little use during construction, were really made as presentation drawings to be given to the customer at the time of delivery.

Nevertheless, the Portland Company archives do contain several elevations that may be useful. They are listed in Appendix 6, and digital copies are found on the DVD.

Drawing 144P is for Portland shop numbers 153-155, and dated April 9, 1859. These engines were built for the GTR and are the engines most often cited in the “same as” numbers for Portland 233.[29]

Drawing 1914P is for Portland 147 and dated November 26, 1867. This engine was built for the Portland & Rochester Railway. This elevation is among the most detailed available.

[28] Appendix 6 includes drawings that are not cited in the casting lists, but were included in a handwritten list of drawings in the CMST. See below.
[29] A copy of the casting book list for engines 153-155 is included on the DVD.

Drawing 1901P is dated May 19, 1868 and was made for Portland engines 142-146, which were built for the GTR. This is the nearest elevation of an actual GTR engine to the date of Portland 233, although it is not referred to in the casting book.

Drawing 1933P is for Portland 156, dated May 7, 1869. This engine was built for the Maine Central, and is referred to in the casting list.

Drawing 1960P is for Portland 196 and dated November 11, 1871. This engine was built for the Portland and Ogdensburg Railway. This is the nearest elevation to Portland 233 in date.

Drawing 23058L has no date, but shows Portland 352, delivered to the Maine Central in June of 1879. This is the first extant elevation for a Portland engine after Portland 233.

Drawing 196P is for Portland 394-395 and dated August 17, 1881. These engines were built for the Maine Central. The drawing helps to show the continuing similarity of Portland output.

2.5. Related Photographs.

It was Portland Company practice to take a photograph of its locomotives when they were completed. No photo of Portland 233 has been found. However, many photos of related engines have been located, including nine photos of Portland engines delivered in 1873, of which five are from the same batch as Portland 233. The photos from the same batch include shop numbers 238, 244, 245, 251, 253. The additional photos are of shop numbers 246 and 248, built in between the two parts of the 233 batch, as well as shop number 254, built right after the batch, and 272 which was built for the GTR. These photos are found in Appendix 6 and on the DVD.

Not all the pictures are from the same decade. Nevertheless, a number of conclusions can be reached about the original appearance of Portland 233.

To begin with, most of the pictures show a “vertical pilot” with vertical rails. Two show a “horizontal pilot” with horizontal rails (shop 246 and 245), but one of these is a non-GTR engine and the other is a much later photo. It is most likely that Portland 233 had a vertical pilot. However the casting list does refer to "horizontal bars" in connection with the timber for the pilot.[30]

All the early pictures show a diamond stack, rather than a mushroom stack (with the exception of shop 246). Three later photos show a straight stack, but these appear to be later modifications. It is most likely that Portland 233 had a diamond stack.[31]

[30] MHS, Portland Company, Casting Book, Vol. 15, p. 252.

[31] A drawing of a mushroom-shaped "Fontaine Stack" (1181L) has been included in Appendix 5 because this is the kind of stack the engine now has, and because this drawing number was on a handwritten list of drawings for Portland 233 in the CMST. See below.

All the earliest photos show the bell, sandbox and steam dome, in that order, with the bell at the front of the boiler. It is likely that Portland 233 had this configuration.

Several early photos show bright-work, fancy painting and shiny brass bands. It is likely that this was also true of Portland 233.

All of the images of trains from the same batch show round arched windows on the side of the cab. It is likely that Portland 233 shared this feature, although other Portland engines delivered to the GTR in 1873 had square windows (for example 246 and 272). The photographic evidence seems incontrovertible, particularly since the first known photo of Portland 233 (as CVR 40, see Appendix 6) shows round arch windows. The visual evidence is in direct conflict with drawing 1501P, which states that it is a drawing of the cab for many engines, beginning with Portland 191 and including Portland 226-245. Notably, drawing 1501P is not given in the casting list.[32]

Most of the images show solid truck wheels on the engine and the tender. This was likely true of Portland 233.

All the earliest photos of GTR engines show tenders with sides that are flared out at the top and have a slight scallop at the front. Portland 233 likely had a tender with these features.

3. Service with Grand Trunk Railway of Canada.

Portland 233 was delivered to the Grand Trunk Railway as GTR 362 in November of 1872. Its road number was changed to GTR 40 in the general renumbering of GTR locomotives that took place in 1898. In this section, the engine will be referred to as GTR 362.

The large driving wheels of either 66 or 68 ½ inches indicate that GTR 362 was intended for use as a passenger locomotive.[33] Beyond this, very little is known about the career of the engine. Railroad historian Ray Corley states that GTR 362 entered Canada by a roundabout route via the Albany & Niagara Falls Railway, passing over the suspension bridge at Niagara Falls.[34] According to Corley, the engine was then moved to Fort Erie and restricted to the GTR tracks from Fort Erie to Stratford and St. Mary's to Sarnia, which had been converted to standard gauge on November 8th, 1872. The remaining lines in Western Ontario were converted in October of 1873. The main line between Montreal and Toronto was converted in November. The last of the GTR's lines, mostly in Quebec, were converted in 1874.

There is evidence that GTR 362 was in service in Western Ontario in November of 1873, when it was peripherally involved in an accident. What happened was that GTR 362 was cleared to run from Stratford to Brantford, and a second train was cleared to run behind it.

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[32] It was, however, included in a partial list of drawings for Portland 233 held by the CMST. See below.
[33] John Lowe, "Locomotives of the Grand Trunk Railway," *Bulletin of the Railway and Locomotive Historical Society* 25 (1931), p. 13.
[34] The suspension bridge at Niagara Falls was not replaced until October of 1873.

A mix-up in signals led to a head-on collision between this second train and a third train traveling in the opposite direction.[35]

After 1874, the engine could have run anywhere on the GTR system and may have been used for passenger service in Quebec. This would explain how the engine came to the later attention of John Breakey of Breakeyville, Quebec, but there is no proof.

The only other information available concerning the engine is contained in a GTR list of locomotive stock issued in 1901. There, GTR 362 is listed as GTR 40 in an entry that gives the following information:

Table 2: GTR No. 362 as listed in 1901[36]

No.	40
Builder:	Portland
Date Built:	1872
Type:	Road – 4 wheels coupled, and 4 wheel truck
Weight on Wheels:	49,504
Total Weight:	80,360
Wheelbase of Drivers:	7'6"
Wheelbase of Engine:	21' 1"
Wheelbase of Tender:	13' 6"
Wheelbase of Engine and Tender:	42' 4"
Total Length of Engine & Tender:	55' 2"
Cylinder diameter:	24
Cylinder Stroke:	4
Driving Wheels	4
Diameter of Driving Wheels:	68"
Boiler Type:	Straight
New Boiler:	1890
Working Pressure	135 lbs.
Brakes, Drivers:	Westinghouse
Brake, Tender:	Westinghouse
Engine Truck:	
Size of Pump:	8
Train Air Signal	Yes
Steam Heat Attachments:	Yes
Vertical Plane Couplers:	Front and Back

Three items in this table stand out. One is that the engine received a new straight boiler in 1890. The second is that the engine and tender now had Westinghouse air brakes, which were not part of the original equipment.[37] The third is that the engine supposedly had 68 inch driving wheels. This led Corley to suggest that GTR 362's original driving wheels must have been replaced between 1896 and 1901.[38] This would mean the GTR went to

[35] The accident apparently took place on Sunday November 9, 1873, and a copy of the article concerning the accident from the *Brantford Expositor* is included on the DVD. The date of the article is not clear from the copy of the article which is in the CRHA Archives, Corley Collection, Museum Train folder.
[36] CRHA, Grand Trunk Railway System, Motive Power Department, Locomotive Stock, January, 1st, 1901.
[37] George Westinghouse only set up a company to market his air brakes in 1869. These had not yet been adopted by either the Portland Company or the GTR by 1872.
[38] CRHA, Corley Collection, Museum Train, History of the Canadian National Railways Museum Train, Locomotive 40, pg. 2.

the trouble and expense of providing new wheels for Portland locomotives still on the books when they were about to be retired. It is therefore hard to accept this data. It seems more likely that the 68 inches refers to the outside diameter of the original wheels and tires, as opposed to the 66 inches for the inside diameter of the tires given in the Portland Company casting book.[39]

Corley also reported that the engine was adapted to burn coal instead of wood during its time with GTR. This seems very likely, but positive evidence is lacking.

3.1 The Photographic Evidence

The only other evidence available for GTR 362 is photographic, although no photograph of the engine has been found. Appendix 6, however, contains four later photos of engines from the original batch (245, 248, and 253, and 251) which are useful.

All four of the later photos show engines with straight stacks. It is likely that 362 also received a straight stack when it was converted to coal burning (assuming that it was).

Two of the later photos show engines with a horizontal pilot (245 and 246). The photo for 245 suggests that this new form of pilot was accompanied by a new form of coupler. The earliest photo of the GTR 362 in the service of the CVR shows such a pilot. It is likely that the new pilot and coupler were installed by the GTR.

Two of the later photos (for 251 and 253) show a change in the position of the bell, which is now just in front of the cab rather than just behind the stack. The earliest photo of the GTR 362 in CVR service shows the bell in front of the cab. It is likely that the change in position took place when GTR 362 was given a new boiler in 1890.

The photos continue to show a tender with flared out tops along the sides, and scallops at the front.

4. Service with the Chaudiere Valley Railway:

In December of 1902, the GTR again renumbered its locomotive stock. In the new scheme of things GTR 362, which had already been renamed GTR 40, was to become GTR 129. In January of 1903, however, the engine was sold to John Breakey of Breakeyville, Quebec, for use by the CVR. This was a short railway built to haul timber from the mills at Breakeyville to the shores of the St. Lawrence, not far from Levis, across the river from Quebec City.

It is believed that the GTR number 129 was never physically applied to the engine. This explains why the engine continued to be numbered 40 in CVR service — it still had GTR number 40 on it when it arrived. According to Corley, the driving wheels of the engine were now changed to 60 inches to provide the engine with more traction. Though likely, the basis for Corley's assertion in unknown.[40] Corley also says the engine was changed

[39] See the discussion of the wheel and tire diameters above.
[40] CRHA, Corley Collections, Museum Train, History of the Canadian National Railways Museum Train, Locomotive 40, pg. 1-2.

from coal-burning to wood-burning at this time. Again, although it is very likely that GTR 362 was converted from wood to coal-burning in the nineteenth century, there is no positive evidence. That CVR 40 burned wood is clear from photographs showing cordwood piled high in the tender.

4.1 The Photographic Evidence

There are at least seven known photos of CVR 40. They show three phases of existence.

The first phase is shown in the earliest photo, which is photograph number 15 in Appendix 6. This photo reflects alterations that were likely made by the GTR, including the rear position of the bell and the use of a horizontal pilot with a more modern form of coupler. Notably, this photo shows the cab with its round arch windows and the original tender with flared out sides at the top. The use of wood for fuel necessitated a replacement of the previous stack (either straight or diamond) with a rather short mushroom stack of very old form.[41] Nothing can be seen of the original Portland Company badges between the driving wheels. These may have been removed by the GTR when the boiler was replaced.

The second phase of CVR 40's existence began with a refurbishment, seen in photos 16 and 17 of Appendix 6. According to the presumed date of these photographs, the refurbishment took place no later than 1927. Both photos show a freshly painted, black and white engine and tender with "Chaudiere Valley" written on the cab and "40, Chaudiere Valley Ry." painted on the tender. Both reveal major changes to the cab, which now has square windows. The photos also show a new tender. The flared out sides with scallops at the front are gone. The new tender has straight sides with scallops at the back.

The third phase of CVR 40's existence was marked by yet another refurbishment, which can be seen in photos 18 and 19 of Appendix 6. A new black and white paint scheme was applied at this time. The "Chaudiere Valley" on the cab was replaced by the number "40." The number "40" was removed from the tender, which now reads only "Chaudiere Valley Ry." An additional change was made to the cab, which now has a hatch cut into the roof. The hatch was not a part of the original Portland design, and does not show in the photo of CVR 40 dated to 1927. It is worth noting that even after its second refurbishment CVR 40 retained its original lamp in its original bracket.

5. Service with the Canadian National Railway.

Documents in the National Archives of Canada suggest that the Chaudiere Valley Railway legally abandoned it track in 1947 as part of a deal with CN in which CN took over the task of moving lumber from the mills in Breakeyville down to the shores of the St. Lawrence.[42] It is uncertain, therefore, whether CN acquired the engine by accident, so to speak, in 1947, or whether the engine was "donated" to CN in 1949 for restoration, as

[41] The CVR stack is much shorter than the mushroom stacks found on early Portland engines.

[42] Notice of the abandonment can be found in NAC Volume 2391, formerly RG 12, 2391. File no./Creator 3554-66. It has been stated to the author that the CVR twice crossed the CN tracks near Quebec and that CN took over the delivery chores of the CVR to eliminate the cost of maintaining these two crossings.

is generally reported.[43] The earlier date would help explain two photographs of the CVR 40 in dilapidated condition at what appears to be the CN's yard at Charny, not far from Quebec City. Having acquired the assets of the CVR, but having no use for CVR 40, the engine appears to have been parked in the yard, where it may have been used as a stationary engine.

The two images of a derelict CVR 40 are Photos 20 and 21 in Appendix 6.[44] They show changes to the engine that either took place in its last years of service with the CVR, or in the Charny yard. The original square lamp and bracket have been replaced with a smaller round lamp and bracket. The rods connecting the pistons to the front driving wheels have disappeared. The horizontal pilot is gone, and likely the coupler as well. Very little can be seen of the tender in these photographs, but it appears to be the replacement tender used by the CVR.

Whether the engine was acquired by CN in 1947 or 1949, CN decided to have the engine restored in 1950, initially for a celebration of the centennial of the first locomotive to reach St. Albans, Vermont. The restoration was carried out in the St. Albans shops of the Central Vermont Railroad (then owned by CN).[45] At the time, the Central Vermont was the last remaining steam railway in North America. Its St. Albans shop therefore still had the expertise to carry out repairs.

No documents relating to the restoration have been found, although some research must have been done and possibly new drawings made. It would seem that the St. Albans shops must have must have supplied new connecting rods between the cylinders and front drivers. A new square lamp and a new lamp bracket were made, although neither is the same shape as the original. A new vertical pilot was built out of wood that is the same shape as those of early Portland engines, but includes a modern coupler. Flag holders were removed from the front of the engine truck. The engine and tender were both repainted.

The restoration of the engine was complete by October 18, 1950, when the engine participated in the St. Albans centennial. At the time, the engine was painted with the herald "Central Vermont 40." The following year, the engine was displayed in Durand, Michigan, from July 1 to 4, as part of centennial celebrations in that city. For this event, the engine and tender were re-lettered "Grand Trunk Western." Shortly afterwards, the engine was shopped in Stratford, Ontario, where the "Canadian National" herald was painted on the side. The engine emerged from the shops on July 21, 1951 — finally and fully becoming CN 40.[46]

It is beyond the scope of this report to provide details of the operation of the engine over the next decade, when it was part of the CN's "Museum Train." This collection of

[43] By Corley, for example, partly on the basis of an earlier summary by the CNR. CRHA Corley Collection, Canadian National Railways Historical Relic – Locomotive No. 40, p. 1.
[44] It is not yet absolutely certain that these picture were taken in the Charny yard.
[45] CRHA, Corley Collection, Canadian National Railways Historical Relic – Locomotive No. 40, p. 1.
[46] CRHA, Corley Collection, Canadian National Railways Historical Relic – Locomotive No. 40, p. 1.

historical engines and cars, full of railway memorabilia, participated in centennial events and other celebrations all over Canada during the 1950s. However, it appears that CN 40 never moved under its own power. It was always either pushed or pulled by other engines.[47]

Even during the fifties, the Museum Train operated sporadically. By 1960, its career was over. It appears moved from siding to siding in Quebec, subject to occasional vandalism, until it came to rest at the CN yards in Richmond,. There is remained until 1966.

It was in 1966 that CN decided to donate the Museum Train and its contents to the National Archives of Canada. Two members of the Canadian Railway Historical Association, one of whom was Ray Corley, were recruited to conduct an inventory and to write a brief report. [48] Meanwhile, discussions continued between CN, the NAC and what was then the new National Museum of Science and Technology (now the CSTM). Eventually, the engines and cars of the Museum Train, along with several photographic albums, went to the CSTM, while the historical contents of the trains and some other documentation went on permanent loan to the CRHA.[49]

6. At the Canadian Museum of Science and Technology

It is beyond the scope of this report to deal with any changes, repairs, or re-paintings of CN 40 on the part of the CSTM. There are, however, a few issues relating to the documentation of the engines that should be discussed.

At the time the CSTM took possession of CN 40, it was in possession of Corley's report on the subject.[50] In this report, Corley correctly identified the engine as originally being Portland 233, GTR 362, GTR 40 and CVR 40. According to Corley, the original engine had cylinders that were 16 by 24 inches, driving wheels of 66 inches, a nominal weight 38 tons and a total length of engines and tender of 52 feet, 10 inches. Unfortunately, Corley did not specify his sources. He appears to have combined information from the Portland contract specifications, and the GTR locomotive list of 1901. In an appendix, Corley provided additional details, as follows:

Table 3 – Dimensions of CN 40 as reported in 1967.

Engine Wheelbase:	7' 6"
Engine Length:	21' 1 ¾"
Tender Wheelbase:	13' 3"
Total Wheelbase of Engine and Tender:	41' 10"
Engine Weight:	49,504 lbs, on drivers
Total Weight:	80,360 lbs.
Boiler Pressure:	135 psi
Cylinders:	16" x 24"

[47] The CSTM has several large photo albums documenting the contents and activities of the Museum Train.
[48] CSTM, File 6770008SI, Internal CN Memo from Lorne Perry to C.J. Hockman, February 1, 1967. The correspondence and the inventory are included on the DVD.
[49] They are now housed in the Exporail building in Brossard, Quebec, near Montreal. CSTM, File 6770008SI, Internal CN Memo from Lorne Perry to C.J. Hockman, February 1, 1967.
[50] CSTM has a partial file copy of the report by Corley dated to January 1967. The original and complete copy is in the Corley Collection of the CRHA archives (and on the DVD).

Driving Wheels:	66", 68" (ca 1896-1901); 60" 1903
Extras:	Stephenson valve gear; wood cab; straight boiler; Westinghouse brakes on engine and tender. New boiler, January, 1890.

Almost all of this information was included in the GTR locomotive list of 1901.

Another document in the CSTM Museum Train file is a worksheet that gives the following information about CN 40: [51]

Table 4 — National Museum of Science and Technology Work Sheet

Type	4-4-0, Std. Gauge, Wood-burning
Serial Number	(Builder's) 233
Weight	118,000 lbs in working order
Dimensions	Length over coupler and pilot, 53' 8"
Missing Parts	Eccentric Rods stored
Finish Details	Black Paint overall
Decoration Details	Running boards edged white; cab doors and windows – red; brass cladding on dome; CN Herald applied to tender; engine tires – white; imitation builder's plate between drivers.
Drivers	60" (orig. 66")
Cylinders	17" by 25"
T.E.	11,000 lbs
Boiler Pressure	135 lbs
Fuel	2 cords (wood), 2 tons (coal)
Water	2,000 gallons

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It is not known whether this information was based on a survey of the artifact or culled from Corley's reports. Of greatest interest is the description of the cylinders as being 17 x 25 inches (whereas the originals are known to have been 16 x 24 inches). If the cylinder measurements given in the data sheet are correct, the cylinders must have been replaced, but it is not known when. It is not known how the total weight of 118,000 lbs was obtained.

Another interesting document in the CSTM files is a letter from CN Historical Research officer J. Norman Lowe to John Corby, Assistant Director of the National Museum of Science and Technology, dated January 14th, 1976. Corby had apparently made some earlier enquiries about possible drawings of CN 40. In his reply, Lowe thought it was "disturbing that the plans were never handed over to the Science Museum." This statement implies that Lowe, and possibly Corby, thought some sort of plans existed. These may have been the elevation originally made by the Portland Company, drawings made by the GTR, or drawings made in St. Albans during the restoration of CN 40 in 1950.

[51] CMST, File 6770008SI, National Museum of Science and Technology Work Sheet, ND. The worksheet is stapled to a data entry sheet that was used to create the CMST's computer record of the engine.

Lowe attached a memo to his letter concerning the transfer of the contents of the Museum Train to the CRHA, as well as the Museum Train inventory prepared by the CRHA in 1967. According to Lowe, these documents would "place things in proper perspective when the CRHA was next asked about the plans." He went on to say he believed that all materials entrusted to the National Archive by CN should be kept together, as originally agreed to. These comments are undoubtedly rather cryptic, but suggest that Lowe believed drawings of CN 40 were in possession of the CRHA.[52] No drawings or elevations relating to GTR 362 have been found there.

On Sept 7, 1983, Corby made another enquiry about drawings for CN 40, this time writing to Archival Librarian T. Gaffney at the Maine Historical Society. Gaffney sent Corby a photocopy of the Casting Book entry for 233 as it existed in Volume 16 of the Portland Company records. He did not send Corby a copy of the casting list in Volume 15, which includes the drawing numbers.

At a later date, further enquires about drawings at the Maine Historical Society were made. The result is a handwritten note in the CSTM Museum Train file that contains a partial list of the original drawings for CN 40. This list is of interest because, while some of the numbers are correct (and some wrong), the list is incomplete.[53] This suggests the author of the note was not copying from Casting Book Vol. 15. Otherwise, one assumes that all drawing numbers would have been included. The note may be another clue concerning the existence of a Portland Company registry of drawings, now lost.

Finally, it should be mentioned that further information about CN 40 was sent to the CSTM by Francois Cliche, director of the Centre D'Interpretation Ferroviaire De Vallée-Jonction, in Beauce, Quebec, following a visit to the Centre by CMST employee Louise Trottier in 2003. Included in the material sent by Cliche were photocopies of photographs of CVR 40 in the twenties and thirties. It has proven impossible, so far, to obtain copies of these original photos.[54]

[52] CSTM File 6770008SI, Inventory of materials concerning steam locomotives and other historical railway equipment: Motive Power & Car Equipment Department, Canadian National Railways, Montreal, Prepared by the Canadian Railroad Historical Association, January 31, 1967. The inventory makes no mention of any plans or elevations.

[53] The list includes drawing numbers for a much later and different type of engine built by the Portland Company. This is likely the result of confusion between Portland shop numbers between 358 and 364 with GTR engine numbers in the same range.

[54] Requests for copies and other information have been made, but replies have not been received at the time of writing. The significance of these photographs is discussed above.

7. Further Research

As stated in the introduction, much has been learned about the physical history of CN 40 during this first phase of documentary investigation, but much has also been learned about how much is missing. By way of conclusion it will be worth stating what documents appears to be lost and how they would be of significance. Railway historians may come across them one day and recognize their importance.

To begin with, it would be very valuable to locate any correspondence between the GTR and the Portland Company about contract or specifications for *any* locomotive, but particularly valuable to locate the correspondence, contract, and original specification for the batch of engines that included Portland 233.

A document that must have existed at one time is a registry of the locomotive drawings of the Portland Company. This registry would have indicated which drawings were used in the construction of each Portland engine. A complete, accurate list of drawings for Portland 233 cannot be made until the registry is found.

It is almost certain that the Portland Company prepared an elevation for the batch of engines that includes Portland 233/GTR 362. This drawing may well have gone to the GTR on delivery of the engine in November of 1873. If so, it may still exist, possibly in the GTR papers of the National Archives of Canada. It is also possible that either the original elevation, or drawings made at the time of the restoration of CN 40 in 1950 still exist, either in the records of CN, the Central Vermont, or the CRHA.

It would be most important to have any photographs of GTR 362/40. These would show the appearance of the engine over time, particularly any changes to the pilot, boiler, and smokestack. Photos like these would indicate when (and whether) the engine was converted from wood-burning to coal-burning. There are several photo archives that could be searched for photos of GTR 362.

Any documents relating to the purchase of GTR 40 by John Breakey and the CVR would be welcome. Most important would be documents from the CVR detailing changes made to CVR 40 between 1903 and 1947, when a host of alterations were made and the tender replaced. Photographs of CVR 40 certainly exist. It would be important to get copies of the originals.

Another issue to be determined is whether or not CN acquired CVR 40 as part of a takeover of the services of the CVR (if not the company), hauling lumber from Breakeyville to the St, Lawrence, and whether or not the engine was donated by Breakey to the CN for the express purpose of restoration. Documents to this effect may be in the archives of the CN, the CVR (if they exist) or in the papers of the Breakey family.

It seems certain that neither the CVR nor CN originally had any intention of restoring CVR/CN 40. Hence, the photographs of the engine in a derelict condition. Any correspondence on the part of the Breakey family or CN concerning the restoration would be important.

At some point, it is clear that CN decided to restore CVR 40. But it is not clear whether CN originally intended to do so only for the St. Albans railway centennial of 1950, or already intended to create a "Museum Train" as a form of advertising promotion. From the physical point of view, any documents, drawings, or photographs concerning the restoration at the St. Albans yard of the Central Vermont would be important. So would any correspondence between CN and the Central Vermont, or any internal CN documents concerning the creation of the Museum Train.

Finally, it should be said that there is a sort of documentary mystery concerning the transference of CN 40 and the rest of the Museum Train to the National Museum of Science and Technology in 1967. That CN wanted to rid itself of responsibility for the train is clear enough —due to a recognition of the value of the Museum Train and its contents, as a well as a fear of responsibility for continuing vandalism. Any evidence about the transfer would be important, including any internal documents of the CN concerning the Museum Train, any reports on the train made by the CRHA, any papers of Raymond Corley relating to his assessment of the Museum Train, and any papers relating to the transference of any documents from CN to the CRHA. The CRHA should be thoroughly searched for documents, drawing, and photographs relating to GTR 362, CVR 40, and CN 40.

Appendix 1- Portland Company Locomotive Production 1848-1906

Source Maine Historical Society, Collection 242 - Portland Company, Finding Aid. See also R. F. Dole, "The Portland Company," *Railroad History* 139 (1978): 5-38.

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
1	PORTLAND_ SACO & PORTSMOUTH RR	AUGUSTA	1848/7	4-4-0	14 X 20	60	STD
2	ATLANTIC & ST. LAWRENCE RR	MONTREAL	1848/9	4-4-0	15 X 22	60	66
3	ST. LAWRENCE & ATLANTIC RR	A. N. MORIN 1	1848/10	4-4-0	15 X 22	60	66
4	PORTLAND_ SACO & PORTSMOUTH RR	PORTLAND	1848/11	4-4-0	14 X 20	60	STD
5	ATLANTIC & ST. LAWRENCE RR	MACHIGONNE	1848/12	4-4-0	15 X 22	60	66
6	ATLANTIC & ST. LAWRENCE RR	OXFORD	1849/2	4-4-0	15 X 22	60	66
7	ANDROSCOGGIN & KENNEBEC RR	TICONIC	1849/4	4-4-0	15 X 22	60	66
8	ATLANTIC & ST. LAWRENCE RR	WM. P. PREBLE	1849/5	4-4-0	14 X 20	66	66
9	MAD RIVER & LAKE ERIE RR	PORTLAND	1849/6	4-4-0	13 X 20	54	58
10	MAD RIVER & LAKE ERIE RR	OREGON	1849/6	4-4-0	13 X 20	54	58
11	ANDROSCOGGIN & KENNEBEC RR	T. BOUTELLE	1849/10	4-4-0	14 X 20	60	66
12	ANDROSCOGGIN & KENNEBEC RR	FRANKLIN	1849/12	4-4-0	14 X 20	60	66
13	ATLANTIC & ST. LAWRENCE RR	WATERVILLE	1849/12	4-4-0	15 X 20	66	66
14	ATLANTIC & ST. LAWRENCE RR	COOS	1850/2	4-4-0	15 X 20	66	66
15	ST. LAWRENCE & ATLANTIC RR	MONTREAL	1850/5	4-4-0	15 X 20	66	66
16	RUTLAND & WASHINGTON RR	GENERAL CLARK	1850/11	4-4-0	15 X 20	66	STD
17	ST. LAWRENCE & ATLANTIC RR	SHERBROOKE	1850/9	4-4-0	16 X 22	66	66
18	WOOD_ BLACK & CO. (contractors)	JENNY LIND	1850/9	4-4-0	15 X 20	66	66
19	ATLANTIC & ST. LAWRENCE RR	FELTON	1851/1	4-4-0	15 X 20	60	66
20	ATLANTIC & ST. LAWRENCE RR	RAILWAY KING	1851/6	4-4-0	17 X 22	54	66
21	MAD RIVER & LAKE ERIE RR	RICHLAND	1851/7	4-4-0	13 X 24	48	58
22	MAD RIVER & LAKE ERIE RR	WEST LIBERTY	1851/7	4-4-0	13 X 24	48	58
23	MAD RIVER & LAKE ERIE RR	SANDUSKY	1851/8	4-6-0	14 X 22	44	58
24	MAD RIVER & LAKE ERIE RR	HUNTSVILLE	1851/8	4-6-0	14 X 22	44	58
25	ST. LAWRENCE & ATLANTIC RR	ST. LAWRENCE	1851/8	4-4-0	15 X 20	66	66
26	ST. LAWRENCE & ATLANTIC RR	RICHELIEU	1851/11	4-4-0	16 X 22	66	66
27	ST. LAWRENCE & ATLANTIC RR	YAMASKA	1851/11	4-4-0	15 X 22	60	66
28	ATLANTIC & ST. LAWRENCE RR	CASCO	1851/12	4-4-0	14 X 20	60	66
29	ATLANTIC & ST. LAWRENCE RR	FOREST CITY	1852/1	4-4-0	15 X 20	66	66
30	ATLANTIC & ST. LAWRENCE RR	DANVILLE	1852/3	4-4-0	13 X 20	66	66
31	WOOD_ BLACK & CO. (contractors)	CONSUELO	1852/5	4-4-0	13 X 20	66	66
32	ATLANTIC & ST. LAWRENCE RR	FALMOUTH	1852/5	4-6-0	14 X 22	54	66
33	ONTARIO_ SIMCOE & LAKE HURON RR	LADY ELGIN	1852/6	4-4-0	14 X 20	66	66
34	ST. LAWRENCE & ATLANTIC RR	QUEEN	1852/8	4-4-0	16 X 22	66	66
35	ST. LAWRENCE & ATLANTIC RR	MASSAWIPPI	1852/8	4-4-0	16 X 24	54	66
36	ONTARIO_ SIMCOE & LAKE HURON RR	DANIEL WEBSTER	1852/11	4-4-0	15 X 20	60	66
37	PANAMA RR	NEUVA GRANADA	1852/10	0-4-0T	13 X 20	54	60
38	PANAMA RR	BOGOTA	1852/11	0-4-0T	13 X 20	54	60
39	PANAMA RR	PANAMA	1852/11	0-4-0T	13 X 20	54	60
40	ATLANTIC & ST. LAWRENCE RR	CUMBERLAND	1853/1	4-4-0	16 X 22	60	66
41	ATLANTIC & ST. LAWRENCE RR	NORWAY	1853/4	4-4-0	16 X 22	60	66
42	ATLANTIC & ST. LAWRENCE RR	NULHEGAN	1853/1	4-4-0	14 X 22	66	66
43	ATLANTIC & ST. LAWRENCE RR	PARIS	1853/4	4-4-0	15 X 22	66	66
44	ATLANTIC & ST. LAWRENCE RR	GLOUCESTER	1853/6	4-4-0	15 X 22	66	66
45	ATLANTIC & ST. LAWRENCE RR	YARMOUTH	1853/5	4-4-0	15 X 22	60	66
46	ATLANTIC & ST. LAWRENCE RR	AMONOOSUC	1853/6	4-4-0	15 X 22	60	66
47	YORK & CUMBERLAND RR	WESTBROOK	1853/2	4-4-0	13 X 20	60	STD
48	ATLANTIC & ST. LAWRENCE RR	VERMONT	1853/9	4-4-0	16 X 22	60 1/2	66
49	ATLANTIC & ST. LAWRENCE RR	GORHAM	1853/11	4-4-0	14 X 22	72	66
50	ATLANTIC & ST. LAWRENCE RR	OXFORD	1854/3	4-4-0	15 X 22	60	66
51	COVINGTON & LEXINGTON RR	BOURBON	1853/7	4-4-0	15 X 20	60	60
52	COVINGTON & LEXINGTON RR	PENDLETON	1853/9	4-4-0	15 X 20	60	60
53	COVINGTON & LEXINGTON RR	FALMOUTH	1853/7	4-4-0	14 X 20	60	60
54	COVINGTON & LEXINGTON RR	HARRISON	1853/9	4-4-0	14 X 20	60	60
55	LEXINGTON & DANVILLE RR (SOLD TO)	JOHN BARKLEY	1854/4	4-4-0	16 X 20	66	60
56	ATLANTIC & ST. LAWRENCE RR	J. S. LITTLE	1854/12	4-4-0	15 X 22	72	66
57	ST. LAWRENCE & ATLANTIC RR	BERLIN	1854/1	4-4-0	14 X 20	66	66
58	ST. LAWRENCE & ATLANTIC RR	26	1854/1	4-4-0	14 X 20	66	66
59	ST. LAWRENCE & ATLANTIC RR	ST. JOHN SMITH	1854/2	4-4-0	14 X 22	72	66
60	ST. LAWRENCE & ATLANTIC RR	STRATFORD	1854/2	4-4-0	14 X 22	72	66
61	ST. LAWRENCE & ATLANTIC RR	BETHEL	1854/2	4-4-0	15 X 22	60	66
62	ST. LAWRENCE & ATLANTIC RR	WM. JACKSON	1854/5	4-4-0	15 X 22	60	66
63	JOHN WOOD (contractor)	TOM	1854/5	4-4-0	14 X 22	66	STD.

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
64	EUROPEAN & NORTH AMERICAN RR	ST. JOHN	1854/2	4-4-0	12 X 18	54	66
65	PANAMA RR	GORGONA	1854/4	0-4-0	13 X 20	54	60
66	KENNEBEC & PORTLAND RR	PORTLAND 10	1854/6	4-4-0	14 X 22	72	STD.
67	GRAND TRUNK Ry	J. M. WOOD	1854/8	4-4-0	16 X 20	66	66
68	PENOBSCOT & KENNEBEC RR	G. W. PICKERING	1854/5	4-4-0	14 X 20	66	66
69	PANAMA RR	OBISPO	1854/9	0-4-0	13 X 20	54	60
70	PANAMA RR	MATACHIN	1854/8	0-4-0	13 X 20	54	60
71	ANDROSCOGGIN & KENNEBEC RR	C. M. MORSE 9	1854/10	4-4-0	15 X 20	66	66
72	MILWAUKEE & MISSISSIPPI RR	E. D. HOLTON 16	1854/9	4-4-0	15 X 22	60	STD.
73	GRAND TRUNK Ry	54	1854/12	4-4-0	15 X 24	60	66
74	GRAND TRUNK Ry	55	1855/1	4-4-0	15 X 24	60	66
75	PENOBSCOT & KENNEBEC RR	GOLD HUNTER 2	1854/10	4-4-0	14 X 20	60	66
76	GRAND TRUNK Ry	56	1855/12	4-4-0	16 X 20	66	66
77	GRAND TRUNK Ry	68	1856/1	4-4-0	16 X 20	66	66
78	PANAMA RR	GATUN	1855/8	0-4-0	13 X 20	54	60
79	PANAMA RR	MANZANILLA	1855/8	0-4-0	13 X 20	54	60
80	NOVA SCOTIA RR	--	1857/4	4-4-0	14 X 22	66	66
81	NEW BRUNSWICK & CANADA RR	THE ROSE	1858/5	4-4-0	14 X 22	60	66
82	SPARTENBURG & UNION RR	SPARTENBURG	1856/4	4-4-0	13 X 20	60	STD.
83	GRAND TRUNK Ry	72	1856/6	4-4-0	16 X 20	60	66
84	GRAND TRUNK Ry	73	1856/6	4-4-0	16 X 20	60	66
85	GRAND TRUNK Ry	SHELBURNE	1856/9	4-4-0	16 X 20	60	66
86	GRAND TRUNK Ry	C. E. BARRETT	1856/11	4-4-0	16 X 20	60	66
87	GRAND TRUNK Ry	POWNAL	1857/1	4-4-0	16 X 20	60	66
88	GRAND TRUNK Ry	J. B. BROWN 166	1857/3	4-4-0	16 X 20	60	66
89	PANAMA RR	CARDENAS	1856/8	4-4-0	13 X 20	54	60
90	PANAMA RR	BARBACOAS	1856/8	4-4-0	13 X 20	54	60
91	BANGOR_ OLDTOWN & MILFORD RR	AROOSTOOK 1	1858/9	4-4-0	13 X 20	60	STD.
92	NEW BRUNSWICK & CANADA RR	MANNERS SUTTON	1857/7	4-4-0	12 X 18	54	66
93	NEW BRUNSWICK & CANADA RR	EARL FITZWILLIAM	1857/8	4-4-0	12 X 18	54	66
94	GRAND TRUNK RY	14	1858/1	4-4-0	16 X 22	60	66
95	GRAND TRUNK RY	167	1858/3	4-4-0	16 X 22	60	66
96	NOVA SCOTIA RR	9	1858/4	4-4-0	16 X 22	60	66
97	NOVA SCOTIA RR	8	1858/6	4-4-0	16 X 22	60	66
98	NEW BRUNSWICK & CANADA RR	THE THISTLE	1858/7	4-4-0	12 X 18	54	66
99	NOVA SCOTIA RR	12	1858/10	4-4-0	16 X 22	61	66
100	NOVA SCOTIA RR	14	1859/1	4-4-0	16 X 22	60	66
101	NEW BRUNSWICK & CANADA RR	THE SHAMROCK 4	1858/9	4-4-0	14 X 22	60	66
102	NOVA SCOTIA RR	WEST POINT 13	1858/12	4-4-0	14 X 22	60	66
103	GRAND TRUNK Ry	MINOT 104	1858/12	4-4-0	16 X 22	61	66
104	GRAND TRUNK Ry	WASHINGTON	1860/2	4-4-0	16 X 22	61	66
105	ANNAPOLIS & ELK RIDGE RR	J. H. NICKOLSON	1860/3	4-4-0	12 X 20	60 1/2	STD
106	GRAND TRUNK Ry	PRESUMPSCOT	1860/7	4-4-0	16 X 22	61	66
107	GRAND TRUNK Ry	--	1860	4-4-0	16 X 22	61	66
108	CALAIS & BARING RR	ST. CROIX	1860/5	4-4-0	12 X 20	60 1/2	STD
109	GRAND TRUNK Ry	213	1860/6	4-4-0	16 X 22	60	66
110	GRAND TRUNK Ry	214	1860/6	4-4-0	16 X 22	60	66
111	GRAND TRUNK Ry	215	1860/6	4-4-0	16 X 22	60	66
112	NEW YORK & BOSTON RR	PASCOAG	1864/4	4-4-0	14 X 20	60 1/2	STD
113	LOGANSPORT_PEORIA & BURLINGTON RR	JACOB BUNN	1864/10	4-4-0	16 X 22	61	STD
114	LOGANSPORT_PEORIA & BURLINGTON RR	JOHN V. AYER	1864/10	4-4-0	16 X 22	61	STD
115	CHICAGO_ ALTON & ST. LOUIS RR	13	1865/1	4-4-0	16 X 22	61	STD
116	CHICAGO_ ALTON & ST. LOUIS RR	17	1865/1	4-4-0	16 X 22	61	STD
117	U. S. GOVERNMENT	203	1864/8	4-4-0	16 X 22	61	60
118	U. S. GOVERNMENT	204	1864/9	4-4-0	16 X 22	61	60
119	U. S. GOVERNMENT	205	1864/9	4-4-0	16 X 22	61	60
120	U. S. GOVERNMENT	206	1864/9	4-4-0	16 X 22	61	60
121	TOLEDO_ PEORIA & BURLINGTON RR RR	PORTLAND	1864/11	4-4-0	15 X 22	61 1/2	STD
122	MILWAUKEE & ST. PAUL RR	40	1864/11	4-4-0	16 X 24	61	STD
123	MILWAUKEE & ST. PAUL RR	41	1864/11	4-4-0	16 X 24	61	STD
124	PEORIA_ PEKIN & JACKSONVILLE RR	J. B. CLARK 6	1865/3	4-4-0	15 X 22	61 1/2	STD
125	PANAMA RR	ATLANTIC	1865/4	4-4-0	13 X 20	54 3/4	60
126	PANAMA RR	PACIFIC	1865/5	4-4-0	13 X 20	54 3/4	60
127	PORTLAND_ SACO & PORTSMOUTH RR	AGAMENTICUS 11	1865/3	4-4-0	16 X 24	67 1/2	STD
128	ST. STEPHENS BRANCH	ST. STEPHENS 2	1866/9	4-4-0	16 X 24	61 1/2	66
129	PORT HOPE_ LINDSAY & BEAVERTON RR	CHEMONG	1868/6	4-4-0	16 X 24	61 1/2	66
130	PORT HOPE_ LINDSAY & BEAVERTON RR	HENRY COVERT	1867/9	4-4-0	16 X 24	61 1/2	66
131	NOVA SCOTIA & BRUNSWICK RR	INTERCOLONIAL	1868/7	4-4-0	16 X 24	61 1/2	66

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
132	EUROPEAN & NORTH AMERICAN RR	CARLTON 2	1868/7	4-4-0	16 X 24	61 1/2	66
133	NEW BRUNSWICK & CANADA RR	W. H. WICKHAM	1866/12	4-4-0	16 X 24	61 1/2	66
134	TOLEDO_ PEORIA & WARSAW RR	FALMOUTH	1868/10	4-4-0	16 X 24	61 1/2	STD
135	TOLEDO_ PEORIA & WARSAW RR	JUDGE CLIFFORD	1868/9	4-4-0	16 X 24	61 1/2	STD
136	PANAMA RR	COLON	1865/8	4-4-0T	12 X 18	42 1/2	60
137	PORTLAND_ SACO & PORTSMOUTH RR	BONNEBEAG 12	1866/3	4-4-0	15 X 22	61 1/2	STD
138	PORTLAND_ SACO & PORTSMOUTH RR	MOUSAN 13	1866/7	4-4-0	15 X 22	61 1/2	STD
139	TOLEDO_ PEORIA & WARSAW RR	J. B. BROWN	1868/9	4-4-0	16 X 24	61	STD
140	TOLEDO_ PEORIA & WARSAW RR	PORTLAND	1868/11	4-4-0	16 X 24	61	STD
141	GRAND TRUNK Ry	255	1867/8	4-4-0	16 X 24	67	66
142	GRAND TRUNK Ry	55	1868/3	4-4-0	16 X 26	61	66
143	GRAND TRUNK Ry	3	1868/4	4-4-0	16 X 26	61	66
144	GRAND TRUNK Ry	2	1868/5	4-4-0	16 X 26	61	66
145	GRAND TRUNK Ry	4	1868/5	4-4-0	16 X 26	61	66
146	GRAND TRUNK Ry	130	1868/8	4-4-0	16 X 26	61	66
147	PORTLAND & ROCHESTER RR	ROCHESTER 3	1867/12	4-4-0	14 X 22	67	STD
148	PANAMA RR	CHIRIQUI	1867/9	0-4-0	12 X 18	40	60
149	PANAMA RR	DARIEN	1867/11	0-4-0	12 X 18	40	60
150	PANAMA RR	SOUTH AMERICA	1867/11	4-4-0	13 X 20	55 1/4	60
151	PANAMA RR	NORTH AMERICA	1868/2	4-4-0	13 X 20	55 1/4	60
152	EUROPEAN & NORTH AMERICAN RR	WILLIAM PARKS 3	1868	4-4-0	15 X 24	61 1/2	66
153	GRAND TRUNK RY	115	1868/12	4-4-0	16 X 24	61 1/2	66
154	GRAND TRUNK RY	131	1869/1	4-4-0	16 X 24	61 1/2	66
155	GRAND TRUNK RY	132	1869/2	4-4-0	16 X 24	61 1/2	66
156	MAINE CENTRAL RR	A. D. LOCKWOOD 15	1869/5	4-4-0	14 X 22	61 1/2	66
157	PANAMA RR	NEW YORK	1869/4	4-4-0	13 X 20	55 1/4	60
158	PANAMA RR	SAN FRANCISCO	1869/4	4-4-0	13 X 20	55 1/4	60
159	PORTLAND_ SACO & PORTSMOUTH RR	BERWICK 17	1869/4	4-4-0	16 X 24	68	STD
160	NOVA SCOTIA & NEW BRUNSWICK RR	NEW BRUNSWICK	1869/7	4-4-0	14 X 22	61 1/2	66
161	BANGOR & PISCATAQUIS RR	DOVER 2	1869/8	4-4-0	13 X 22	61 1/2	66
162	BANGOR & PISCATAQUIS RR	HAMLIN 34	1869/9	4-4-0	14 X 22	61 1/2	66
163	GRAND TRUNK Ry	122	1869/10	4-4-0	16 X 24	61 1/2	66
164	GRAND TRUNK Ry	137	1869/10	4-4-0	16 X 24	61 1/2	66
165	GRAND TRUNK Ry	140	1869/11	4-4-0	16 X 24	61 1/2	66
166	GRAND TRUNK Ry	TROUBADOR	1869/7	4-4-0	15 X 22	67	STD
167	MAINE CENTRAL RR	ATLAS 54	1872/6	0-4-0T	12 X 18	42	STD
168	BANGOR & PISCATAQUIS RR	MOOSEHEAD 3	1869/12	4-4-0	13 X 22	61 1/2	66
169	MIDLAND RR	ORILLIA 12	1870/7	4-4-0	14 X 22	61 1/2	66
170	NEW BRUNSWICK & CANADA RR	AROOSTOOK	1871/3	4-4-0	14 X 22	61 1/2	66
171	PORTLAND & KENNEBEC RR	G. F. SHEPLEY 19	1870/1	4-4-0	15 X 22	68	STD
172	HANOVER BRACH RR	BRANT ROCK 1	1869/10	4-4-0	12 X 20	55 1/4	STD
173	PORTLAND & OGDENSBURG RR	OSSIPEE 4	1870/11	4-4-0	14 X 22	61 1/2	STD
174	PORTLAND & KENNEBEC RR	H. N. JOSE 20	1870/3	4-4-0	15 X 22	68	STD
175	PORTLAND_ SACO & PORTSMOUTH RR	LONGFELLOW 18	1870/6	4-4-0	16 X 22	68	STD
176	GRAND TRUNK Ry	134	1870/8	4-4-0	16 X 24	67	66
177	GRAND TRUNK Ry	109	1870/9	4-4-0	16 X 24	67	66
178	GRAND TRUNK Ry	110	1870/10	4-4-0	16 X 24	67	66
179	GRAND TRUNK Ry	71	1871/2	4-4-0	16 X 26	61	66
180	GRAND TRUNK Ry	86	1871/2	4-4-0	16 X 26	61	66
181	GRAND TRUNK Ry	138	1871/3	4-4-0	16 X 26	61	66
182	PORTLAND & OGDENSBURG RR	SEBAGO 1	1870/7	4-4-0	15 X 24	67	STD
183	PORTLAND & OGDENSBURG RR	SACO 2	1870/9	4-4-0	15 X 24	67	STD
184	PORTLAND & ROCHESTER RR	CHARLES Q. CLAPP 4	1870/12	4-4-0	15 X 24	61 1/2	STD
185	PORTLAND_ SACO & PORTSMOUTH RR	FESSENDEN 19	1870/1	4-4-0	16 X 24	68	STD
186	GRAND TRUNK Ry	323	1871/2	4-4-0	16 X 24	61 1/2	STD
187	EUROPEAN & NORTH AMERICAN RR	BANGOR 6	1870/12	4-4-0	15 X 24	61 1/2	66
188	MAINE CENTRAL RR	PENOBSCOT 5	1871/5	4-4-0	15 X 24	61 1/2	STD
189	PORTLAND & OGDENSBURG RR	FRYEBURG 5	1871/5	4-4-0	15 X 26	55 1/4	STD
190	PORTLAND & OGDENSBURG RR (VERMON	ST. JOHNSBURY 1	1871/5	4-4-0	14 X 22	61 1/2	STD
191	EUROPEAN & NORTH AMERICAN RR	9	1871/6	4-4-0	16 X 24	61 1/2	66
192	EUROPEAN & NORTH AMERICAN RR	10	1871/1	4-4-0	16 X 24	61 1/2	66
193	MAINE CENTRAL RR	A. D. LOCKWOOD 15	1870/11	4-4-0	16 X 24	61 1/2	STD
194	NEW BRUNSWICK & CANADA RR	ST. ANDREWS 8	1871/6	4-4-0	14 X 22	61 1/2	66
195	GALVESTON_ HOUSTON & HENDERSON RI	GOV. DAVIS 10	1871/10	4-4-0	14 X 22	61 1/2	66
196	PORTLAND & OGDENSBURG RR	LAMOILLE 2	1871/8	4-4-0	15 X 24	61 1/2	STD
197	MIDLAND RR	SUNIRE	1871/7	4-4-0	15 X 24	61 1/2	66
198	MIDLAND RR	ONTARIO	1871/8	4-4-0	15 X 24	61 1/2	66
199	PORTLAND & ROCHESTER RR	TOPPAN ROBIE 5	1871/8	4-4-0	16 X 22	67	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
200	PORTLAND_ SACO & PORTSMOUTH RR	SCARBOROUGH 21	1871/12	4-4-0	17 X 24	68	STD
201	UTICA_ ITHACA & ELMIRA RR	HORSEHEADS 4	1871/9	4-4-0	16 X 24	61 1/2	STD
202	PORTLAND & OGDENSBURG RR (VERMON	HYDE PARK 4	1871/10	4-4-0	15 X 24	55 1/4	STD
203	MAINE CENTRAL RR	R. B. DUNN 10	1871/12	4-4-0	15 X 24	61 1/2	STD
204	PORTLAND & OGDENSBURG RR (VERMON	SWANTON 3	1871/10	4-4-0	14 X 22	55 1/4	STD
205	GRAND TRUNK Ry	324	1872/1	4-4-0	16 X 24	61 1/2	STD
206	MAINE CENTRAL RR	WINTHROP 53	1872/5	4-4-0	15 X 24	61 1/2	STD
207	PORTLAND & OGDENSBURG RR (VERMON	ESSEX 5	1871/11	4-4-0	14 X 22	55 1/4	STD
208	WESTERN COUNTIES	PIONEER 1	1871/10	4-4-0	14 X 22	55 1/4	STD
209	GRAND TRUNK Ry	12	1872/1	4-4-0	16 X 24	67	66
210	GRAND TRUNK Ry	120	1872/1	4-4-0	16 X 24	67	66
211	WHITBY_ PORT PERRY & LINDSAY RR	JAMES DRYDEN	1872/4	4-4-0	15 X 26	55 1/4	STD
212	MAINE CENTRAL RR	ADROSCOGGIN 1	1872/5	4-4-0	15 X 24	61 1/2	STD
213	MAINE CENTRAL RR	BANGOR 6	1872/6	4-4-0	15 X 24	61 1/2	STD
214	EUROPEAN & NORTH AMERICAN RR	14	1872/6	4-4-0	15 X 24	67	66
215	EUROPEAN & NORTH AMERICAN RR	15	1872/6	4-4-0	15 X 24	67	66
216	BROCKVILLE & OTTAWA RR	9	1872/7	4-4-0	16 X 24	61 1/2	66
217	BROCKVILLE & OTTAWA RR	10	1872/8	4-4-0	16 X 24	61 1/2	66
218	MIDLAND RR	HURON 16	1872/7	4-4-0	16 X 24	61 1/2	66
219	MIDLAND RR	MIDLAND 17	1872/8	4-4-0	16 X 24	61 1/2	66
220	MIDLAND RR	SUPERIOR 18	1872/8	4-4-0	16 X 24	61 1/2	66
221	PORTLAND & OGDENSBURG RR	CARRIGAIN 7	1872/5	2-6-0	17 X 22	55 1/4	STD
222	GRAND TRUNK Ry	356	1873/10	4-4-0	16 X 26	61	STD
223	GRAND TRUNK Ry	357	1873/12	4-4-0	16 X 26	61	STD
224	GRAND TRUNK Ry	358	1873/12	4-4-0	16 X 26	61	STD
225	GRAND TRUNK Ry	359	1874/1	4-4-0	16 X 26	61	STD
226	UTICA_ ITHACA & ELMIRA RR	CORNELL UNIV. 5	1872/10	4-4-0	16 X 24	61	STD
227	ALABAMA & CHATANOOGA RR	TENNESSEE 14	1872/11	4-4-0	16 X 24	61 1/2	60
228	ALABAMA & CHATANOOGA RR	GEORGIA 15	1872/11	4-4-0	16 X 24	61 1/2	60
229	GRAND TRUNK Ry	372	1872/12	4-4-0	16 X 24	61	STD
230	GRAND TRUNK Ry	373	1872/12	4-4-0	16 X 24	61	STD
231	GRAND TRUNK Ry	360	1872/11	4-4-0	16 X 24	67	STD
232	GRAND TRUNK Ry	361	1872/11	4-4-0	16 X 24	67	STD
233	GRAND TRUNK Ry	362	1872/11	4-4-0	16 X 24	67	STD
234	GRAND TRUNK Ry	363	1872/12	4-4-0	16 X 24	67	STD
235	GRAND TRUNK Ry	364	1872/12	4-4-0	16 X 24	67	STD
236	GRAND TRUNK Ry	374	1873/1	4-4-0	16 X 24	67	STD
237	GRAND TRUNK Ry	375	1873/1	4-4-0	16 X 24	67	STD
238	GRAND TRUNK Ry	364	1873/1	4-4-0	16 X 24	61	STD
239	GRAND TRUNK Ry	365	1873/1	4-4-0	16 X 24	61	STD
240	GRAND TRUNK Ry	367	1873/2	4-4-0	16 X 24	61	STD
241	GRAND TRUNK Ry	368	1873/2	4-4-0	16 X 24	61	STD
242	GRAND TRUNK Ry	369	1873/3	4-4-0	16 X 24	61	STD
243	GRAND TRUNK Ry	370	1873/3	4-4-0	16 X 24	61	STD
244	GRAND TRUNK Ry	371	1873/4	4-4-0	16 X 24	61	STD
245	GRAND TRUNK Ry	376	1873/4	4-4-0	16 X 24	61	STD
246	PORTLAND & OGDENSBURG RR	PEQUAWKET 6	1873/6	4-4-0	16 X 24	61 1/2	STD
247	MIDLAND RR	PETERBORO 11	1873/5	4-4-0	17 X 24	61 1/2	STD
248	MIDLAND RR	MICHIGAN 12	1873/5	4-4-0	17 X 24	61 1/2	STD
249	GRAND TRUNK Ry	325	1873/5	4-4-0	16 X 24	61 1/2	STD
250	GRAND TRUNK Ry	326	1873/5	4-4-0	16 X 24	61 1/2	STD
251	GRAND TRUNK Ry	377	1873/6	4-4-0	16 X 24	67 1/2	STD
252	GRAND TRUNK Ry	378	1873/6	4-4-0	16 X 24	67 1/2	STD
253	GRAND TRUNK Ry	379	1873/7	4-4-0	16 X 24	67 1/2	STD
254	INTERCOLONIAL RR	66	1873/4	4-4-0	16 X 24	67	66
255	INTERCOLONIAL RR	67	1873/5	4-4-0	16 X 24	67	66
256	INTERCOLONIAL RR	68	1873/5	4-4-0	16 X 24	67	66
257	MAINE CENTRAL RR	JOHN B. BROWN 55	1873/8	4-4-0	16 X 24	67	STD
258	WHITBY & PORT PERRY RR	JAMES AUSTIN 3	1873/7	4-4-0	16 X 24	61 1/2	STD
259	INTERCOLONIAL RR	69	1873/8	4-4-0	16 X 24	61	66
260	MIDLAND RR	COL. A. T. H. WILLIAMS	1873/7	4-4-0	16 X 24	61 1/2	66
261	PANAMA RR	VERAGUAS	1873/5	0-4-0	12 X 18	43	60
262	GRAND TRUNK Ry	245	1873/9	4-4-0	17 X 24	61	STD
263	GRAND TRUNK Ry	246	1873/9	4-4-0	17 X 24	61	STD
264	GRAND TRUNK Ry	247	1873/9	4-4-0	17 X 24	61	STD
265	GRAND TRUNK Ry	248	1873/10	4-4-0	17 X 24	61	STD
266	GRAND TRUNK Ry	249	1873/10	4-4-0	17 X 24	61	STD
267	GRAND TRUNK Ry	250	1873/10	4-4-0	17 X 24	61	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
268	GRAND TRUNK Ry	251	1873/10	4-4-0	17 X 24	61	STD
269	GRAND TRUNK Ry	252	1873/11	4-4-0	17 X 24	61	STD
270	GRAND TRUNK Ry	253	1873/11	4-4-0	17 X 24	61	STD
271	GRAND TRUNK Ry	254	1873/11	4-4-0	17 X 24	61	STD
272	GRAND TRUNK Ry	255	1873/11	4-4-0	17 X 24	61	STD
273	GRAND TRUNK Ry	256	1873/12	4-4-0	17 X 24	61	STD
274	GRAND TRUNK Ry	257	1873/12	4-4-0	17 X 24	61	STD
275	GRAND TRUNK Ry	258	1873/12	4-4-0	17 X 24	61	STD
276	GRAND TRUNK Ry	259	1873/12	4-4-0	17 X 24	61	STD
277	INTERCOLONIAL RR	60	1874/2	2-6-0	18 X 24	55 1/4	66
278	INTERCOLONIAL RR	61	1874/3	2-6-0	18 X 24	55 1/4	66
279	PORTLAND & ROCHESTER RR	WORCESTER 6	1874/4	4-4-0	16 X 24	61	STD
280	GRAND TRUNK Ry	260	1873/12	4-4-0	17 X 24	61	STD
281	GRAND TRUNK Ry	261	1873/12	4-4-0	17 X 24	61	STD
282	GRAND TRUNK Ry	262	1873/12	4-4-0	17 X 24	61	STD
283	GRAND TRUNK Ry	263	1874/1	4-4-0	17 X 24	61	STD
284	GRAND TRUNK Ry	264	1874/1	4-4-0	17 X 24	61	STD
285	GRAND TRUNK Ry	265	1874/1	4-4-0	17 X 24	61	STD
286	GRAND TRUNK Ry	266	1874/1	4-4-0	17 X 24	61	STD
287	GRAND TRUNK Ry	267	1874/2	4-4-0	17 X 24	61	STD
288	MAINE CENTRAL RR	GEO. L. WARD 56	1873/8	4-4-0	16 X 24	61 1/2	STD
289	INTERCOLONIAL RR	70	1873/9	4-4-0	16 X 24	67	66
290	INTERCOLONIAL RR	71	1873/10	4-4-0	16 X 24	61	66
291	INTERCOLONIAL RR	62	1874/4	2-6-0	18 X 24	55 1/4	66
292	INTERCOLONIAL RR	72	1874/1	4-4-0	16 X 24	67	66
293	INTERCOLONIAL RR	63	1874/2	4-4-0	16 X 24	67	66
294	INTERCOLONIAL RR	64	1874/3	4-4-0	16 X 24	67	66
295	INTERCOLONIAL RR	65	1874/4	4-4-0	16 X 24	67	66
296	MIDLAND RR	A. R. UNTHOFF 13	1874/5	4-4-0	17 X 24	61 1/2	STD
297	MIDLAND RR	C. F. SATTERWAITE 14	1874/5	4-4-0	17 X 24	61 1/2	STD
298	MIDLAND RR	ADOLPH HUGEL 15	1874/6	4-4-0	17 X 24	61 1/2	STD
299	MIDLAND RR	J.T.F. SCHEPELER16	1874/6	4-4-0	17 X 24	61 1/2	STD
300	MIDLAND RR	CHARLES BURT 17	1874/6	4-4-0	17 X 24	61 1/2	STD
301	UTICA_ ITHACA & ELMIRA RR	6	1874/6	4-4-0	17 X 24	61	STD
302	MAINE CENTRAL RR	PHILANDER COBURN 62	1877/3	4-4-0	16 X 24	61 1/2	STD
303	GRAND TRUNK Ry	105	1874/9	4-4-0	17 X 24	60 1/2	STD
304	GRAND TRUNK Ry	106	1874/9	4-4-0	17 X 24	60 1/2	STD
305	GRAND TRUNK Ry	107	1874/9	4-4-0	17 X 24	60 1/2	STD
306	GRAND TRUNK Ry	108	1874/9	4-4-0	17 X 24	60 1/2	STD
307	GRAND TRUNK Ry	109	1874/9	4-4-0	17 X 24	60 1/2	STD
308	GRAND TRUNK Ry	110	1874/9	4-4-0	17 X 24	60 1/2	STD
309	GRAND TRUNK Ry	111	1874/9	4-4-0	17 X 24	60 1/2	STD
310	GRAND TRUNK Ry	112	1874/9	4-4-0	17 X 24	60 1/2	STD
311	GRAND TRUNK Ry	102	1874/9	4-4-0	17 X 24	61	STD
312	GRAND TRUNK Ry	103	1875/3	4-4-0	17 X 24	61	STD
313	GRAND TRUNK Ry	104	1875/3	4-4-0	17 X 24	61	STD
314	GRAND TRUNK Ry	430	1875/3	4-4-0	17 X 24	67	STD
315	GRAND TRUNK Ry	431	1875/3	4-4-0	17 X 24	67	STD
316	GRAND TRUNK Ry	432	1875/4	4-4-0	17 X 24	67	STD
317	GRAND TRUNK Ry	429	1875/2	4-4-0	17 X 24	67	STD
318	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	CHAMPLAIN 5	1876/8	4-4-0	16 X 24	61 1/2	STD
319	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	PORTNEUF 6	1876/8	4-4-0	16 X 24	61 1/2	STD
320	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	JOLIETTE 7	1876/9	4-4-0	16 X 24	61 1/2	STD
321	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	BERTHIEN 8	1876/9	4-4-0	16 X 24	61 1/2	STD
322	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	MASKINONGE 19	1877/10	4-4-0	16 X 24	62	STD
323	MAINE CENTRAL RR	WILLIAM G. DAVIS 63	1877/4	4-4-0	16 X 24	61 1/2	STD
324	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	NICOLET 20	1877/9	4-4-0	16 X 24	62 1/2	STD
325	PORTLAND & ROCHESTER RR	PORTLAND 7	1874/12	4-4-0	16 X 24	55 1/4	STD
326	ST. FRANCIS & MEGANTIC INTERNATIONAL	MEGANTIC	1875/12	4-4-0	16 X 24	62	STD
327	ST. LAWRENCE & OTTAWA RR	THE NEW OXFORD 1	1875/5	0-4-0	13 X 18	43	STD
328	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	ST. ROCHS	1875/12	0-4-0	13 X 18	44	STD
329	PORTLAND & OGDENSBURG RR	CRAWFORD 8	1875/8	2-6-0	17 X 26	56 1/2	STD
330	PORTLAND & OGDENSBURG RR	FRANKENSTEIN 9	1875/7	2-6-0	17 X 26	56 1/2	STD
331	CENTRAL MEXICANO RR	1	1878/5	2-6-0	17 X 26	56 1/2	STD
332	VALE COAL CO. RR (CANADA)	2	1875/6	2-6-0	18 X 26	56 1/2	STD
333	DOMINION OF CANADA RR (WINDSOR & A	BASIL 7	1875/6	4-4-0	16 X 24	61 1/2	STD
334	DOMINION OF CANADA RR (WINDSOR & A	BENEDICT 8	1875/6	4-4-0	16 X 24	61 1/2	STD
335	DOMINION OF CANADA RR (WINDSOR & A	MINNEHAHA 9	1875/6	4-4-0	16 X 24	61 1/2	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
336	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	HON. C.B. DEBOUCHERVI	1876/6	4-4-0	15 X 22	67	STD
337	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	REV. A. LABELLE 2	1876/6	4-4-0	15 X 22	67	STD
338	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	QUEBEC 3	1876/7	4-4-0	15 X 22	67	STD
339	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	TROIS RIVER 4	1876/7	4-4-0	15 X 22	67	STD
340	WESTERN COUNTIES RR	GEO. B. DOANE 2	1876/9	4-4-0	15 X 22	62	STD
341	WESTERN COUNTIES RR	FRANK KILBURNE 3	1877/7	4-4-0	15 X 22	67	STD
342	WESTERN COUNTIES RR	HALIFAX 4	1877/7	4-4-0	15 X 22	67	STD
343	FREDERICTON ?	OROMOCTO	1877/9	4-4-0	15 X 22	61 1/2	STD
344	WESTERN COUNTIES RR	YARMOUTH 5	1877/7	4-4-0	16 X 24	62	STD
345	STEEL CO. OF CANADA RR	1	1876/6	0-4-0T	14 X 22	48	STD
346	STEEL CO. OF CANADA RR	2	1876/8	0-4-0T	9 X 16	32	36
347	SAWYER RIVER CO.	G. W. SAUNDERS 1	1876/11	0-4-0	15 X 26	48 1/2	STD
348	WESTERN COUNTIES RR	WINDOR 6	1877/10	4-4-0	16 X 24	62	STD
349	MAINE CENTRAL RR	ARTHUR SEWALL 64	1877/12	4-4-0	16 X 24	61 1/2	STD
350	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	LOTBINIERE 23	1878/9	4-4-0	16 X 24	68	STD
351	QUEBEC_ MONTREAL_ OTTAWA & OCCIDE	MEGANTIC 24	1878/9	4-4-0	16 X 24	68	STD
352	MAINE CENTRAL RR	65	1879/6	4-4-0	16 X 24	61	STD
353	MAINE CENTRAL RR	66	1879/9	4-4-0	16 X 24	61	STD
354	WESTERN COUNTIES RR	WEYMOUTH 8	1879/8	4-4-0	16 X 24	61	STD
355	WESTERN COUNTIES RR	W. H. MOODY 7	1879/8	4-4-0	16 X 24	61	STD
356	RUMFORD FALLS & BUCKFIELD RR	I. WASHBURN JR. 1	1878/5	4-4-0	14 X 22	61 1/4	STD
357	RUMFORD FALLS & BUCKFIELD RR	S. C. ANDREWS 2	1878/6	4-4-0	14 X 22	61 1/4	STD
358	PORTLAND & ROCHESTER RR	ALFRED 2	1880/1	4-4-0	16 X 24	61	STD
359	MILWAUKEE_ LAKE SHORE & WESTERN R	21	1880/4	4-4-0	16 X 24	62 1/2	STD
360	NEW BRUNSWICK & CANADA RR	HOULTON 2	1880/4	4-4-0	16 X 24	61	STD
361	MILWAUKEE_ LAKE SHORE & WESTERN R	22	1880/5	4-4-0	16 X 24	62 1/2	STD
362	EUROPEAN & NORTH AMERICAN RR	16	1880/6	4-4-0	16 X 24	61	STD
363	MIDLAND RR	12	1880/8	4-4-0	17 X 24	61	STD
364	GRAND TRUNK Ry	9	1880/10	0-6-0	17 X 24	57	STD
365	GRAND TRUNK Ry	10	1880/11	0-6-0	17 X 24	57	STD
366	GRAND TRUNK Ry	11	1880/9	0-6-0	17 X 24	57	STD
367	GRAND TRUNK Ry	12	1880/9	0-6-0	17 X 24	57	STD
368	GRAND JUNCTION RR	THOMAS KELSO 5	1880/9	4-4-0	17 X 24	61	STD
369	GRAND JUNCTION RR	BELLEVILLE 6	1880/10	4-4-0	17 X 24	61	STD
370	EUROPEAN & NORTH AMERICAN RR	17	1880/7	4-4-0	16 X 24	61	STD
371	SCIOTO VALLEY RR	11	1880/12	4-4-0	16 X 24	61	STD
372	SCIOTO VALLEY RR	12	1880/12	4-4-0	16 X 24	61	STD
373	ST. JOHNSBURY & LAKE CHAMPLAIN RR	LAKE CHAMPLAIN 8	1881/1	4-4-0	16 X 24	61	STD
374	NORTHERN PACIFIC RR	201	1881/1	4-4-0	17 X 24	60 1/2	STD
375	NORTHERN PACIFIC RR	202	1881/1	4-4-0	17 X 24	60 1/2	STD
376	NORTHERN PACIFIC RR	203	1881/3	4-4-0	17 X 24	60 1/2	STD
377	NORTHERN PACIFIC RR	204	1881/3	4-4-0	17 X 24	60 1/2	STD
378	MIDLAND RR	13	1881/5	4-4-0	17 X 24	61	STD
379	MIDLAND RR	14	1881/5	4-4-0	17 X 24	61	STD
380	GRAND TRUNK Ry	11	1881/5	0-6-0	17 X 24	57	STD
381	GRAND TRUNK Ry	12	1881/4	0-6-0	17 X 24	57	STD
382	NORTHERN PACIFIC RR	205	1881/3	4-4-0	17 X 24	61	STD
383	NORTHERN PACIFIC RR	206	1881/3	4-4-0	17 X 24	61	STD
384	NORTHERN PACIFIC RR	207	1881/4	4-4-0	17 X 24	61	STD
385	NORTHERN PACIFIC RR	208	1881/4	4-4-0	17 X 24	61	STD
386	MIDLAND RR	15	1881/7	4-4-0	17 X 24	61	STD
387	MIDLAND RR	16	1881/8	4-4-0	17 X 24	61	STD
388	WORCESTER & NASHUA RR	NASHUA 2	1881/6	4-4-0	17 X 24	61	STD
389	ST. JOHNSBURY & LAKE CHAMPLAIN RR	CALEDONIA 9	1881/6	4-4-0	17 X 24	61	STD
390	ST. JOHNSBURY & LAKE CHAMPLAIN RR	FRANKLIN 10	1881/6	4-4-0	17 X 24	61	STD
391	CANADIAN PACIFIC RR	1	1881/8	4-4-0	17 X 24	62	STD
392	CANADIAN PACIFIC RR	2	1881/9	4-4-0	17 X 24	62	STD
393	CANADIAN PACIFIC RR	3	1881/11	4-4-0	17 X 24	62	STD
394	MAINE CENTRAL RR	67	1881	4-4-0	17 X 24	65	STD
395	MAINE CENTRAL RR	68	1881	4-4-0	17 X 24	65	STD
396	RICHMOND & DANVILLE RR	59	1881/11	4-4-0	16 X 24	56	60
397	RICHMOND & DANVILLE RR	60	1881/11	4-4-0	16 X 24	56	60
398	PEORIA & PEKIN UNION RR	1	1881/10	0-4-0	15 X 24	52	STD
399	PEORIA & PEKIN UNION RR	2	1881/10	0-4-0	15 X 24	52	STD
400	PEORIA & PEKIN UNION RR	3	1881/11	0-4-0	15 X 24	52	STD
401	PEORIA & PEKIN UNION RR	4	1881/11	0-4-0	15 X 24	52	STD
402	AROOSTOOK VALLEY RR	4	1882/3	4-4-0	15 X 24	62	STD
403	AROOSTOOK VALLEY RR	5	1882/3	4-4-0	15 X 24	62	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
404	PORTLAND & OGDENSBURG RR	RESOLUTION 10	1881/8	2-6-0	17 X 26	56 3/4	STD
405	CANADIAN PACIFIC RR	4	1882/1	4-4-0	17 X 24	62	STD
406	CANADIAN PACIFIC RR	5	1882/1	4-4-0	17 X 24	62	STD
407	CANADIAN PACIFIC RR	6	1882/2	4-4-0	17 X 24	62	STD
408	NEW YORK CITY & NORTHERN RR	12	1881/10	4-6-0	18 X 24	54	STD
409	NEW YORK CITY & NORTHERN RR	13	1881/10	4-6-0	18 X 24	54	STD
410	NEW YORK CITY & NORTHERN RR	14	1881/12	4-6-0	18 X 24	54	STD
411	NEW YORK CITY & NORTHERN RR	11	1881/3/18	4-4-0	17 X 24	61	STD
412	RICHMOND & DANVILLE RR	61	1881/12	4-4-0	17 X 24	56	60
413	RICHMOND & DANVILLE RR	62	1881/12	4-4-0	17 X 24	56	60
414	RICHMOND & DANVILLE RR	63	1882/1	4-4-0	17 X 24	56	60
415	RICHMOND & DANVILLE RR	64	1881/12	4-4-0	17 X 24	56	60
416	NORTHERN PACIFIC RR	209	1882/3	4-4-0	17 X 24	62	STD
417	NORTHERN PACIFIC RR	210	1882/3	4-4-0	17 X 24	62	STD
418	NORTHERN PACIFIC RR	211	1882/3	4-4-0	17 X 24	62	STD
419	NORTHERN PACIFIC RR	212	1882/3	4-4-0	17 X 24	62	STD
420	NORTHERN PACIFIC RR	213	1882/4	4-4-0	17 X 24	62	STD
421	NORTHERN PACIFIC RR	214	1882/4	4-4-0	17 X 24	62	STD
422	NORTHERN PACIFIC RR	215	1882/5	4-4-0	17 X 24	62	STD
423	NORTHERN PACIFIC RR	216	1882/5	4-4-0	17 X 24	62	STD
424	NORTHERN PACIFIC RR	217	1882/6	4-4-0	17 X 24	62	STD
425	NORTHERN PACIFIC RR	218	1882/6	4-4-0	17 X 24	62	STD
426	NORTHERN PACIFIC RR	171	1882/6	4-4-0	17 X 24	62	STD
427	NORTHERN PACIFIC RR	172	1882/6	4-4-0	17 X 24	62	STD
428	NORTHERN PACIFIC RR	173	1882/6	4-4-0	17 X 24	62	STD
429	NORTHERN PACIFIC RR	174	1882/6	4-4-0	17 X 24	62	STD
430	NORTHERN PACIFIC RR	175	1882/7	4-4-0	17 X 24	62	STD
431	NORTHERN PACIFIC RR	176	1882/7	4-4-0	17 X 24	62	STD
432	NORTHERN PACIFIC RR	177	1882/7	4-4-0	17 X 24	62	STD
433	NORTHERN PACIFIC RR	178	1882/8	4-4-0	17 X 24	62	STD
434	NORTHERN PACIFIC RR	179	1882/8	4-4-0	17 X 24	62	STD
435	NORTHERN PACIFIC RR	180	1882/8	4-4-0	17 X 24	62	STD
436	NORTHERN PACIFIC RR	181	1882/8	4-4-0	17 X 24	62	STD
437	NORTHERN PACIFIC RR	182	1882/10	4-4-0	17 X 24	62	STD
438	NORTHERN PACIFIC RR	183	1882/10	4-4-0	17 X 24	62	STD
439	NORTHERN PACIFIC RR	184	1882/10	4-4-0	17 X 24	62	STD
440	NORTHERN PACIFIC RR	185	1882/11	4-4-0	17 X 24	62	STD
441	NORTHERN PACIFIC RR	186	1882/11	4-4-0	17 X 24	62	STD
442	NORTHERN PACIFIC RR	187	1882/12	4-4-0	17 X 24	62	STD
443	NORTHERN PACIFIC RR	188	1882/12	4-4-0	17 X 24	62	STD
444	NORTHERN PACIFIC RR	189	1882/12	4-4-0	17 X 24	62	STD
445	NORTHERN PACIFIC RR	190	1883/1	4-4-0	17 X 24	62	STD
446	NORTHERN PACIFIC RR	191	1883/1	4-4-0	17 X 24	62	STD
447	NORTHERN PACIFIC RR	192	1883/1	4-4-0	17 X 24	62	STD
448	NORTHERN PACIFIC RR	193	1883/1	4-4-0	17 X 24	62	STD
449	NORTHERN PACIFIC RR	194	1883/2	4-4-0	17 X 24	62	STD
450	MAINE CENTRAL RR	69	1882/8	4-4-0	17 X 24	65	STD
451	MAINE CENTRAL RR	70	1882/10	4-4-0	17 X 24	65	STD
452	PORTLAND & OGDENSBURG RR	WEBSTER 11	1882/8	4-4-0	17 X 24	65	STD
453	PORTLAND & ROCHESTER RR ??????	SANFORD 10	1883/2	4-4-0	17 X 24	65	STD
454	MAINE CENTRAL RR	88	1883/6	4-4-0	17 X 24	65	STD
455	MAINE CENTRAL RR	89	1883/6	4-4-0	17 X 24	65	STD
456	OGDENSBURG & LAKE CHAMPLAIN RR	ECONOMY 17	1882/6	2-6-0	18 X 24	57	STD
457	OGDENSBURG & LAKE CHAMPLAIN RR	ENERGY 19	1882/7	2-6-0	18 X 24	57	STD
458	NORTHERN PACIFIC RR	219	1882/9	4-4-0	17 X 24	62	STD
459	NORTHERN PACIFIC RR	220	1882/9	4-4-0	17 X 24	62	STD
460	NORTHERN PACIFIC RR	221	1882/10	4-4-0	17 X 24	62	STD
461	NORTHERN PACIFIC RR	222	1882/10	4-4-0	17 X 24	62	STD
462	NORTHERN PACIFIC RR	223	1882/11	4-4-0	17 X 24	62	STD
463	NORTHERN PACIFIC RR	?	1883/3	4-4-0	17 X 24	62 1/2	STD
464	NORTHERN PACIFIC RR	?	1883/3	4-4-0	17 X 24	62 1/2	STD
465	NORTHERN PACIFIC RR	227	1883/4	4-4-0	17 X 24	62 1/2	STD
466	NORTHERN PACIFIC RR	228	1883/4	4-4-0	17 X 24	62 1/2	STD
467	NORTHERN PACIFIC RR	229	1883/4	4-4-0	17 X 24	62 1/2	STD
468	NORTHERN PACIFIC RR	230	1883/4	4-4-0	17 X 24	62 1/2	STD
469	NORTHERN PACIFIC RR	231	1883/4	4-4-0	17 X 24	62 1/2	STD
470	NORTHERN PACIFIC RR	232	1883/4	4-4-0	17 X 24	62 1/2	STD
471	NORTHERN PACIFIC RR	233	1883/5	4-4-0	17 X 24	62 1/2	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
472	NORTHERN PACIFIC RR	234	1883/5	4-4-0	17 X 24	62 1/2	STD
473	NORTHERN PACIFIC RR	235	1883/5	4-4-0	17 X 24	62 1/2	STD
474	NORTHERN PACIFIC RR	236	1883/5	4-4-0	17 X 24	62 1/2	STD
475	NORTHERN PACIFIC RR	237	1883/5	4-4-0	17 X 24	62 1/2	STD
476	NORTHERN PACIFIC RR	238	1883/5	4-4-0	17 X 24	62 1/2	STD
477	NORTHERN PACIFIC RR	239	1883/6	4-4-0	17 X 24	62 1/2	STD
478	NORTHERN PACIFIC RR	240	1883/6	4-4-0	17 X 24	62 1/2	STD
479	NORTHERN PACIFIC RR	241	1883/6	4-4-0	17 X 24	62 1/2	STD
480	NORTHERN PACIFIC RR	242	1883/6	4-4-0	17 X 24	62 1/2	STD
481	NORTHERN PACIFIC RR	243	1883/7	4-4-0	17 X 24	62 1/2	STD
482	NORTHERN PACIFIC RR	244	1883/7	4-4-0	17 X 24	62 1/2	STD
483	NORTHERN PACIFIC RR	245	1883/7	4-4-0	17 X 24	62 1/2	STD
484	NORTHERN PACIFIC RR	246	1883/7	4-4-0	17 X 24	62 1/2	STD
485	NORTHERN PACIFIC RR	247	1883/7	4-4-0	17 X 24	62 1/2	STD
486	NORTHERN PACIFIC RR	248	1883/7	4-4-0	17 X 24	62 1/2	STD
487	NORTHERN PACIFIC RR	249	1883/8	4-4-0	17 X 24	62 1/2	STD
488	NORTHERN PACIFIC RR	250	1883/8	4-4-0	17 X 24	62 1/2	STD
489	NORTHERN PACIFIC RR	260	1883/8	4-4-0	17 X 24	62 1/2	STD
490	NORTHERN PACIFIC RR	261	1883/8	4-4-0	17 X 24	62 1/2	STD
491	NORTHERN PACIFIC RR	262	1883/8	4-4-0	17 X 24	62 1/2	STD
492	NORTHERN PACIFIC RR	263	1883/8	4-4-0	17 X 24	62 1/2	STD
493	NORTHERN PACIFIC RR	264	1883/9	4-4-0	17 X 24	62 1/2	STD
494	NORTHERN PACIFIC RR	265	1883/9	4-4-0	17 X 24	62 1/2	STD
495	NORTHERN PACIFIC RR	266	1883/9	4-4-0	17 X 24	62 1/2	STD
496	NORTHERN PACIFIC RR	267	1883/9	4-4-0	17 X 24	62 1/2	STD
497	NORTHERN PACIFIC RR	268	1883/9	4-4-0	17 X 24	62 1/2	STD
498	NORTHERN PACIFIC RR	269	1883/9	4-4-0	17 X 24	62 1/2	STD
499	NORTHERN PACIFIC RR	270	1883/9	4-4-0	17 X 24	62 1/2	STD
500	NORTHERN PACIFIC RR	271	1883/9	4-4-0	17 X 24	62 1/2	STD
501	NORTHERN PACIFIC RR	272	1883/10	4-4-0	17 X 24	62 1/2	STD
502	NORTHERN PACIFIC RR	273	1883/10	4-4-0	17 X 24	62 1/2	STD
503	NORTHERN PACIFIC RR	350	1883/10	4-4-0	17 X 24	62 1/2	STD
504	NORTHERN PACIFIC RR	351	1883/10	4-4-0	17 X 24	62 1/2	STD
505	NORTHERN PACIFIC RR	352	1883/10	4-4-0	17 X 24	62 1/2	STD
506	NORTHERN PACIFIC RR	353	1883/10	4-4-0	17 X 24	62 1/2	STD
507	NORTHERN PACIFIC RR	354	1883/11	4-4-0	17 X 24	62 1/2	STD
508	NORTHERN PACIFIC RR	355	1883/11	4-4-0	17 X 24	62 1/2	STD
509	NORTHERN PACIFIC RR	356	1883/11	4-4-0	17 X 24	62 1/2	STD
510	NORTHERN PACIFIC RR	357	1883/11	4-4-0	17 X 24	62 1/2	STD
511	NORTHERN PACIFIC RR	358	1883/12	4-4-0	17 X 24	62 1/2	STD
512	NORTHERN PACIFIC RR	359	1883/12	4-4-0	17 X 24	62 1/2	STD
513	NORTHERN PACIFIC RR	360	1883/12	4-4-0	17 X 24	62 1/2	STD
514	NORTHERN PACIFIC RR	361	1883/12	4-4-0	17 X 24	62 1/2	STD
515	NORTHERN PACIFIC RR	362	1884/1	4-4-0	17 X 24	62 1/2	STD
516	NORTHERN PACIFIC RR	363	1884/1	4-4-0	17 X 24	62 1/2	STD
517	NORTHERN PACIFIC RR	364	1884/4	4-4-0	17 X 24	62 1/2	STD
518	NORTHERN PACIFIC RR	365	1884/3	4-4-0	17 X 24	62 1/2	STD
519	MAINE CENTRAL RR	90	1884/1	4-4-0	17 X 24	68	STD
520	MAINE CENTRAL RR	91	1884/1	4-4-0	17 X 24	68	STD
521	MAINE CENTRAL RR	92	1884/2	4-4-0	17 X 24	68	STD
522	EASTERN RR	15	1884/3	0-4-0	15 X 22	50 1/2	STD
523	EASTERN RR	79	1884/3	0-4-0	15 X 22	50 1/2	STD
524	MAINE CENTRAL RR	93	1884/4	0-4-0	15 X 22	50 1/2	STD
525	MAINE CENTRAL RR	94	1884/6	4-4-0	17 X 24	68	STD.
526	MAINE CENTRAL RR	95	1884/6	4-4-0	17 X 24	68	STD.
527	MAINE CENTRAL RR	96	1884/7	4-4-0	17 X 24	68	STD.
528	MAINE CENTRAL RR	97	1884/7	4-4-0	17 X 24	68	STD.
529	PORTLAND & OGDENSBURG RR	WILLEY 15	1884/12	4-4-0	17 X 24	69	STD
530	PORTLAND & OGDENSBURG RR	WILLARD 16	1884/12	4-4-0	17 X 24	69	STD
531	EASTERN RR	29	1884/6	4-4-0	17 X 24	69	STD.
532	EASTERN RR	82	1884/7	4-4-0	17 X 24	69	STD.
533	EASTERN RR	111	1884/7	4-4-0	17 X 24	69	STD.
534	EASTERN RR	112	1884/8	4-4-0	18 X 22	69	STD.
535	EASTERN RR	113	1884/8	4-4-0	18 X 22	69	STD.
536	EASTERN RR	114	1884/8	4-4-0	18 X 22	69	STD.
537	PORTLAND & OGDENSBURG RR	CHOCORUA13	1884/9	2-6-0	19 X 26	56	STD
538	PORTLAND & OGDENSBURG RR	AVALON 14	1884/9	2-6-0	19 X 26	56	STD
539	PORTLAND & ROCHESTER RR	PRESUMPSCOT 31	1886/3	4-4-0	17 X 24	62	STD

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
540	MAINE CENTRAL RR	8	1886/6	4-4-0	17 X 24	69	STD
541	MAINE CENTRAL RR	13	1886/6	4-4-0	17 X 24	69	STD
542	MAINE CENTRAL RR	14	1886/6	4-4-0	17 X 24	69	STD
543	MAINE CENTRAL RR	26	1886/6	4-4-0	17 X 24	69	STD
544	MAINE CENTRAL RR	27	1886/9	4-4-0	17 X 24	65	STD
545	MAINE CENTRAL RR	29	1887/1	4-4-0	17 X 24	63	STD.
546	MAINE CENTRAL RR	30	1887/1	4-4-0	17 X 24	63	STD.
547	MAINE CENTRAL RR	33	1887/2	4-4-0	17 X 24	68 1/2	STD.
548	MAINE CENTRAL RR	34	1887/3	4-4-0	17 X 24	69	STD.
549	MAINE CENTRAL RR	35	1887/4	4-4-0	17 X 24	69	STD.
550	MAINE CENTRAL RR	42	1887/4	4-4-0	17 X 24	69	STD.
551	MAINE CENTRAL RR	43	1887/7	4-4-0	17 X 24	62 1/2	STD.
552	MAINE CENTRAL RR	44	1887/7	4-4-0	17 X 24	62 1/2	STD.
553	MAINE CENTRAL RR	45	1887/8	4-4-0	17 X 24	68 1/2	STD.
554	BARTLETT & ALBANY RR	ALBANY 1	1887/3	??0-6-0	17 X 24	51	STD
555	MAINE CENTRAL RR	46	1887/9	4-4-0	17 X 24	68 1/2	STD.
556	BOSTON & MAINE RR	GEN. SEDGEWICK 249	1887/12	4-4-0	17 X 24	63	STD.
557	BOSTON & MAINE RR	121	1888/2	4-4-0	18 X 24	62	STD.
558	BOSTON & MAINE RR	GEN. MEADE 97	1887/6	4-4-0	18 X 22	63	STD.
559	BOSTON & MAINE RR	LAWRENCE 98	1887/6	4-4-0	18 X 22	63	STD.
560	BOSTON & MAINE RR	HINKLEY 99	1887/6	4-4-0	18 X 22	63	STD.
561	BOSTON & MAINE RR	HUNTRESS 144	1887/7	4-4-0	18 X 22	63	STD.
562	BOSTON & MAINE RR	GEN. HOOKER 216	1887/7	4-4-0	18 X 22	63	STD.
563	BOSTON & MAINE RR	GEN. HOWARD 217	1887/8	4-4-0	18 X 22	63	STD.
564	BOSTON & MAINE RR	SANDOWN 226	1887/9	4-4-0	18 X 24	63	STD.
565	BOSTON & MAINE RR	EPPING 230	1887/9	4-4-0	18 X 24	63	STD.
566	BOSTON & MAINE RR	CAPE ANNE 138	1887/10	4-4-0	18 X 24	63	STD.
567	BOSTON & MAINE RR	BEACH BLUFF168	1887/10	4-4-0	18 X 24	63	STD.
568	BOSTON & MAINE RR	KENNEBEC 192	1887/11	4-4-0	18 X 24	63	STD.
569	BOSTON & MAINE RR	FRANCIS CHASE195	1887/11	4-4-0	18 X 24	63	STD.
570	MAINE CENTRAL RR	7	1887/12	0-6-0	16 X 24	52	STD
571	MAINE CENTRAL RR	9	1887/12	0-6-0	16 X 24	52	STD
572	MAINE CENTRAL RR	12	1888/1	0-6-0	16 X 24	52	STD
573	MEXICAN CENTRAL RR	122	1888/2	4-4-0	18 X 24	62	STD.
574	MAINE CENTRAL RR	28	1888/5	4-4-0	17 X 24	69	STD.
575	MAINE CENTRAL RR	47	1888/5	4-4-0	17 X 24	69	STD.
576	MAINE CENTRAL RR	57	1888/5	4-4-0	17 X 24	69	STD.
577	BOSTON & MAINE RR	MASCONOMO 218	1888/3	4-4-0	18 X 24	63	STD.
578	BOSTON & MAINE RR	MASSASOIT 219	1888/3	4-4-0	18 X 24	63	STD.
579	GRAND TRUNK Ry	11	1888/8	2-6-0T	17 X 24	57	STD.
580	GRAND TRUNK Ry	12	1888/8	2-6-0T	17 X 24	57	STD.
581	QUEBEC CENTRAL RR	11	1888/6	4-4-0	18 X 24	63	STD.
582	QUEBEC CENTRAL RR	12	1888/7	4-4-0	18 X 24	63	STD.
583	MAINE CENTRAL RR	98	1888/7	4-4-0	18 X 24	69	STD.
584	MAINE CENTRAL RR	99	1888/8	4-4-0	18 X 24	69	STD.
585	PORTLAND & ROCHESTER RR	SAGAMORE 9	1888/10	4-4-0	17 X 24	62	STD.
586	MAINE CENTRAL RR	119	1889/7	4-4-0	18 X 24	69	STD.
587	MAINE CENTRAL RR	101	1889/4	4-4-0	18 X 24	69	STD.
588	MAINE CENTRAL RR	104	1889/4	4-4-0	18 X 24	69	STD.
589	BOSTON & MAINE RR	JESSE BOWERS 323	1888/9	4-4-0	17 X 24	64	STD.
590	BOSTON & MAINE RR	GRANITE STATE 18	1888/9	4-4-0	17 X 24	64	STD.
591	BOSTON & MAINE RR	BALDWIN 267	1888/10	4-4-0	17 X 24	64	STD.
592	BOSTON & MAINE RR	WHISTLER 268	1888/10	4-4-0	17 X 24	64	STD.
593	BOSTON & MAINE RR	MONOTOMY 269	1888/10	4-4-0	17 X 24	64	STD.
594	BOSTON & MAINE RR	CHARLESTON 260	1888/11	4-4-0	17 X 24	64	STD.
595	BOSTON & MAINE RR	GEORGETOWN 261	1888/11	4-4-0	18 X 24	64	STD.
596	BOSTON & MAINE RR	GROVELAND 262	1888/12	4-4-0	18 X 24	64	STD.
597	BOSTON & MAINE RR	GEN_ SCOTT 265	1888/12	4-4-0	18 X 24	64	STD.
598	BOSTON & MAINE RR	GEN. JACKSON 266	1888/12	4-4-0	18 X 24	64	STD.
599	WINDSOR & ANNAPOLIS RR	ST. EULALIE 11	1888/11	4-4-0	18 X 24	62	STD
600	MAINE CENTRAL RR	117	1889/6	4-4-0	18 X 24	62	STD.
601	MAINE CENTRAL RR	118	1889/6	4-4-0	18 X 24	62	STD.
603	WINDSOR & ANNAPOLIS RR	ACADIA 12	1890/2	4-4-0	18 X 24	62	STD
604	MAINE CENTRAL RR	121	1890/6	2-6-0	19 X 26	65 1/2	STD
605	MAINE CENTRAL RR	122	1890/7	2-6-0	19 X 26	65 1/2	STD
606	MAINE CENTRAL RR	123	1890/8	2-6-0	19 X 26	65 1/2	STD
607	MAINE CENTRAL RR	124	1890/9	2-6-0	19 X 26	65 1/2	STD
608	PORTLAND & ROCHESTER RR	ALGONQUIN 10	1890/8	4-4-0	17 X 24	62	STD.

Shop #	Railroad	Road # or Name	Delivered	Type	Cylinders	Drivers	Gauge
609	MAINE CENTRAL RR	130	1890/10	4-4-0	17 X 24	65	STD.
610	COMPLETE COMBUSTION BOILER CO.	1	1890/7	4-4-0	18 X 24	68 1/2	STD.
611	MAINE CENTRAL RR	131	1891/3	4-4-0	17 X 24	65	STD.
612	MAINE CENTRAL RR	132	1891/5	4-4-0	18 X 24	68 1/2	STD.
613	MAINE CENTRAL RR	133	1891/6	4-4-0	18 X 24	68 1/2	STD.
614	MAINE CENTRAL RR	74	1892/6	4-4-0	17 X 24	62	STD.
615	PHILLIPS & RANGELEY RR	CALVIN PUTNAM 1	1890/10	0-4-4T	10 1/2 X 14	33	24
616	SANDY RIVER RR	4	1890/10	0-4-4T	10 1/2 X 14	33	24
617	MAINE CENTRAL RR	23	1892/5	4-4-0	17 X 24	62	STD.
618	MAINE CENTRAL RR	141	1892/6	4-4-0	18 X 24	68 1/2	STD.
619	MAINE CENTRAL RR	142	1892/6	4-4-0	18 X 24	68 1/2	STD.
620	MAINE CENTRAL RR	145	1892/7	4-4-0	18 X 24	68 1/2	STD.
621	KENNEBEC CENTRAL RR	2	1890/12	0-4-4T	10 1/2 X 14	30	24
622	SANDY RIVER RR	N. B. BEAL 5	1891/5	0-4-4T	10 1/2 X 14	33	24
623	WESTERN COUNTIES RR	ANNAPOLIS 4	1892/1	4-4-0	17 X 24	63	STD.
624	BRIDGTON & SACO RIVER	3	1892/4	2-4-4T	10.5 X 14		24
625	KILKENNY LUMBER CO.	AMMONOOSUC 1	1893/1	4-4-0	17 X 24	52	STD
626	WICASSET & QUEBEC RR	2	1894/11	0-4-4T	10 1/2 X 14	31	24
627	WICASSET & QUEBEC RR	3	1894/11	0-4-4T	10 1/2 X 14	31	24
628	BRIDGTON & SACO RIVER RR	5	1906/11	2-4-4T	11 X 14	33	24
None	BLACK ROCK & SALISBURY BEACH RR	??	1892/8/4				
None	E. M. BOYNTON BICYCLE RWY.	CYCLE 1	???	0-1-1-1	12 X 14	93	MONO.
None	E. M. BOYNTON BICYCLE RWY.	CYCLE 2	1890/7/21	0-1-1-1	?	?	MONO.

Appendix 3 - Portland Company Contract Specifictions for Locomotives

Source: Exporail, Canadian Railway Historical Association Archives, R. Corley Collection, Museum Train Folder, Portland Company Contract Specifications.

	December 16, 1872	June 10, 1874
No. Wheels	eight	eight
Fuel	coal	wood or coal
Gauge	4 feet 8 1/2 inches	4 feet 8"
Cylinders	16 x 24	17 x 24

Boiler		
Materials	Monmoor iron	Penn or Bay State Iron
Thickness	3/8"	3/8"
Rivetting	double lengthwise	double lengthwise
Diameter Front	48"	50"
Diamter Back	50 1/4"	52 1/4"
Firebox length		
length	65 1/2"	63 1/2" inside
width	34 1/2"	33 5/8"
depth	64"	65"
materials	Lowmoor iron	steel
Tubes		
sheet thickness	7/16"	1/16"
material	Lowmoor iron	steel
Crown Bars		
no.	6	6
made of	2 bars	2 bars
diameter	5 x 5/8"	5 1/2 x 5/8"
thimbles	1" rivetted together	1" rivetted together
run	longtuindal, top of boiler	longtuindal, top of boiler
bolted	to crown sheet	to crown sheet
bolts	7/8"	7/8"
placement	2 inches centre to centre	4 inches centre to centre
Crown Sheet		
supports	10 stays	10 stays
stays	2 x 5/8" to top of shell	2 x 1/8" to top of sheell
Firebox Sides		
stayed	7/8" screw staybolts	7/8" screw staybolts
placement	4" centre to centre	4" centre to centre
longitudinal stays	4	4
diameter	1 1/4"	1 1/4"
secured	crowfeet	crowfeet
waterspace around firebo	2 1/2"	3"

Dome		
diamater	24"	24"
height	26"	26"
material	best flange iron	best flange iron

Tubes		

number	145	162
diameter	2"	2"
length	11 feet	11 feet
materials	iron	iron

Lagging		
thick	7/8"	7/8"
covered in	Russia Sheet Iron	Russia Sheet Iron
secured	brass bands	brass bands

Frames		
forged	solid	solid
jaws	solid	solid
material	best scrap iron	best scrap iron
wedges	cast iron safety wedges	cast iron safety wedges
section	3 1/2 x 3 1/2"	3 1/2 x 3 1/2"
distance from c. of cylinder to centre of 1st drving wheel	11' 5 3/4"	11' 5 3/4"

Driving Wheels		
number	4	4
cast	hollow	hollow
tyres	2 1/2" thick	2 1/2" thick
dia	5' 71/2"	GTR standard
material	Krupp steel	steel
axles	proper length	proper length
journal	7" diam x 7 1/2" long	7" diam x 7 1/2" long
distance between wheel ce	96"	96"

Cylinders		
diameter	16"	17"
stroke	24"	24"

Slides		
wide	2 3/4"	2 3/4"
thick (ends)	1 5/16"	1 1/2"
thick (centre)	1 5/8"	1 1/2"
material	steel	steel

Crossheads, Rocker Boxes, Eccentrics, Eccentric Straps Etc		
material	best charcoal iron	best charcoal iron
fit	best manner	best manner

Rocker Shafts	best gun iron	best gun iron

Pumps		
material	best gun iron	composition
diameter	suitable for engine	suitable for engine
number	2 pumps, or one pump and on injector	one pump and one [???] injector for [Freight] Engine

Links, Valve Motion, and Valve Stem		
material	best Lowmoor iron	best Lowmoor iron
hardened	case hardened	case hardened
Throttle	balanced, double seated, warranted tight, easy to handle	balanced, double seated, warranted tight, easy to handle
Crank Pins	best cast steel	best cast steel
Piston Rods	2 5/8" diam	2 3/4" diam
material	lowmoor iron	lowmoor iron
Connecting Rods		
material	best hammered scrap iron	best hammered scrap iron
boxes	bronze	bronze
babbitt	pure metal	pure metal
Dome-Casing, Sand-Box, Hand-Rail, Lantern Brackets, Cylinder Casings, and Wheel Guards	made in neatest most substantial manner	made in neatest most substantial manner
House		
material		seasoned ash
sash		cherry
trimmings		cherry
hardware	all levers, and handles needed	all levers, and handles needed
Truck		
Engine Truck		
frame	iron	iron
jaws	cast iron	cast iron
bearing	centre	centre
axles	proper length	proper length
journals	4 1/2 diam x 7" long	4 1/2 diam x 7" long
distance bertween centre	5' 8 "	5" 4"
Tender Truck		
made		most approved manner
Tender		
sides	3/16" iron	3/16" iron
bottom	1/4" iron	1/4" iron
length		17'
height	36"	40"
capacity	1900 US gallons	2000 imperial gallons
corners	2" angle iron	2" angle iron
watercocks	brass	brass
frame	oak	oak

Weight of Engine		
fired and ready	32 tons	34 tons

All materials to be of best quality, and to be put together in the most thorough and substantial manner.

Appendix 4 - Portland Company Casting List for Engines Nos 229-245 and 251-253

Source: Maine Historical Society, Collection 242 - Portland Company, Vol. 15, Casting Book, pp. 241-252. In the electronic version of the spreadsheet, original additions to the printed list are in blue. Later pencil additions, including various notes and drawing numbers, are in red. Indents in the parts column indicate "ditto" subheadings (eg. Cylinders, Cylinder front heads, Cylinder back heads). Words and numbers that are uncertain are marked in square brackets.

	Part	Specifications	Same as #	Drawing #	Notes
Page 241					
		4-4-0 4'-8 1/2g			written in top margin
Iron Castings for Engine No. 229-245 and 251-253					
	From face of Cyl to Centre of Forward Driver	9 feet 8 ins			
1	Saddle	for 48" shell	152	[both] p144l	additional drawing of saddle
2	Cylinders	16 x 24ins (see next leaf for notes on valve seats)	153, 155	1187p	additional drawing of valve seats
2	front heads	22 in. diam.	153, 155		
2	back heads	22 in. diam. With lugs for slides 5 7/8 in apart	153, 155		
	Followers				
2	Pistons	5 in thick. Solid for [Dunbar] packing 16 in	153, 155	1765p	
2	Packing Rings	[Dunbar] 16 in			
2	Piston Rod Glands	2 5/8 in Rod			
2	Steam Chests	22 1/4 x 23 3/4 in long without guide	152		
2	covers	22 1/4 x 23 3/4 with ports for sqr Bal. Valve	175		
2	glands	for 1 1/2 in Rod	122, 123		
2	Main Valves	Balanced	188, 189	1619p	addiional drawing with dimensions
2	Forward Drivers	5 feet 2", and 4 feet 8 ins. Patter no 14 and 13. 2 and 3 Balances carried to rim, arm and rim solid, axle hub [boxes] out 7 in and is 7 5/8 in through 12 in crank, hub [boxes] out 4 ins 7 9/16 in through, flush on front side, rim projects 5/32 from hub on back side			
2	Back Drivers	5 feet 2", and 4 feet 8 ins. Patter no 14 and 13. 2 and 3 Balances carried to rim, arms and rim solid, axle hub [boxes] out 7 in and is 7 11/16 in through 12 in crank, hub [boxes] out 4 ins 7 5/8 in through, flush on front side, rim projects 3/32 from hub on back side		1674p	Drivers: 229-230, 238-245= 4'-8' [dia] pattern 13, 12" c and 36 ft, 26 - rear 231-237 = 5'-2"[dia] pattern 14, 12c, 36 ft, 26 rear 251-253 = 5'2 1/2" [dia} Pattern 14, 12"c, 36 feet, 26 rear
4	Driver Boxes	without stirrups, for [strips]	209, 210		6 1/2 x 7 1/2
8	wedges		122, 123		
4	sponge boxes		209, 210		
4	truss pipes		122. 123		
4	Eccentrics	5 1/2 in [throw]	159		
4	straps and oil pot covers		159		
2	Crossheads	2 in offset	153, 155	1777p	
2	Rockers		153, 155	1636p	
2	boxes and caps		166		
2	Pump Bodies	for 2 in plunger	166		
2	bottoms		113, 114		
2	glands	for brass bushing	166		
2	Checks		141		
2	Reverse Shaft bearings and caps		153, 155		
1	lever joint		153, 155		
1	Throttle Pipe, valve, quarter turn & arms	Poppet, Balanced	160, 161		
1	Steam Pipe		122, 123		additional drawing
2	Steam Pipe	Quarter turns 14 3/4" high, 7 1/2 long			
2	Steam Pipe				additional drawing
1	Exhaust Pipe	long	153, 155		
2	ring	short	153, 155		
	Throttle Stuffing Box and gland				
1	Engine Centre Iron	12 for 5 1/2" Drivers 8 for 5 foot	draught		
1	Truck	Spring [leaves]. Casting 4 in hole	179, 181		
1	Plate		draught		
2	spring band castings		222-25		
	frame struts				
4	boxes		draught		4 1/2 x 7
4	sponge boxes		166		
6	truss pipes	2 long, 4 short	draught		
	thimble				
4	wheels	30 and 28 in d.p. 4 3/8" fit			30" = 231-237 + 251-253 28" = 229-230, 238-245
1	Dome cover	24 in for 6" whistle and 2-2 1/2 Annular valve			
1	ring	24 in			
Page 242 (iron castings cont'd)					
1	Dome casing	24 in for 15 in Brass top		1848p	
1	Sand Box		216, 220		
1	Smoke pipe base	17 5/8" diam, also base ring			
1	angle ring				
1	cone	24 in			

	Part	Specifications	Same as #	Drawing #	Notes
	Spark hole and cover				
2	Steam chest casing tops		218-20	?	
	Steam chest casing ends				
4	Cylinder head casings	22 in inside		1768p	
1	Whistle post	11 in high			
1	Bell base		174		
2	post		174		
1	yoke		174		
1	crank		174		
2	Cab supports and bottoms	long pattern	191,192	1427p	
	arch				
2	sash	14 in sqr.			
1	Smoke arch front	Diam. of arch 51 1/4 in	122, 123	1831p	
1	door		122, 123	1831p	
2	handles		122, 123	1831p	
1	Fire door, frame and shield	15 in diameter	113, 114	1784p wood	
1	Grate	Eaton, fire box same as 209-10. Thimbles 1 3/4 and 2 1/4" long	draught		
	bearers				
2	Head Light Brackets		169, 170		
2	Name plate	Double Star pattern	169, 170		
	Runbboard supports				
2	Steps				
1	Footboard draw casting		125, 126	1846p	
1	Front draw casting		193	1478p	
	Spreader piece				
4	Spring hanger blocks	3 1/2" frame	127		
	Equaling lever castings				
2	Driver axle collars to bore out	7 1/2"	122, 123		
4	Truck axle collars to bore out	4 7/8"	222-225		
1	Sand box arms and valves		218, 20		
2	flanges		153, 155		
1	Whistle arms and stand		157, 158		
1	Stean guage stand, Flange and Washer		157, 158		
1	Footboard finish		122, 123		
4	Wheel guard supports				
2	Reverse lever segment brace, washers		draught		additional diagram
1	Counterbalance casing, Foot and Washer		175	1608p	
2	Cab door sill castings	16 1/8 in long	191, 192		
1	Reverse shaft collar		157, 158		
2	Cylinder cock rod supports		153, 155 for 8, made low for 12 to clear truck wheels		
1	Throttle rod socket		157, 158		
1	Lazy cock handle, Segment and Arms		122, 123		
2	Cylinder and saddle joint mouldings		153, 155		
2	Cab brackets		165		
8	Truck housing jaws		draught		
1	Cab front	48 in			
2	Link blocks			1535p	
	Feed water heater				
	Frost pipe couplings and nipples				
	Filling Pieces				

Page 243 (iron castings con'd)

1	Wrench for 2 1/2" Annular Valve				
	Valve Seat in Righthand Cylinders for Loco 252	1 9/16 in high - left hand, 1 1/4 in high			
	Valve Seat in Righthand Cylinders for Loco 253	1 11/32 in high, left hand 1 1/8 in hgh			
	Valve seat steam [ports[in Cylinders for 253	1 1/2 in wide. Others are as usual			additional diagram

Iron Castings for Tender, Engine Nos. 229-45 and 251-53					
8	Wheels	33 in for all, d. p. 4 3/8 fit	Goff truck		
8	Axle boxes	7/8 in Bolts 6 in journal	Goff truck	3 1/4 x 6	
	doors				
8	wedges	for 6" journal	draught		
2	Centre irons, front truck		Goff truck		
2	back truck		Goff truck		
2	Forward truck castings top of bolster	for friction stands	Goff truck		
2	back truck castings top of bolster	for friction stands	Goff truck		
	Bottom bolster castings				
	Trruck spring shoes				
	Friction plates top of springs				
4	Friction plates for tender		draught		additional diagram
8	Corners for tank			1545p?	
4	Ends for tank	24 in leg		1545P?	
1	Front draw casting				
1	Back draw casting	3 pocket	107, 111		
4	Brake heads		Goff truck		
4	Brake hanger castings		goff truck		

	Part	Specifications	Same as #	Drawing #	Notes
2	Strainers	old pattern			
1	Spreader piece		128, 133		
2	Tender cocks	large size			
1	wheels, castings and nuts		113, 114		
1	Brake rod wheel and ratchet	6 in diam.			
4	Steps and Thimbles		191, 192		
1	Well cover		112	1804p	
2	Tender cock flanges		152		additional diagram
	Centre bearing castings		Goff truck		additional diagram
4	Rockers				
	Rockers castings for tender frame				

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	Brass and Compo. Castings for Engines Nos. 229-45, 251-53				
4	Main connection boxes	without babbitt	128, 133		
4	Parrallel rod boxes		176-78		
2	Valve stem boxes		122, 123		
2	gland, bushings and rings	1 1/2 in Rod	122, 123		
2	Piston rod gland bushings and rings	2 5/8 in Rod	153, 155		
2	Pump gland bushing and rings	2 in Rod	166		
2	Check tops		156		
2	nuts		153, 155		
2	bottoms		156		
	Feed pipe quarter turns				
	couplings				
2	Supply pipe ball joints	for 2 1/4" pipe			
4	Feed pipe balls joints	for 2 1/4 pipe			
2	Supply pipe cocks	for 2 1/4 pipe for key coupling			
	Pump bodies				
2	tops and ornaments		153, 155		
6	and check valves, cages and seats		134, 140		
2	Tender cock plugs				
2	Hose couplings	2 1/4 in			
1	for filling boiler	2 1/4 in			
7	Ball joints	3 - 5 in 4 - 4 1/4 in			
2	Safety valves	2 1/2 in Annular 1 for Lever			
	Frost pipe studs				
2	Frost pipe couplings and nipples				
4	Cylinder cocks and quarter turns				
4	arms				
3	Guage cocks				
2	Frost cocks	like 189 with alterations			
2	Pet cocks	and nipples for checks and drips	153, 155		
1	Blast cock			17p	
1	Blow off cock				
	Surface cock				
1	Whistle	6 in.		49p	
1	Bell	80 lbs			
1	yoke nut		152		
	ornaments				
1	crank	pin			
	post tops				
4	rope bushings	cast iron front			
2	Handrail bushings				
4	Main connection oil cups	Crank Pin Dreyfus, other end	122, 123		
4	Parallel rod oil cups		Dreyfus		
4	Slide oil cups		122, 123		
	Steam chest oil cups				
2	Studs for oil pipes	with valves	200		
12	Driver box brasses		209-10		
4	Truck box brasses		draught		
8	Tender box brasses	6 in journal			
1	Throttle lever nut and segment		164, 165		
1	stuffing box		164, 165		
1	gland and ring		164, 165		
1	Reverse lever hatch handle and gib		122, 123		
8	Handrail sockets	for 1 1/2 in tube			

Page 245 (brass and compo castings cont'd)

4	Hand rail ornaments	small size	117, 120		
8	Wheel guard ornaments	for 1 1/2 in tube	153, 155		
	Runboard ornaments				
1	Steam guage stand Turnbuckle		157-158		
1	Dome casing top	15 in for 24 in casing	128, 133		
4	Cab handle studs		157, 158	15p	
4	Tender handle studs		157, 158	15p	
1	Blower handle eccentric		153, 155		
1	Whistle stand for lever		153, 155		
2	Drip pan caps	[4]	122, 123		

	Part	Specifications	Same as #	Drawing #	Notes
6	Centre plugs	4 for axles, 2 for rockers			
5	Cleaning hole plugs	1 3/4 in			
	sand pipe flanges				
	Runboard castings				
6	Signal light stand supports		152		
2	Number plates				
1	Handrail cylinder cock arm		169, 170		
	Flag staff stands and ornaments				
2	Torch castings		new base pattern		
1	Sand box ornament		153, 155		
	Dome casing ornament				
2	Saddle rings				
2	Cab door feet, slides and nuts		157, 158		
1	Front number plate ring		draught		
2	Handles for moving handrail				
1	Lazy cock arm and nut	as per draft			
2	Cylinder casing ornaments				
1	Poppet throuttle plug		161-162		
1	Hammer				
6	Brass quarter turns				
	Counterbalance casings				
1	Composition ring for steam pipe				
	Name				
2	Numbers	G.T.R. and number	draught		
2	Injector work				
2	Cylinder oild cups for cab	like 189 with alterations			
1	Water guage castings				
	Feed water heter castings				
	Crosshead gibs				
1	Sand box handle				additional diagram
1	Steam guage lamp support				
1	Steam guage Syphon coupling complete				
14	Lugs for lagging band				

	Engine truck			[?] or [7?]	
	Tender truck			Goff	
	water pump [check] and casing			1735p	
	232-235 Truck frame plates			1490p	
	229-230 Cross-section front door			1460p	
	water pump check valve & casing			1737p	
	Link counterbalance gear			1609p	
	Water pump			1614p	

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Forgings for Engine Nos. 229-245 and 251-53					
2	Main frames	26 feet long, section 3 1/2 x 3 1/2 in, between	191-192	1423p	7'6" [dis]
2	Truck Frames		draught		
2	Main connections	7 feet, 3/4 from C to C	128, 133	1686p	
2	Parallel rods	7 feet, 6 in from C to C	176-178	1582p	
4	Crank pins	steel	128, 133	1634L	
1	Forward driver axle	between centres of frames 46 in journals 6 1/2 x 7 1/2 in	draught	1425p	
1	Back driver axle	between centres of frames 46 in journals 6 1/2 x 7 1/2 in	draught	1425p	
2	Truck driver axle	between centres of frames 44 1/2 in journals 4 1/2 x 7 in	draught	1445p	
4	Tender driver axle	between centres of journals [76 in] journals 3 1/4 x 6 in	draught	1445p	
8	Slides	50 in long. Steel			
1	Yoke	85 3/8 in long 3/4in thick	193	1504p	
1	brace		193	1504p	
4	Eccentric rods	36 1/8 in [true] length, made 36 in long		1622L	
2	Valve stems	Spectacles for Sgr Balanced Valves	188	1536p	
2	Links	Radius 52 5/8 in	182, 183	1535p	
	blocks				
2	pins		182, 183	1535p	
2	lifters	12 1/4 in long	draught		
1	counter balance spring	spiral steel 3/4 in diam, 17 in long, 9 coils			
1	counter balance rod				
1	Reverse shaft		draught	1449p	
3	arms		draught	1449p	
1	levers and guides		draught	1463p	
1	rod		draught		
2	Pump Plungers	2 in diamter/ 39 in from end to shoulders	166	1477p	
2	Piston rods	2 5/8 diam low moor		1458p	additional diagram
3	Frame ties			[45 7/8]	
2	Smoke arch braces	50 in long			
1	Boiler braces	49 1/2 in long			
	Footboard braces				
3	Pilot braces		193		

	Part	Specifications	Same as #	Drawing #	Notes
4	Driver Springs	41 in long 12 leaves 3/8 x 3 1/2 steel for [north] stirrups	188, 189	1589p	
2	Truck springs	39 in long 15 leaves 3/8 x 3 1/2 steel for [north] stirrups	draught		
2	Equalling levers and plates	[57 in] long Fork Ends	191, 192	1506L	
4	Frame bearings		191, 192		
4	Fire box lugs		191, 192	1506L	
4	Truck equalling levers		draught		
2	truss bolts		draught		
	braces				
8	Driver spring hangers	length 4 2/8 - 15 1/4 - 26 in between washer and centre	159	1762p	
4	Truck spring hangers		draught		
4	Supply pipe hangers				
8	Hand rail posts				
1	Safety valve levers and studs	for 2 1/2 in annular Valves	184		
1	balance gears		184		
1	Whistle gear	6 in	184		
1	Cylnder cock gear		184		
1	Sand box gear		216-218		
1	Pet cock gear		153, 155		
1	Blast cock gear		153, 155		
	One set injector gear				
1	One set damper gear	Eaton Grate			
1	One set smoke stack gear	GTR pattern, with handle			

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1	One set smoke arch door gear		122-123		
1	One set lock valve gear		184		
1	One set swivelling footboard gear				
1	One set wrenches				
	Cab and tender handles				
	Bell crank				
1	Fire door, latch and chain	15 ins	/		
1	Forward bar	6 x 1 1/4 by 73 1/2 in long			
1	Back bar	6 x 1 1/2 by 78 1/2 in long			
1	Draw bar for front end		193		
1	Draw bar for engine and tenders				
1	Draw pin for engine				
	Forward drivers				
	Forward drivers				
	Forward drivers				
	Back drivers				
	Back drivers				
	Back drivers				
4	Tyres	12 for 5 feet 6" diam. 8 for 5 feet diam (229-230) all Krupp steel		2 1/2" tire thickness	
1	Fire box ring	63 1/4 x 40 1/4 x 2 1/4 in sqr.	draught		
1	Fire door ring	15 in diam. 2 1/2 by 2 1/4 sqr.	113, 114		
1	Smoke arch ring	48 in inside diam. 2 1/2 by 1 1/4 in sqr.	draught		
1	Smoke arch ring	50 1/2 in outside diam 2 x 2 in sqr.	draught		
1	Throttle lever, rod, and links		166		
1	Throttle and steam pipe yoke		157-158		
2	Valve rods and nuts		184		
2	Arch braces over back housings		159		
2	Draw chains and hooks				
8	Wheel guard braces				
2	Step rods				
	Rockers				
2	pins				
2	Main runboard supports				
4	Stirups (boiler)		200	1475p	
	Fire box crown bars				
4	Cab window bars				
1	Bell tongue	80 lb Bell			
1	Set forgings for Engine Truck		draught		
	Reverse shaft support			1449p	

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Forgings for Tender, Engine Nos. 229-45 and 251-53					
2	Truck frames	Complete Goff Truck, frame ends not turned up for 7/8" bolt			
4	springs	24 in long 3" x 3/8" steel 6 leaves			
4	springs	24 in long 3" x 3/8" steel 5 leaves			additional diagram
8	spring hangers		Goff truck		
16	Axle box bolts	7/8 in	Goff truck		
4	Brake hangers				
1	gear	Ratchet at top of Tank			
2	Long draw bolts				
2	Short draw bolts				

	Part	Specifications	Same as #	Drawing #	Notes
4	Cross draw bolts				
2	Centre transom bolts				
1	Back draw pin and chain				
1	Forward draw pin				
1	Draw pin cap and pin				
4	Step rods				
	Handles				
4	Bucket hooks				
8	Check chains and hooks				
5	Tank hold down rods				
	Springs shoes				
	Centre bearing forgings				

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Plate Iron for Engine Nos. 229-245 and 251-53					
	Shell	48 in			
	Guage	4 feet 8 1/2 in			
	Boiler		226	1462p	
1	Fire box tube sheet	1 plate 68 x 42 x 1/2 in Low Moor			
1	door sheet	1 plate 68 x 42 x 3/8 in Low Moor			
1	crown sheet	1 plate 57 1/2 x 44 1/2 x 3/8 in Low Moor			
2	side sheet	2 plate 63 x 57 1/2 x 3/8 in Low Moor			
2	Sides of Shell	2 plate 62 x 58 1/2 x 3/8 in B. B. [S.]			
1	Top of shell	1 plate 84 x 67 1/2 x 3/8 in B. B. [S.]			
2	Waist	2 plate 79 1/2 x 68 1/2 x 3/8 in B. B. [S.]			
2	Waist	2 plate 80 1/2 x 68 1/2 x 3/8 in B. B. [S.]			
	Waist				
	Cone				
	Cone				
1	Throat	1 plate 60 58 x 3/8 in B. B. B. [S.]			
1	Front tube sheet	1 plate 52in diam x 1/2 in B. B. B. [S.]			
1	Dome, 24 in.	1 plate 80 1/2 x 35 x 3/8 in B. B. B. [S.]			
1	Smoke arch	1 plate 162 1/2 x 30 1/2 x 3/8 in B. B. B. [S.]			
1	Back	[Diagram] x 3/8 in B. B. B. [S.]			Additional diagram
	Weight	9365 lbs			
	Firebox	58" x 35 1/4 by 64"			
	Tank		159	1780p	
1	Top	1 sheet 93 x 26 x 3/16 in B. [S]			
1	Top	1 sheet 93 x 30 x 3/16 in B. [S]			
2	Top	2 sheets 148 x 24 x 3/16 in B. [S]			
1	Bottom	1 sheet 93 x 26 x 1/4 in B. [S]			
1	Bottom	1 sheet 93 x 30 x 1/4 in B. [S]			
2	Bottom	1 sheet 148 x 24 x 1/4 in B. [S]			
2	Sides	1 sheet 22 x 36 x 3/16 in B. [S]			
2	Sides	1 sheet 154 x 36 x 3/16 in B. [S]			
1	Sides	1 sheet 118 x 36 x 3/16 in B. [S]			
2	Flare	1 sheet 190 x 14 x 1/8 in B. B. [S]			
1	Flare	1 sheet 78 x 14 x 1/8 in B. B. [S]			
1	Flare	1 sheet 36 x 20 x 1/8 in B. B. [S]			
1	Well	1 sheet 46 x 10 x 1/8 in B. B. [S]			
1	Stays	1 sheet 54 x 18 x 1/4 in B. B. [S]			
1	Stays	1 sheet 93 x 18 x 1/4 in B. B. [S]			
	Stays				
	Capacity	1883 Gallons			
	Weight	5190 lbs			

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Miscellaneous Iron, for Engine Nos. 229-45 and 251-53					
1	Yoke	1 plate 55 x 20 x 1 in B. [S]			
4	Firebox lugs	1 plate 10 x 7 x 1 in B. [S]			
1	Footboard	1 plate 50 x 30 x 5/8 in B. [S]			
	Truck				
	Truck				
1	Footplate	1 plate 50 x 24 x 1/4 in B. [S]			
	Cab				
1	Boiler brace	1 plate 50 x 14 x 3/8 in B. [S]			
1	Front	1 plate 97 1/2 x 24 x 1/4 in B. [S]			
1	Front	1 plate 62 x 19 x 1/4 in B. [S]			
1	Front	1 plate 63 x 13 x 1/8 in B. [S]			
1	Smoke arch door	1 plate 35" diam x 1/8 in B. [S]			
4	Driver wheel guards	4 plate 112 and 120 x 8 x 1/8 in B. [S]			
4	Truck wheel gguards	4 plate 38 x 7 x 1/8 in B. [S]			
1	Ash pan	1 plate 82 x 36 x 1/8 in B. [S.]			
2	ash pan	2 plate 82 x 10 x 1/8 in B. [S.]			
2	Ash pan	2 plate 36 x 10 x 1/8 in B. [S.]			
1	Dome casing	1 plate 85 x 14 x [nos. 4] B. [S.]			
1	Sand Box	1 plate 80 x 36 x 13 x [nos. 4] B. [S.]			
2	Side Boards	2 plate 60 x 30 x 3/16 in B. [S.]			
	Number plate				
1	Yoke joint plate	1 plate 24 x 15 1/2 x 1 in B. [S.]			

	Part	Specifications	Same as #	Drawing #	Notes
1	Swivelling footboard	1 plate 80 x 18 x 3/8 in B. B. B. [S.]			
4	Tender corner plates	4 plate 22 x 7 x 3/8 in B. B. B. [S.]			

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Tubing Etc for Engine Nos. 229-245 and 251-53					
142	Boiler Tubes	142 tubes 2 " outside diam 11 feet 3/8 in long. Iron			
2	Supply pipe	2 tubes 2 1/4 in outside diam 14 feet 3/8 in long. Iron			
2	Feed pipe	2 tubes 2 1/4 in outside diam 4 feet 3 in long. Copper	annealed		
2	Sand pipe	2 tubes 1 1/2 in outside diam 8 feet 3 in long. Brass			
1	Steam pipe	1 tubes 5 in outside diam 10 feet 8 in long. Iron	No. Y. W. G.		
2	Hand rail	2 tubes 1 1/2 in outside diam 8 feet 10 in long. Brass			
2	Hand rail	2 tubes 1 1/2 in outside diam 8 feet 8 in long. Brass			
1	Hand rail	1 tubes 1 1/2 in outside diam 3 feet 6 in long. Brass			
	Runboard				
	Runboard				
	Runboard				
	Runboard				
	Head light platform	[10 feet -]			
4	Wheel guard	4 tubes 1 1/2 in outside diam 9 feet 5 in long. Brass			
2	Throttle rod casing	2 tubes 2 in outside diam 10 in long. Brass			
1	Pump chambers	1 tubes 2 in outside diam 11 in long. Brass			
2	Drip pan	2 tubes 3/4 in outside diam 9 feet long. Brass			
2	Frost pipe	2 tubes 3/4 in outside diam 9 feet long. Brass	annealed		
	Tube ferules				
	Injectors				
1	Whistle bell	1 tubes 6 1/8 in outside diam No. 7 W. G. 8 1/4 long. Brass			
2	Check casings	2 tubes 7 in outside diam No.16 W. G. 8 in long. Brass			
2	Flag casings	2 tubes 1 5/8 in outside diam 2 feet long. Brass			
1	Torch	1 tubes 1 1/4 in outside diam 10 in long. Brass			
1	Syphon	1 tubes 3/8 in outside diam 2 feet long. Brass	No. 16 W.W.G. annealed		
2	Pet cocks	2 tubes 11/10 in outside diam 14 feet long. Iron			
2	Oil pipe	2 tubes 11/16 in outside diam 17 feet long. Brass			
1	Handles	1 tubes 7/8 in outside diam 4 feet 8 in long. Brass			
	Feed water heater				
	Oil Pipe	1 tubes 11/16 in outside diam 4 feet 7 in long. Brass	annealed		

Sheet Brass					
2	Cylinder casing	2 sheets 35 x 31 1/2 x 17 w.g.			
1	Steam chest casing	1 sheet 27 1/4 x 14 1/4 x 13 W. G.			
1	Steam chest	1 sheet 31 1/2 x 31 x 13 W. G.			
1	Steam chest	1 sheet 100 x 16 1/4 x 11 W. G.			
5	Lagging bands	5 sheets 168 x 3 x 17 W. G.			
1	Lagging bands	1 sheet 79 x 3 x 17 W. G.			
2	Langing bands	2 sheets x 68 x 3 x 17 W. G.			
1	Head light Board	1 sheet 116 x 1 1/2 x 7 W. G.			
1	Dome, 24 in	1 sheet 90 x 14 1/2 x 16 W. G.			
1	Sand box	1 sheet 84 x 13 1/2 x 16 W. G.			
1	Blower eccentric strap	1 sheet 12 x 5/8 x 9 W. G.			
2	Runboards	2 sheets 216 x 1 3/4 x 7 W. G.			
2	Runboards	2 sheets 34 x 1 3/4 by 7 W. G.			
6	Runboards	6 sheets 12 x 1 3/4 x 7 W. G.	2 - 22 in long		
	Rubbers for tender springs				
4	Rubbers of engines spring hangers	4 x 3 1/2 x 1 1/4			

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Timber for Engine Nos. 229-45 and 251-53			191-192		
	Tender				
2	Sides	2 pcs 7 1/2 x 7 1/2 x 17 feet 6 in			
2	Ends	2 pcs 5 x 12 1/2 x 8 feet			
2	Bolsters	2 pcs 7 1/2 x 10 1/2 x 7 feet 3 in			
1	Footboard	1 pcs 6 1/2 x 12 1/2 x 8 feet 8 ins			
1	Centre beam	1 pcs 6 x 10 1/2 x 17 feet ' 6 ins			
3	Longitudinal intermediates	3 pcs 5 x 7 x 4 feet			
3	Longitudinal intermediates	3 pcs 5 x 7 x 4 feet 6 ins			
3	Longitudinal intermediates	3 pcs 5 x 7 x 9 feet			
2	Transverse intermediates	2 pcs x 4 1/2 x 6 x 3 feet 10 ins			
	Transverse intermediates				
2	Brake beams	2 pcs 4 x 7 1/2 x 6 feet			

	Part	Specifications	Same as #	Drawing #	Notes
2	Moulding	2 pcs 7 1/2 x 3 1/4 x 18 feet			
1	Moulding	1 pcs 7 1/2 x 3 1/4 x 8 feet 6 ins			
	Planking	6 feet 8 ins RG			
2	Truck bolsters	2 pcs x 9 1/2 x 9 1/2 x 5 feet 10 ins			
2	Spring board	2 pcs 8 1/2 x 3 1/4 x 5 feet 9 ins		6 feet 7 ins [B. S.]	
4	Beams	4 pcs x 4 1/2 x 9 x 7 feet 9 ins 8'-6"			

	Tender had Goff Truck				
	Tender frame			1495p or 1667L	

	Engine				
1	Bunter beam	5 x 9 1/2 x 9 feet 3 ins	finish like 182, 183		
1	Pilot	68 1/2 [W] x 31 and 33 1/2 [H] x 48 ins [L] in Horizontal bars in draught	212	229-230, 238-245= 38" H, rest are 33 1/2" H	
2	Runboards	17 feet 9 1/4 in long 1 3/4 in thick			
2	Runboards	22 in long x 11 in wide 1 3/4 in thick			
1	Headlight board	31 1/2 x 25 x 1 1/2 in			
1	Cab	6 feet long 7 feet 9 ins wide 4 feet 6 in high		14" sq sash	
1	Smoke stack		176-178		
	cost each			$13,000	

	Weight of Engine	
	Weight of Tender	

	Sold to Grand Turnk Railway	
	[Not shown: Delivery Dates for engines in the batch. See Appendices 1 and 2]	

Appendix 5 - Drawings Related to Portland 233 (GTR 362)

Source: Maine Historical Society Collection 242 - Portland Company, Vol. 15, pp. 241-252. The drawings are extant in the collection. Related elevations are listed at the end of this spreadsheet.

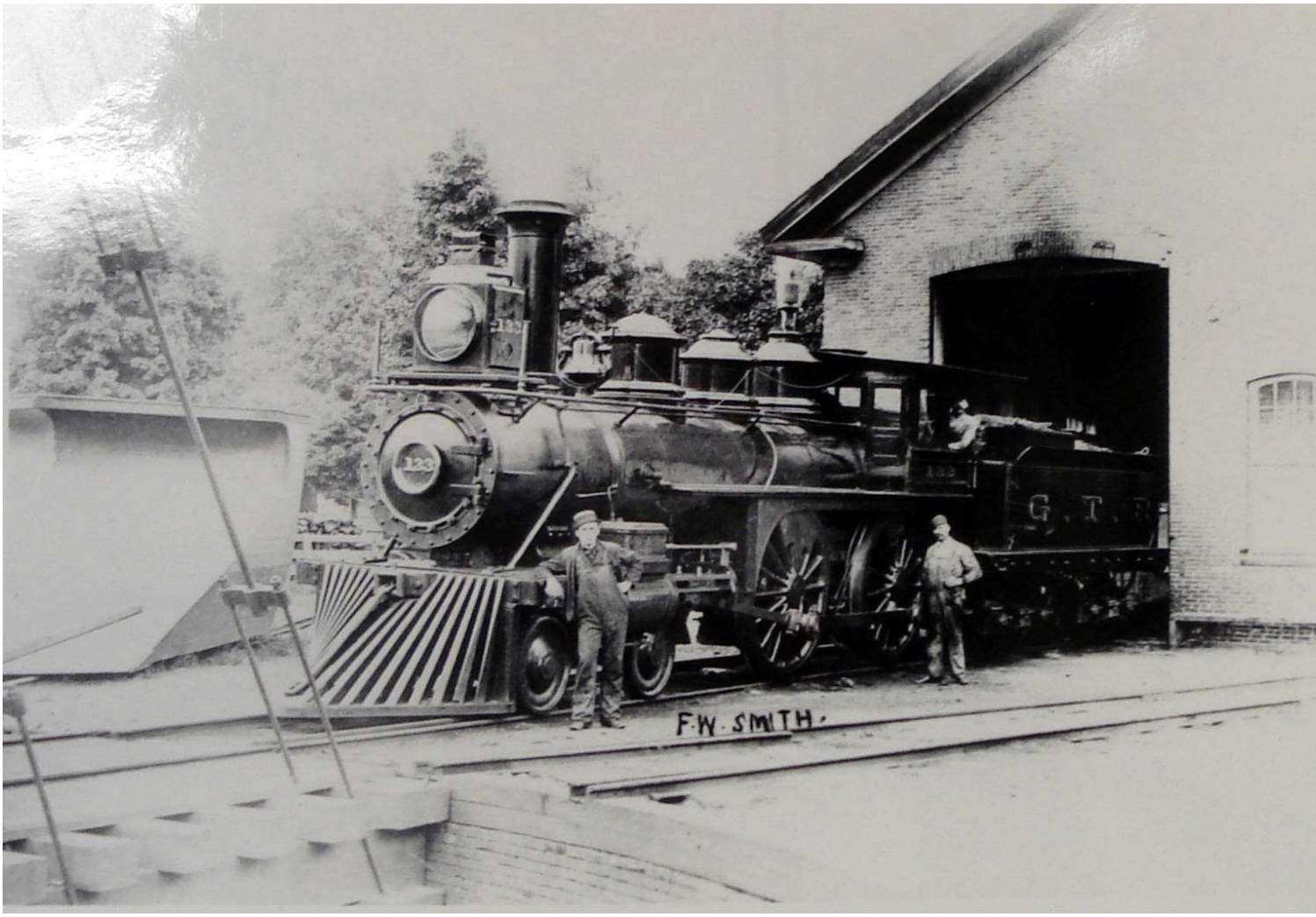
Drawing #	Title of Drawing	Date of Drawing	Subject from Casting Book	Same as Number
0015P	Stud for Cab Handles "For Locomotives"	05/31/1869	Cab and Tender Handle Studs	157, 158
0017P	Blast Valve	07/27/1867	Blast	
0049P	Whistle "for locomotives"	04/06/1864	Whistle	
1180L	Slides for Engines Nos 358-363, 519-539-4 &602 &623	09/29/1879	Slides	
1181L	Fontaine Stack for Locos 362, 370	05/06/1870	Stacks	
1187P	Cylinders for 16 x 24 Locomotives	No Date	Cylinders	153, 155
1197L	Alteration of Cylinder Clock Work, first used on locos 358-363	09/06/1870	Cylinder Clockwork	
1209L	Corner Casting for Tender Frames, Locos 358-63	10/12/1979	Tender Frame Corner	
1222L	Side Frame Plate for Goff Truck Frame, 360, 63, 68, 9	04/171880	Side Frame Plate	
1239L	Tender Axle for Locos 362 & 370 for E & N.A. Ry	04/17/1880	Tender Axle	
1242L	Runboards for Locos 358-63	10/11/1979	Runboards	
1423P	Frame for Engines No. 191, 192, 193	01/07/1871	Main Frames	191-192
1425P	Axles for Locos No. 262-76 and 280-87	05/20/1873	Forward Drive Axles	draught
1427P	Cab Supports for Engines Nos. 191-2	04/16/1875	Cab Supports and Bottoms	191, 192
1445P	Axles for Engines Nos. 222-225 for the GTRy	10/12/1872	Truck, Tender Journals	draught
1449P	Reverse Arms Shaft-Support Engines Nos. 226-45	07/31/1873	Reverse Shaft & Arms	draught
1458P	Piston Road for Engines Nos. 262-72 and 280-7	05/28/1875	Piston Rods	
1460P	Cross Section of Engines Nos. 227-30 through front driving wheel	09/22/1872	Cross-section Front Door	
1462P	Boiler for Engines Nos. 226-245 & 256-3	02/26/1873	Boiler	226
1463P	Reverse Lever and Guides for Engines no. 226-245 for the GTR	02/29/1873	Reverse Shaft Levers and Guides	draught
1475P	Stirups for 48 inch boiler	01/10/1872	Stirups, Boiler	200
1477P	Pump Rod for Engines Nos. 191-192	01/29/1871	Pump Plungers	166
1478P	Front Draw Castings for Engines Nos. 193 -	10/25/1872	Front Draw Casting	193
1490P	Truck Frame Plate Engines Nos. 232-35 GTR Railway	11/13/1874	Truck Frame Plates	
1495P	Tender Frame for Engines No. 190-195, 206, 207, 208	04/20 1872	Tender Frame	
1501P	Cab of Engines Nos. 191, 192, 193 … 226-245 etc.	01/27/1871	Cab	
1504P	Yoke and Rocker for Engine No. 196	10/09/1871?	Yoke and Brace	193
1506l	Lugs and Equalizing Lever For Engines Nos.191-193	11/15/1877	Equalling Lever and Plates	191, 192
1535P	Link Block and Lifting Pin fore Engines Nos. 182, 183	No Date	Link Blocks	
1536P	Valve Stem for Balanced Valve for Nos. 188, 189	12/20/1870	Valve Stems	188
1544P	Saddle for Engine No. 152	04/11/1868	Saddle	
1545P	Centre Irons and Corner for Frame for Tenders of Nos. 107, 109-111	07/19/1860	Corners for tanks	
1582P	Parallel Rod for engines Nos. 176-177-78	05/04/1870	Parallel rods	176 - 178
1589P	Tender springs for Engines Nos. 188, 199	01/14/1871	Driver Springs.	188, 199
1608P	Link Counter-balance Casing for Locomotive No. 175	01/10/1870	Counterbalance Casing, Foot and Washer	175
1609P	Link Counter balance Gear for Engine No. 175	05/12/1870	Link Counter Balance Gear	
1614P	Pump for No. 166	05/19/1871	Water Pump	
1619P	Balanced Valve for Engines Nos. 188 and 189	12/15/1870	Main Valves	188, 189
1622l	Eccentric Rods for Locos 182-183	No Date	Eccentric Rods	
1634L	Crank Pins for Engines Nos. 128-33	05/10/1891	Crank Pins	128, 133
1636P	Yoke and Rockers for Engines Nos. 153, 54 and 55 for the GTR	8/11/1868	Rockers	153, 155
1667L	Tender Frames for Engines Nos. 191-192 etc.	04/27/1880	Tender Frame	
1674P	Eccentric and Strap for Engine No. 159	03/30/1869	Eccentrics	159
1686P	Eccentric Rod and Piston Rod for Engines Nos. 128-133	12/24/1864	Main Connections	128, 133
1737P	Check and Casing for Engine Nos. 226-45 for GTR	05/02/1872	Water Pump Check Valve and Casing	
1762P	Driving Spring Hangers for Engines Nos. 153-155	12/24/1868	Drive Spring Hangers	159
1765P	Piston for 16in Cylinder for Engines Nos. 153 to 155, GTR	10/09/1868	Pistons	153, 155
1768P	Cylinder Head casings for 16in Cylinders for Engines Nos. 153-155	11/03/1868	Cylinder Head Casings	
1777P	Crossheads for Engines Nos. 153-155 for the GTR	08/03/1868	Crossheads	153,155
1780P	Tank for Engine of No. 145 for the PS and PRR	02/16/1869	Tank	159
1784P	Fire Door for Engines Nos. 113-116 for LT&RR and GTR	04/07/1864	Fire Door Frame and Shield	113, 114
1804P	Well Cover for Engines Nos. 113-116 for LT&RR and GTR	04/28/1864	Well Cover	112
1831P	Smoke Arch for Engines 122 and 123 for the M&St.P RY	07/09/1864	Smoke Arch Front	122, 123
1846P	Foot board Draw Casing for Engines Nos. 123 and 126, Panama RR	10/27/1864	Footboard Draw Casing	125, 126
1848P	Dome Casings for Engines No. 121 for Dubuque and Sioux RR	05/24/1864	Dome Casing	

Related Elevations				
20144P	Elevation of Engines Nos. 153-155, GTR	03/08/1889		
0196L	Elevations of Locos Nos. 394-5	08/17/1881		
1901P	Elevations of Engines Nos 142-145 for the GTR	05/19/1863		
1914P	Elevation of Engine No. 147 for the Portland & Rochester RR	11/26/1867		
1933P	Elevation of Engine No. 155 for the Maine Central RR.	05/07/1869		
1960P	Elevation of Engine No. 196 for the Portland & Rochester RR	11/101871		
23058L	Elevation of Loco No. 352	Date Missing		

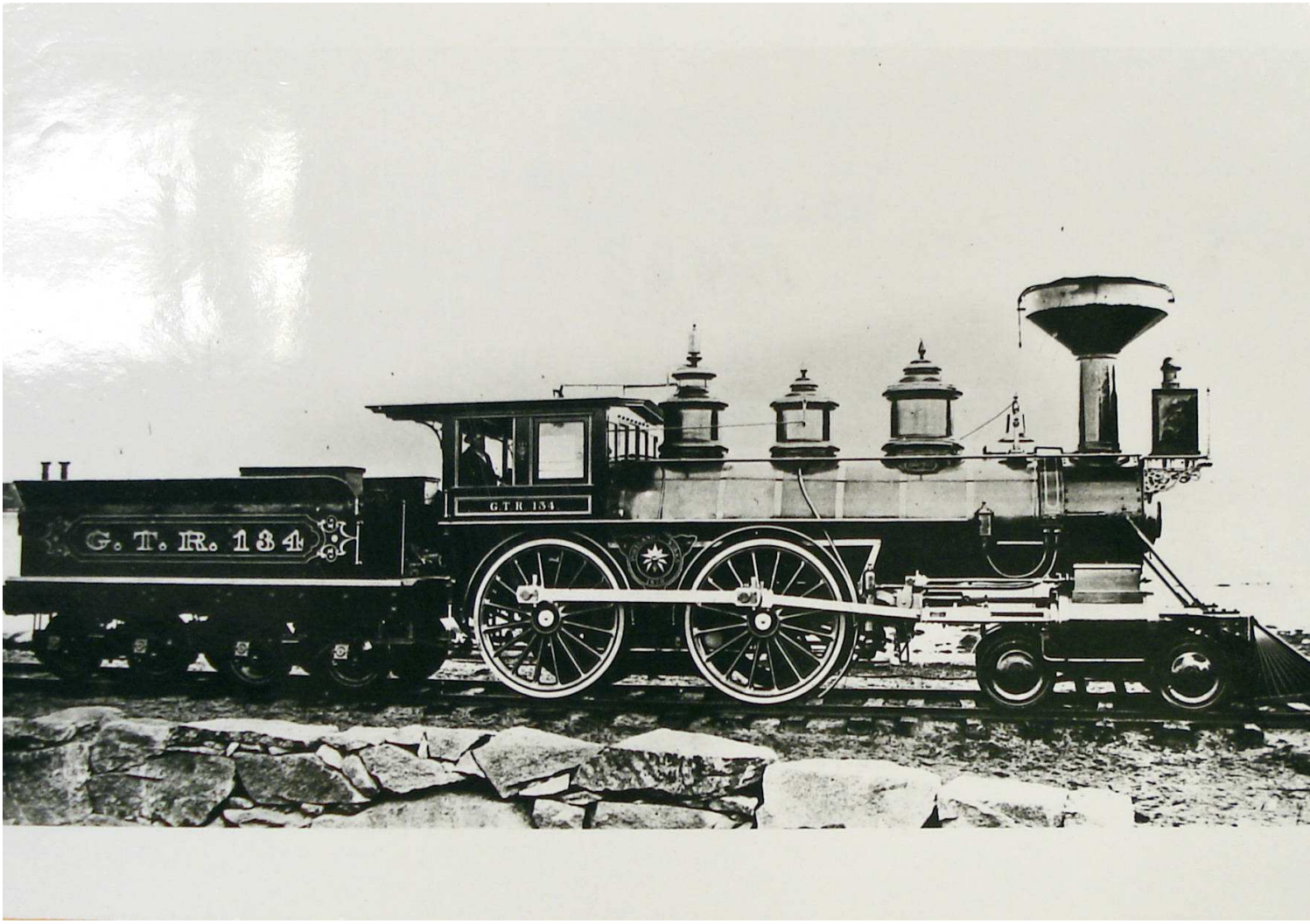
Appendix 6 - Photographs Relevant to CN 40

GTR=Grand Trunk Railway, ICR=Intercolonial Railway, MeC=Maine Central RR, P&O=Portland & Ogdensburg RR
CMST=Canadian Museum of Science and Technology, MHS=Maine Historical Society, NAC=National Archives of Canada

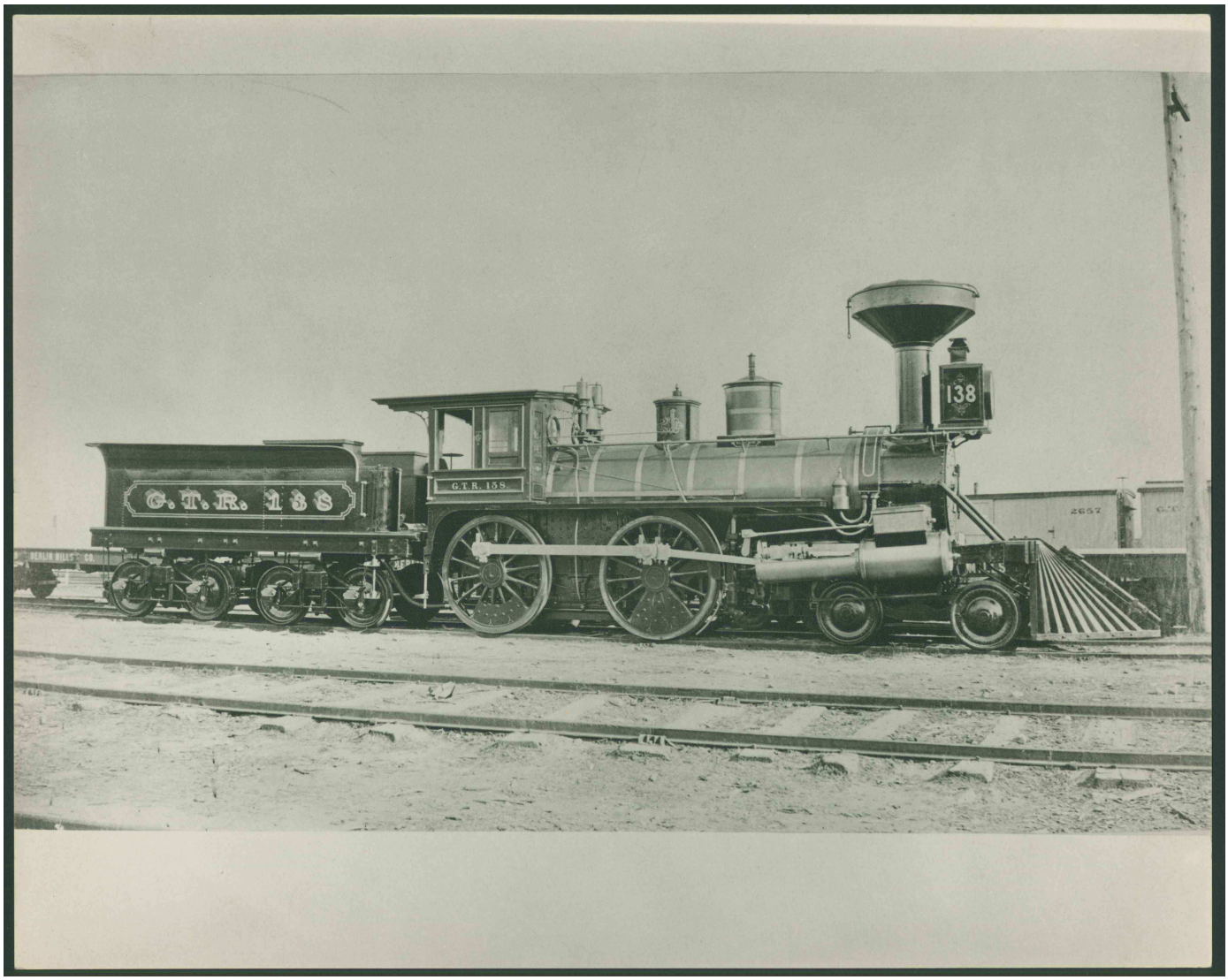
Photo #	Shop. #	Railway	Road #	Delivered	Date of Photo	Filename
1	164	GTR	133	1869/10	1871	GTR 133 - CMST McQuinn 004168.JPG
2	176	GTR	134	1871/07	08/1870	GTR 134 - CMST McQuinn 004169.JPG
3	181	GTR	138	1871/03	03/1871	GTR 138 - MHS 33-64.tif
4	238	GTR	364	1873/01		GTR 364 - MHS 33-68.tif
5	244	GTR	371	1873/04		GTR 371 - NAC 200781580.JPG
6	245	GTR	376	1873/04		GTR 376 - NAC 200781580.JPG
7	246	P&O RR	PEQUAWKET 6	1873/06		P&ORR Pequawket - MHS 33-95.tif
8	248	MIDLAND RR	MICHIGAN 12	1873/05	1895	Midland 123 Michigan - CMST McQuinn 00421
9	251	GTR	377	1873/06		GTR 377 - CMST McQuinn 004204.JPG
10	253	GTR	379	1873/07		GTR 379 - NAC 200781580.JPG
11	254	ICR	66	1873/04		ICR 66 - MHS 29-2a-28l.tif
12	272	GTR	255	1873/11		GTR 255 - MHS 33-66.tif
13	316	GTR	432	1875/04		GTR 432 - MHS 33-71.tif
14	352	MeC RR	65	1879/06		MeC 65 Lockwood - MHS 37-51.tif
15		CVR	40		1903+	CVR 40 (1) - CMST 670008SI.tif
16		CVR	40		1927	CVR 40 (2) - CMST 670008SI.JPG
17		CVR	40		1927	CVR 40 (3) - CMST Riff 034297.tif
18		CVR	40		1927+	CVR 40 (4) - CMST 670008SI.JPG
19		CVR	40		1927+	CVR 40 (5) - CMST 670008SI.tif
20		CVR	40		1949	CVR 40 (6) - CMST 670008SI.JPG
21		CVR	40		1949	CVR 40 (7) - CMST 670008SI.tif
22		CN	40		1950+	CN 40 (1) - CMST 670008SI.tif
23		CN	40		1950+	CN 40 (2) - CMST 670008SI.tif
24		CN	40		1950+	CN 40 (3) - CMST 670008SI.tif
25		CN	40		1950+	CN 40 (4) - CMST 670008SI.tif
26		CN	40		1950+	CN 40 (5) - CMST 670008SI.tif
27		CN	40		1950+	CN 40 (6) - CMST 670008SI.tif
28		CN	40		1950+	CN 40 (7) - CMST 670008SI.tif
29		CN	40		1950+	CN 40 (8) - CMST 670008SI.tif



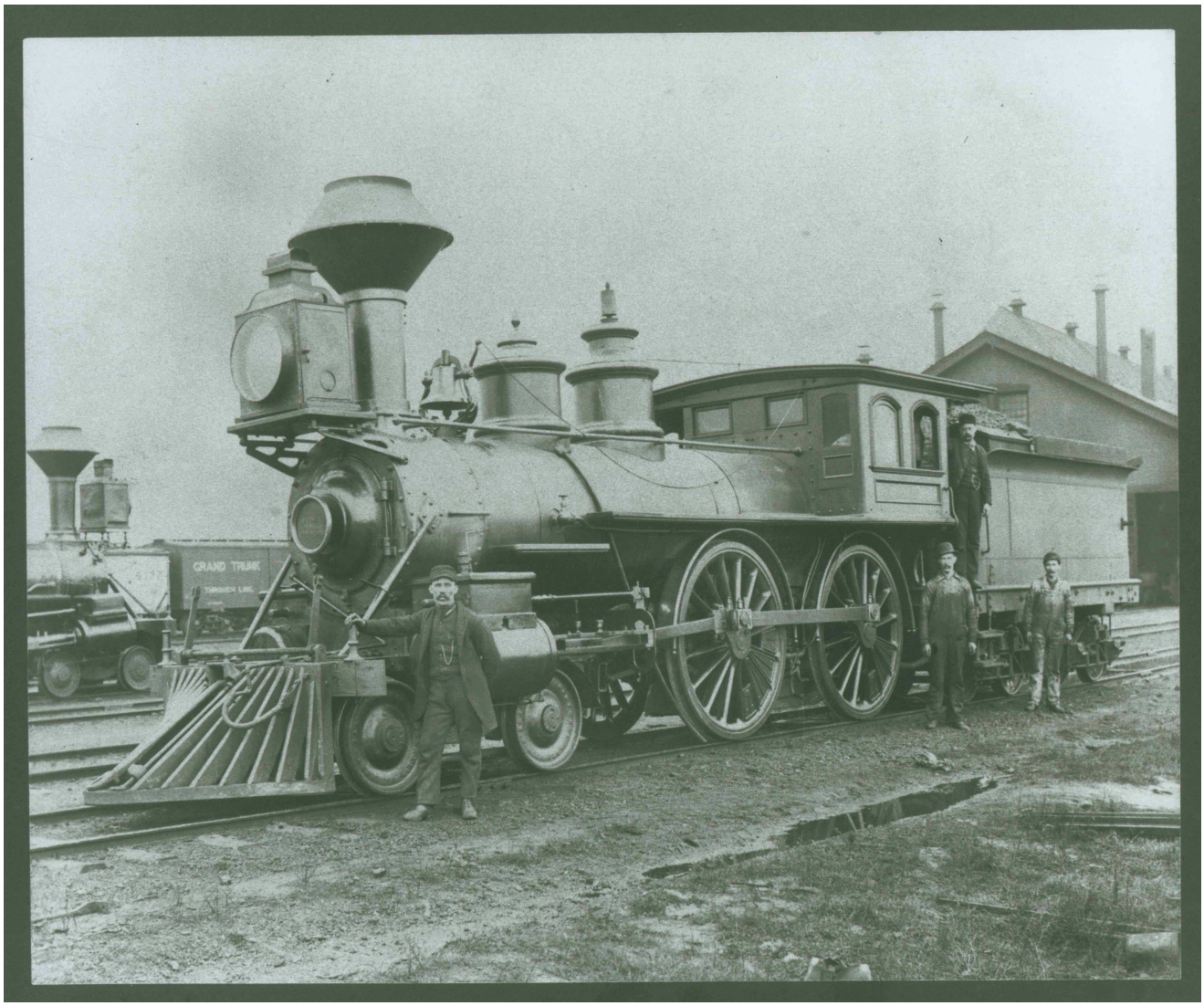
Photograph 1 - Portland 164, GTR 133, delivered October 1969. Source: CMST McQuinn 004168.



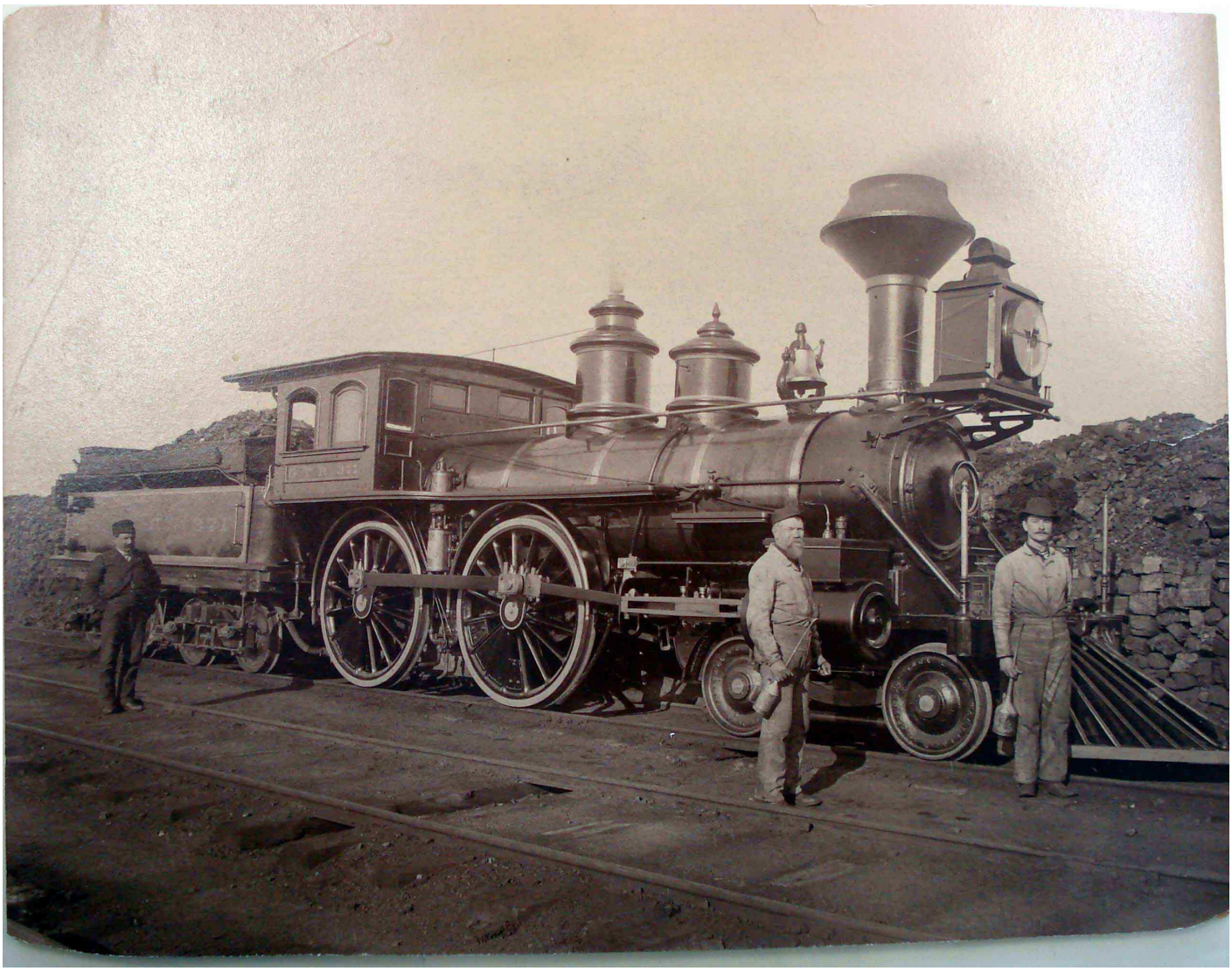
Photograph 2 - Portland 176, GTR 134, delivered July 1870. Source: CMST McQuinn 004169.



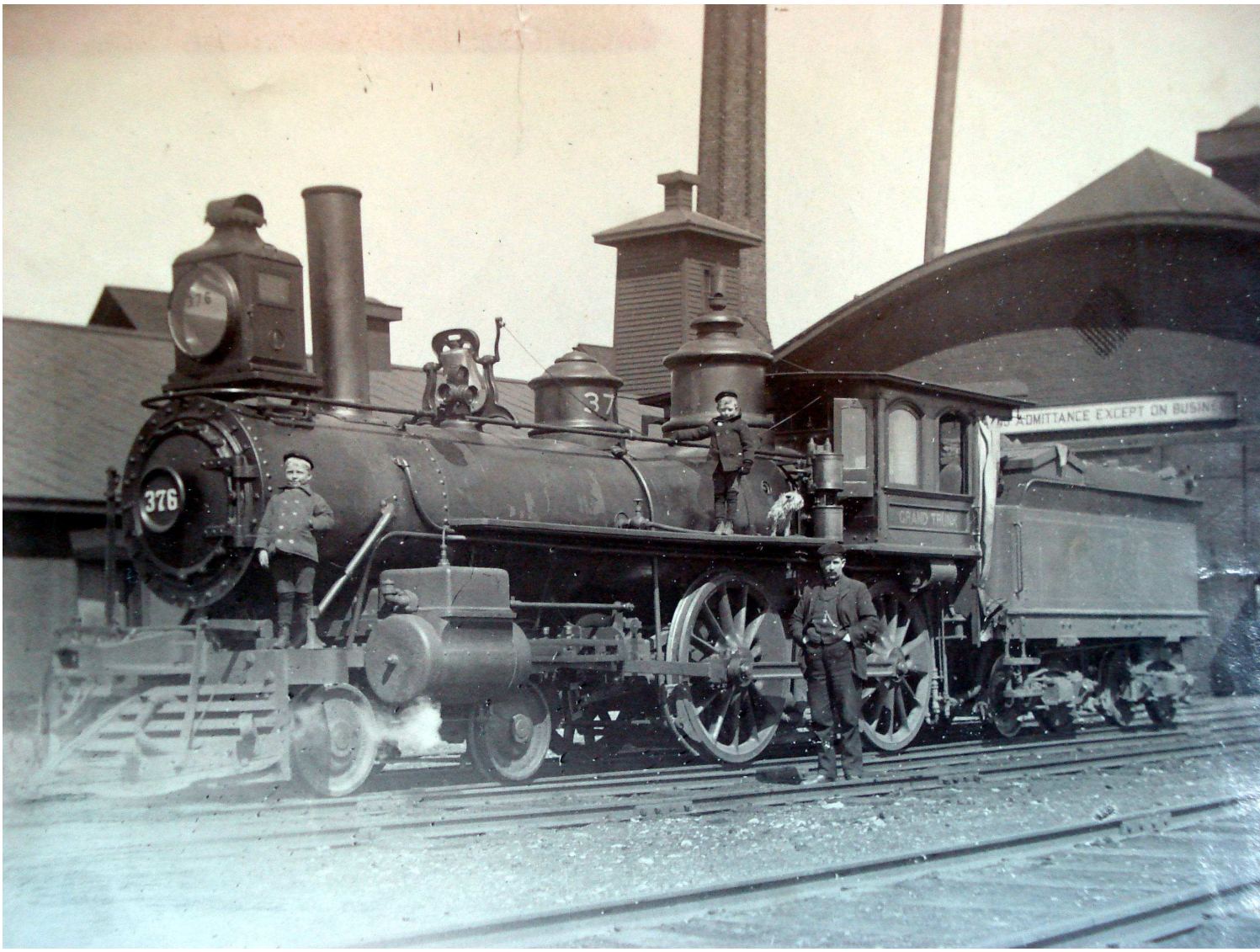
Photograph 3 - Portland 181, GTR 138, delivered March 1871. Source: MHS 33-64.



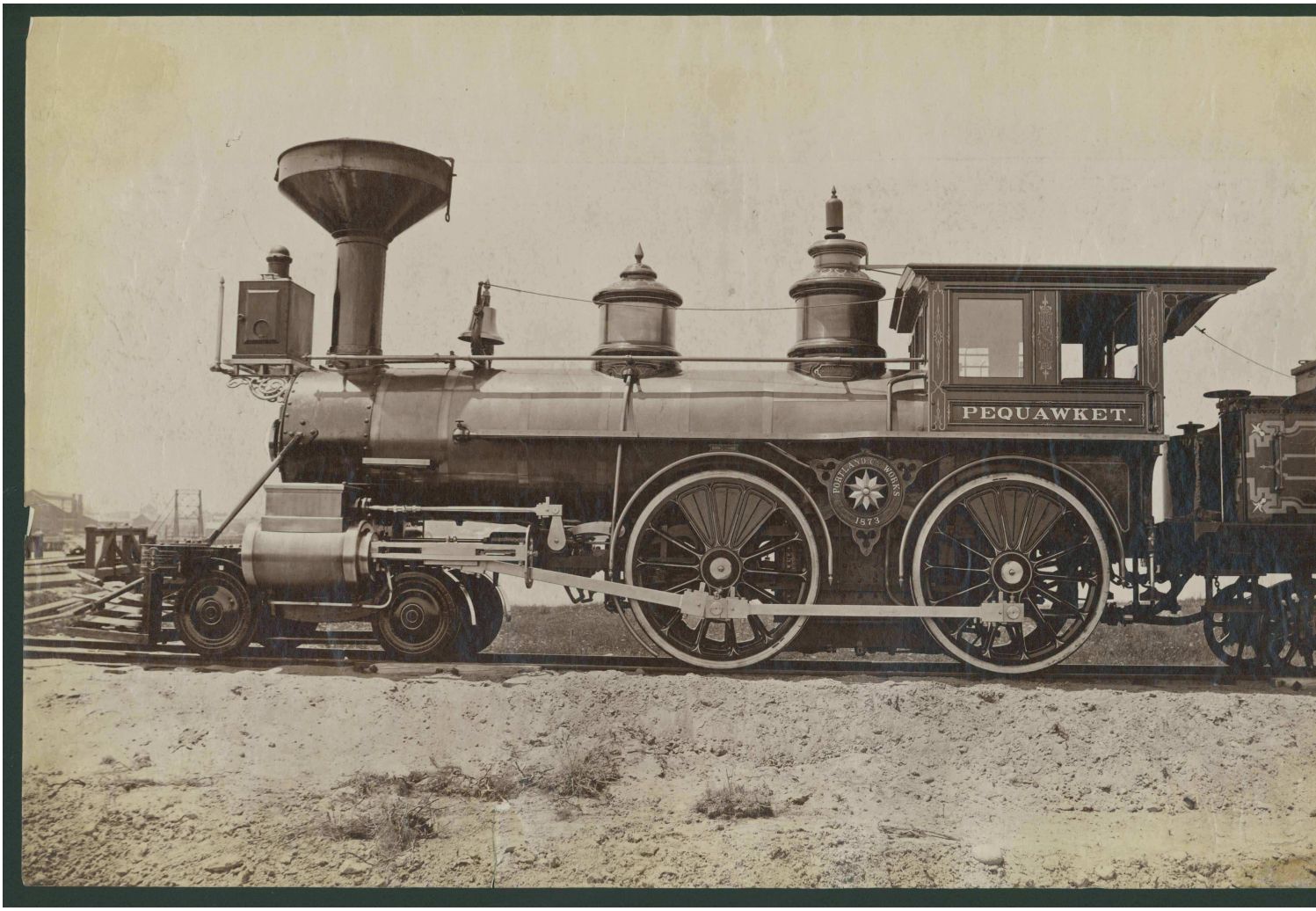
Photograph 4 - Portland 238, GTR 364, delivered January 1973. Source: MHS 33-68.



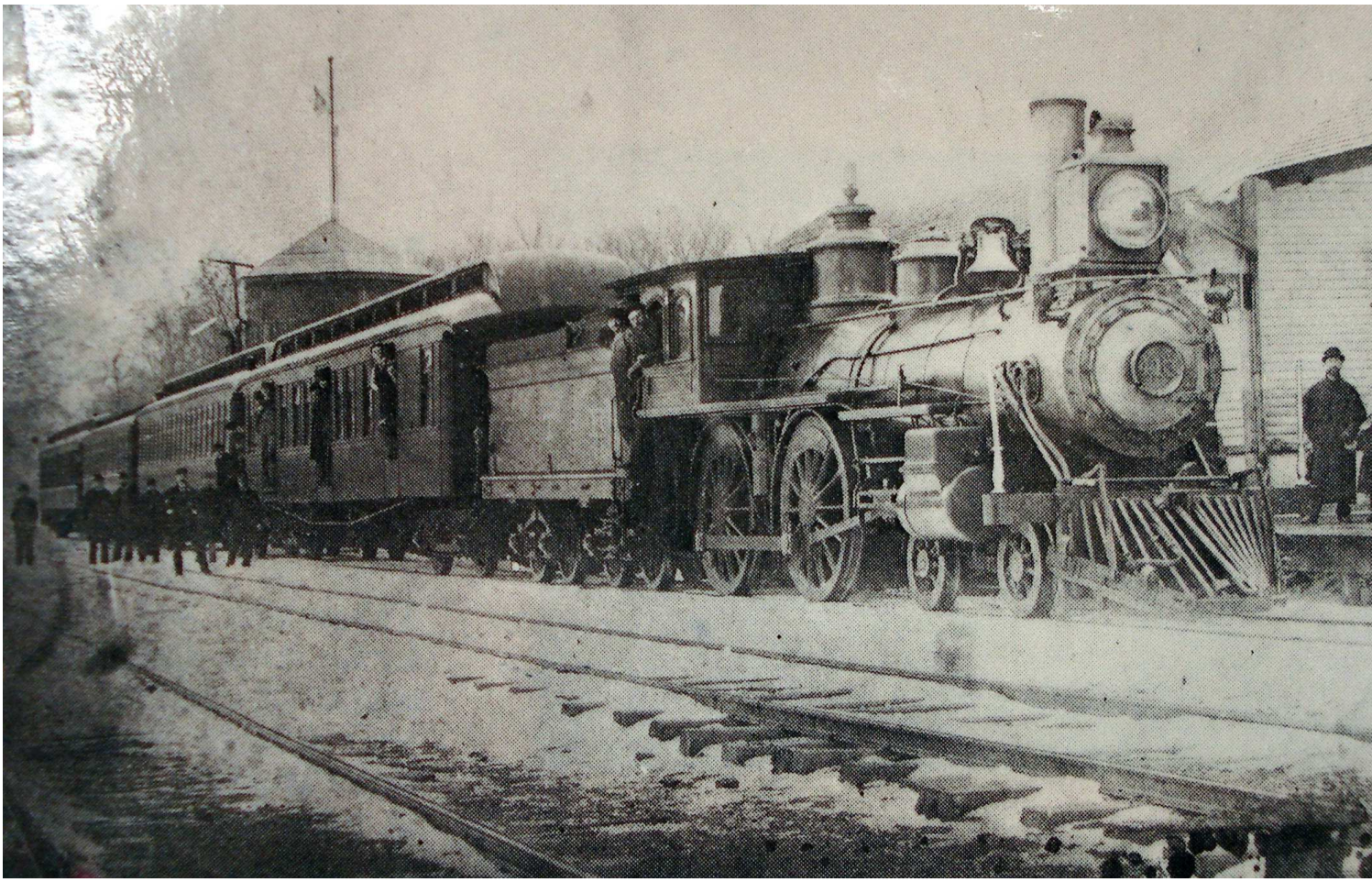
Photograph 5 - Portland 244, GTR 371, delivered April 1873. Source: NAC 200781580.



Photograph 6 - Portland 245, GTR 376, delivered April 1873. Source: NAC 200781580.



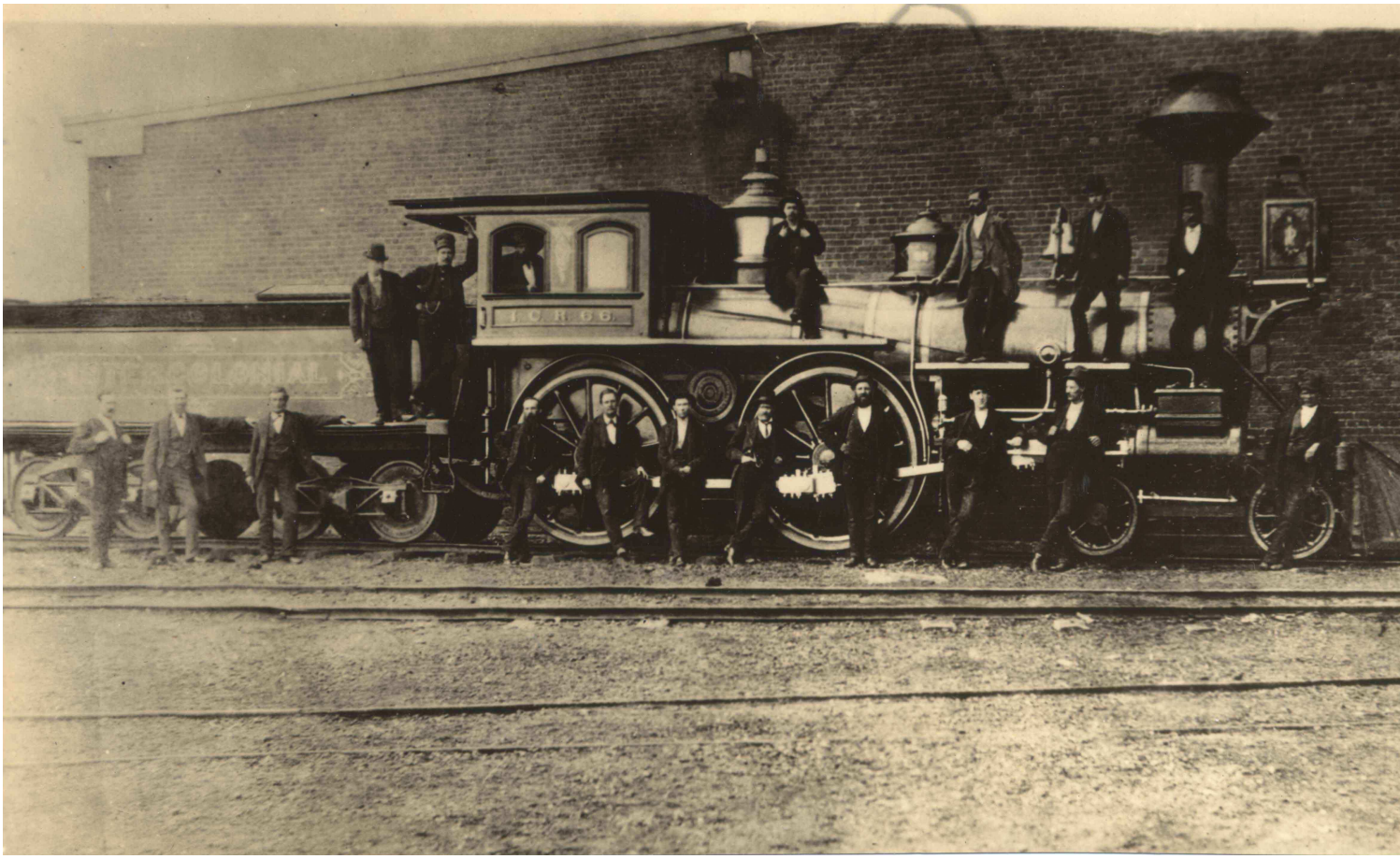
Photograph 7 - Portland 246, Portland & Ogdensburg RR 6 PEQUAWKET, delivered June 1873. Source: MHS 33-95.



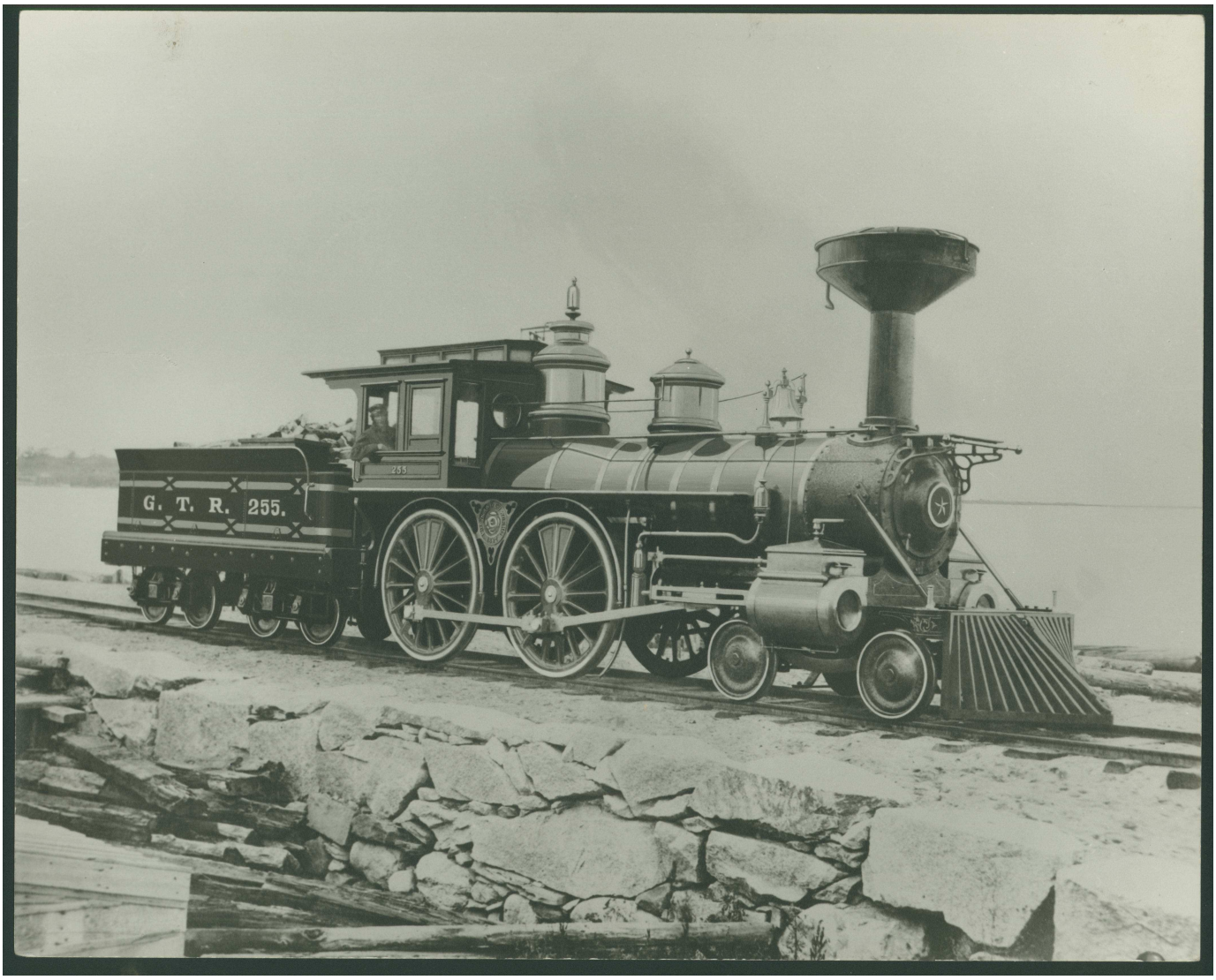
Photograph 8 - Portland 248, MIDLAND RR 12 "MICHIGAN," delivered May 1873. Source: CMST McQuinn 004211.

Photograph 9 - Portland 251, GTR 377, delivered June 1873. Source: CMST McQuinn 004204.

Photograph 10 - Portland 253, GTR 379, delivered July 1873. Source: NAC 200781580.



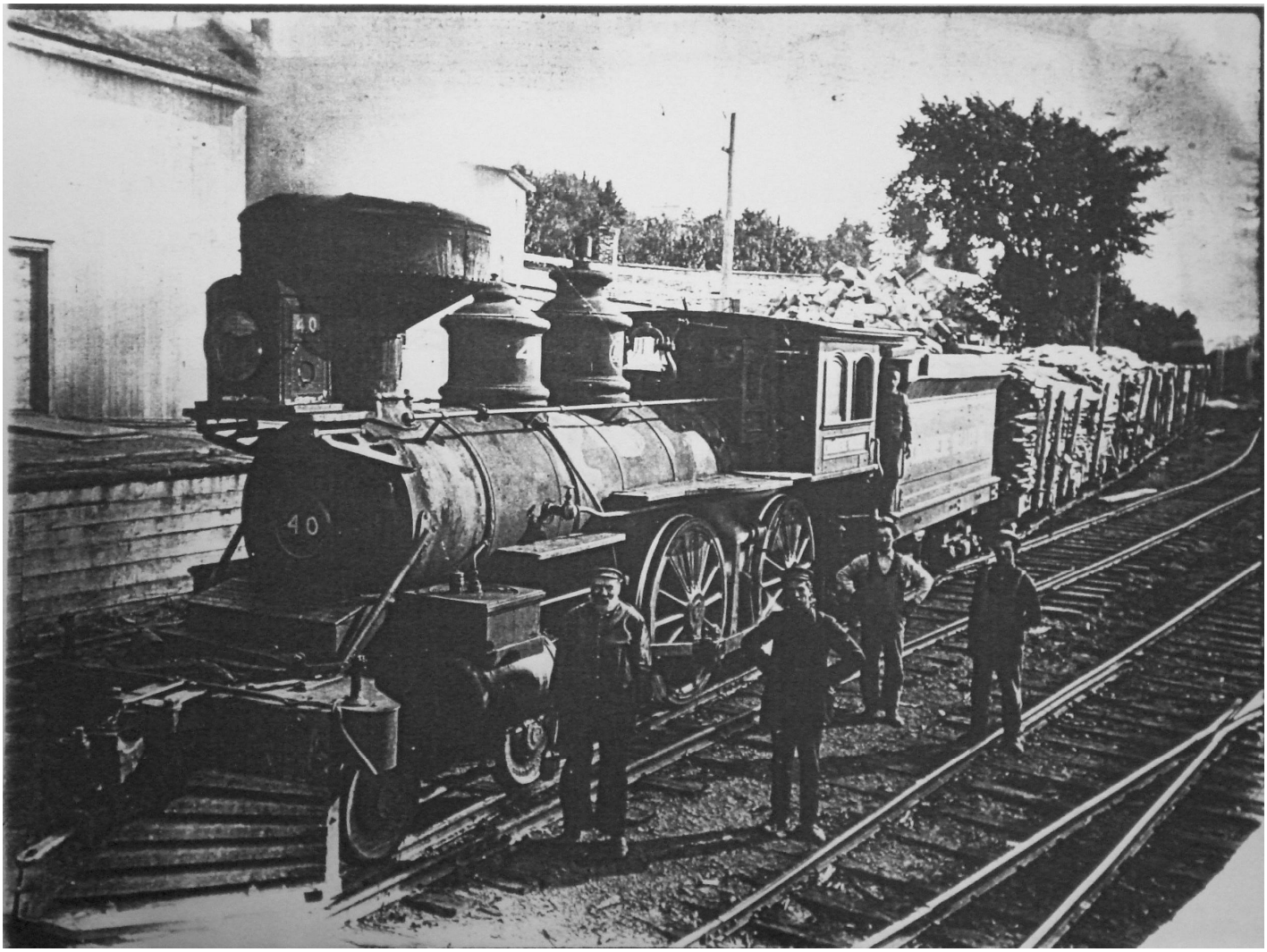
Photograph 11 - Portland 254, Intercolonial RR 66, delivered April 1873. Source: MHS 29-2a-28.



Photograph 12 - Portland 272, GTR 255, delivered Nov-73. Source: MHS 33-66.

Photograph 13 - Portland 316, GTR 432, delivered April 1875. Source: MHS 33-71.

Photograph 14 - Portland 352, Maine Central RR 65 Lockwood, delivered June 1879. Source MHS 37-51.



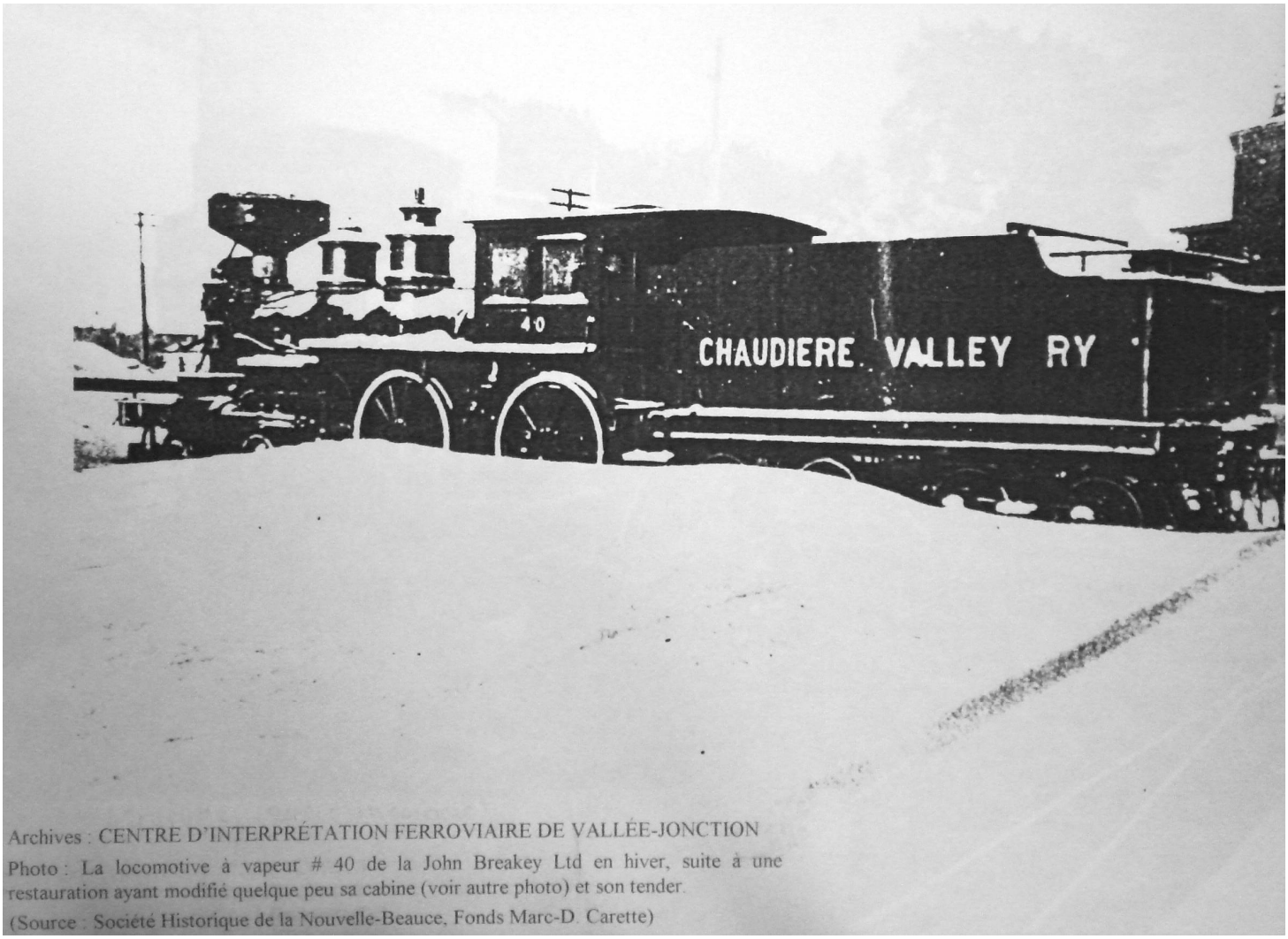
Photograph 15 - CVR 40, possibly before 1910. Source: CMST 670008SI.

Photograph 16 - CVR, 40 around 1927. Source: CMST 670008SI.

Photograph 17 - CVR, 40 around 1927. Source: CMST Riff 034297.

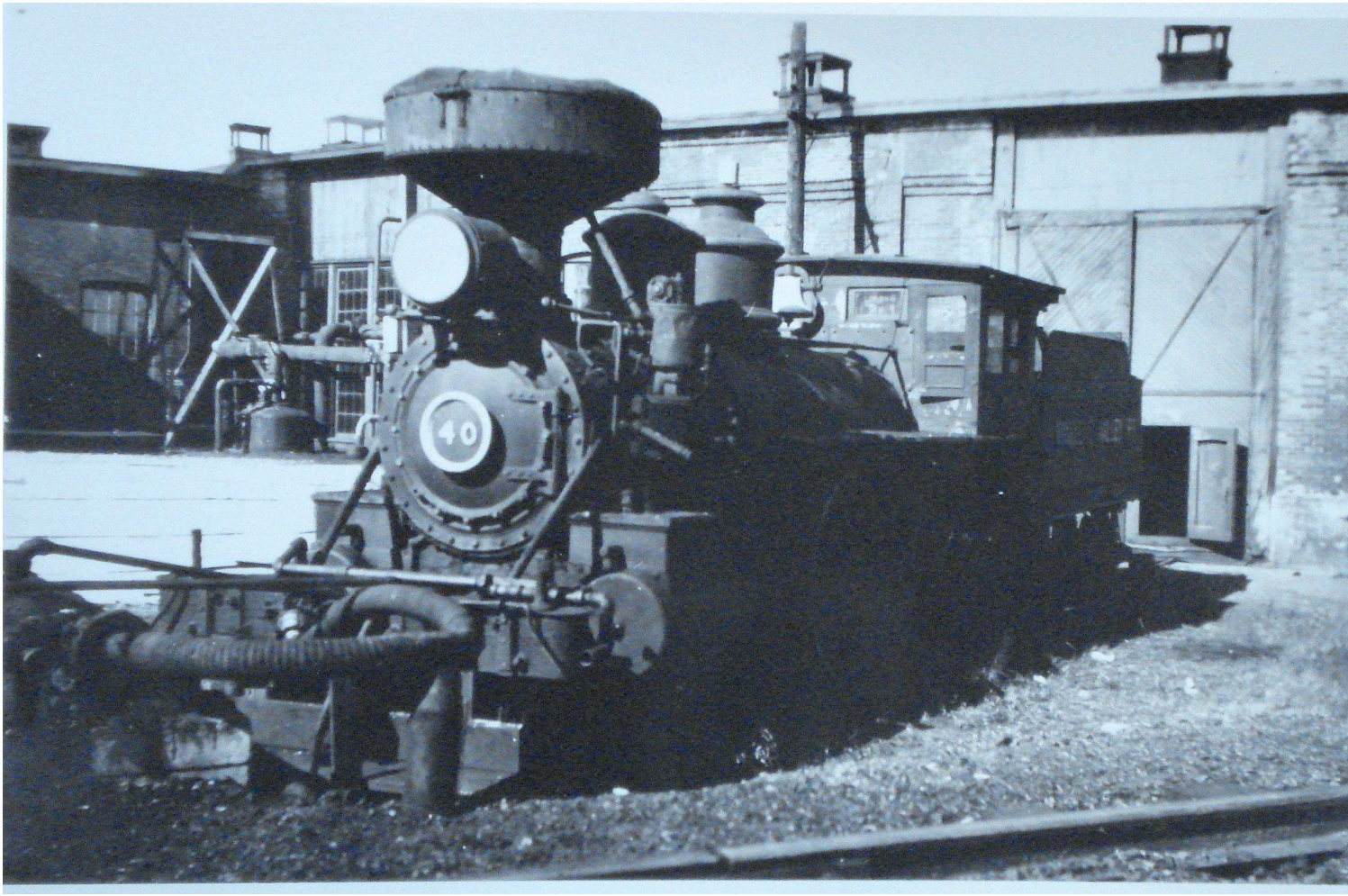
Archives : CENTRE D'INTERPRÉTATION FERROVIAIRE DE VALLEE-JONCTION
Photo : La locomotive à vapeur # 40 de la John Breakey Ltd en été, suite à une restauration ayant modifié quelque peu sa cabine (voir autre photo) et son tender.
Source : Perspectives, Claudette Roy-Gobeil

Photograph 18 - CVR 40 likely some time after 1927. Source: CMST 670008SI



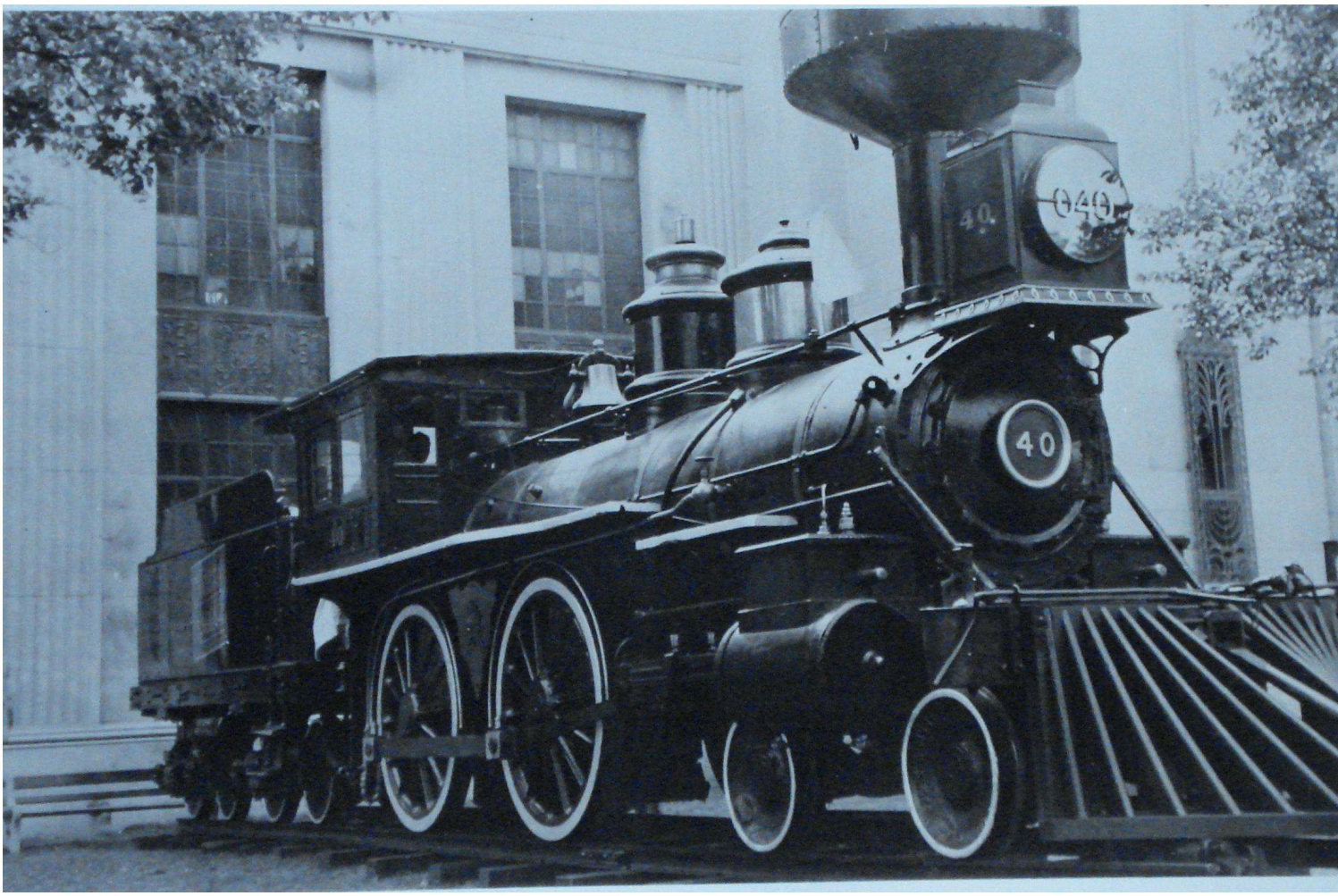
Archives : CENTRE D'INTERPRÉTATION FERROVIAIRE DE VALLÉE-JONCTION
Photo : La locomotive à vapeur # 40 de la John Breakey Ltd en hiver, suite à une restauration ayant modifié quelque peu sa cabine (voir autre photo) et son tender.
(Source : Société Historique de la Nouvelle-Beauce, Fonds Marc-D. Carette)

Photograph 19 - CVR 40 likely at some time after 1927. Source: CMST 670008SI.

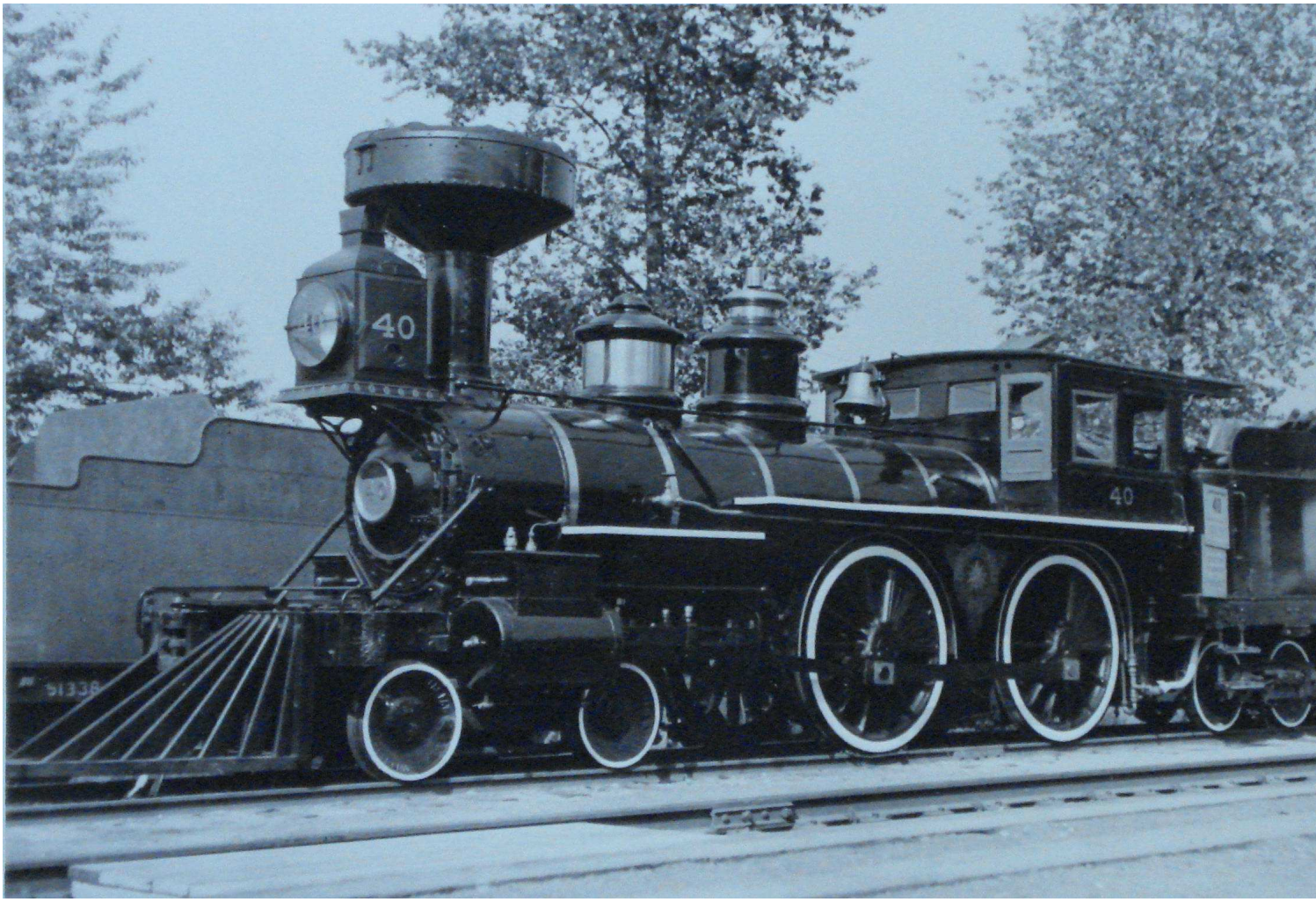


Photograph 20 - CVR 40 circa 1949. Source: CMST Stephens 016139.

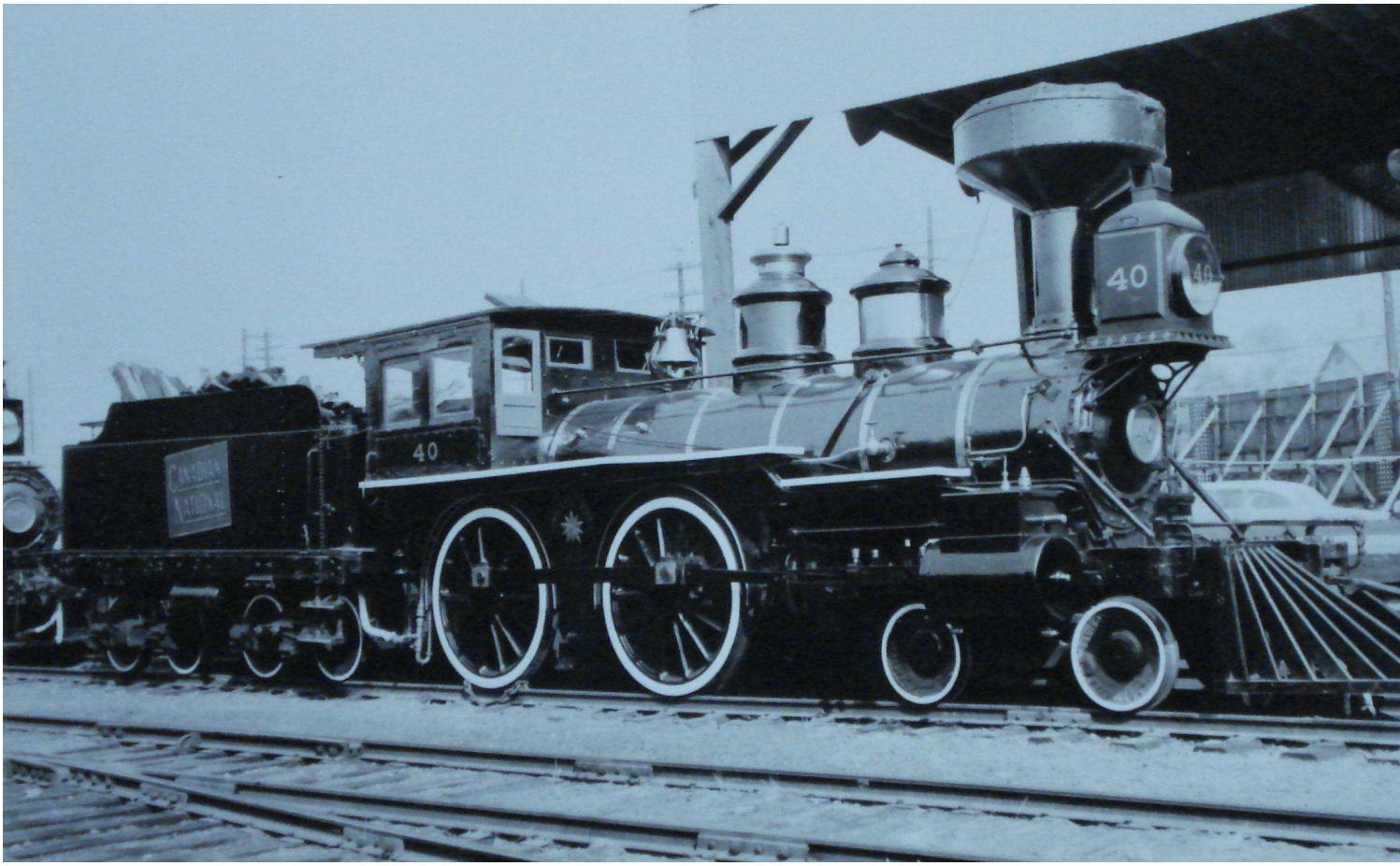
Photograph 21 - CVR 40 circa 1949, CMST Stephens 016138.



Photograph 22 - CN 40 in the 1950s. Source: CMST 670008SI.



Photograph 23 - CN 40 in the 1950s. Source: CMST 670008SI.

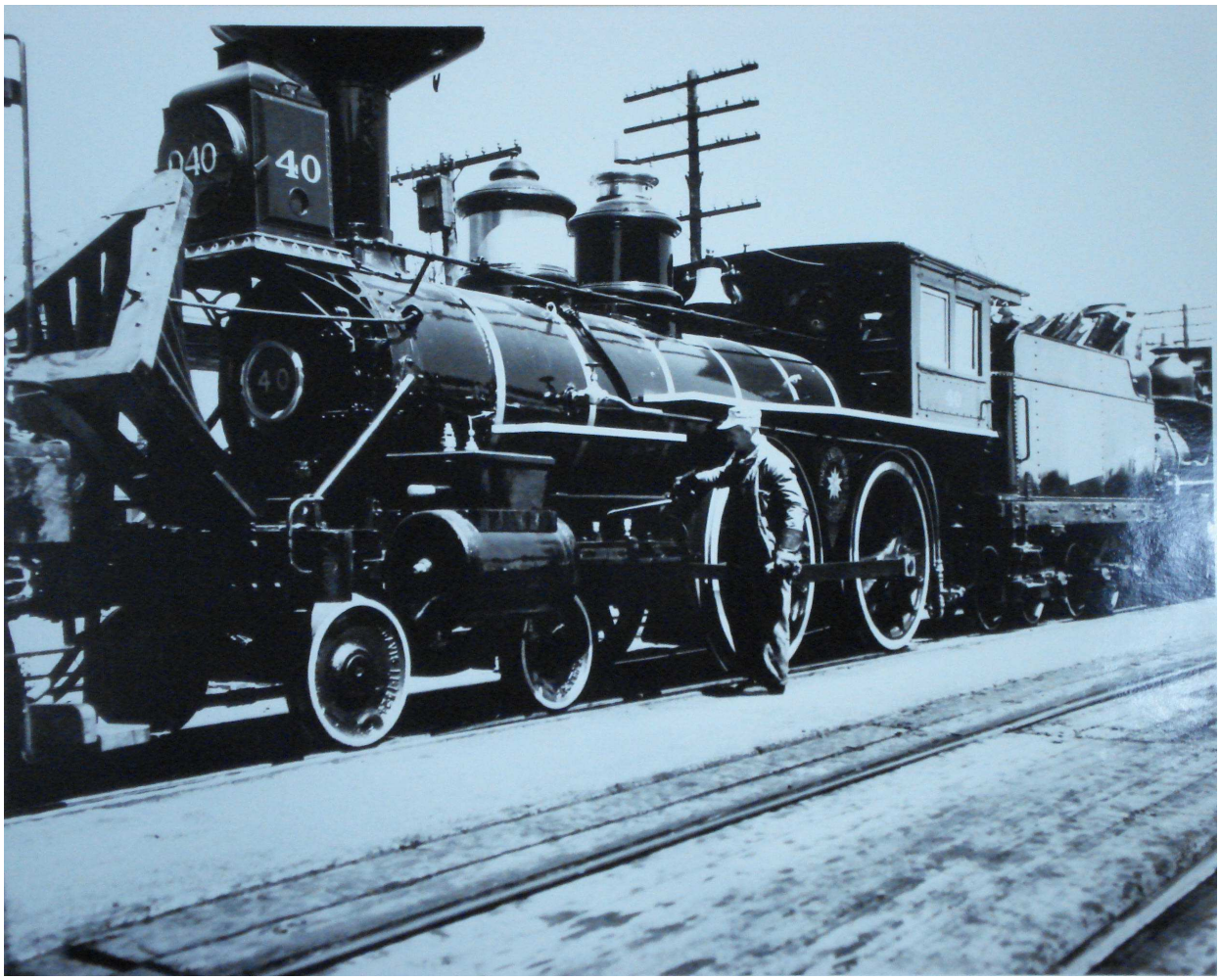


Photograph 24 - CN 40 in the 1950s. Source: CMST 670008SI.

Photograph 25 - CN 40 in the 1950s. Source: CMST 670008SI.

Photograph 26 - CN 40 in the 1950s. Source: CMST 670008SI.

Photograph 27 - CN 40 in the 1950s. Source: CMST 670008SI.



Photograph 28 - CN 40 in the 1950s. Source: CMST 670008SI.

Photograph 29 - CN 40 in the 1950s. Source: CMST 670008SI.

Appendix 7 - Contents of the DVD

Below is the Directory Structure of the DVD, indicating which folders hold which documents.

\CN 40

- \Canadian Railway Historical Society
  - \1873 Newpaper Report on Accident
  - \Corley & Other Reports
  - \GTR Locomotive List 1901
- \CMST
  - \Contracts Specifications
  - \Corley & Other Reports
  - \Museum Train Inventory + Letters
  - \Partial Drawing List
  - \Portland Engine List From Dole 1978
  - \Worksheet Specifications
- \CN 40 Report
  - \Appendices
- \Maine Historical Society
  - \MHS - Casting Books
    - \PDFs
    - \Vol 14
      - \Portland Locos 153-155
    - \Vol 15
      - \Portland Loco 246
      - \Portland Locos 229-245 and 251-253
    - \Vol 16
      - \Portland Locos 226-245
  - \MHS - Photos
  - \MHS - Portland 233 Drawings
    - \Related Elevations
- \Photographs Relating to CN 40