

## LOCOMOTIVE INSPECTION.

The coöperative work with the railroads running through the forest regions of the state has been continued with splendid results during the past two seasons. There has been a steady improvement in the type of equipment used by the various roads and especially in the general upkeep of the spark arresting devices.

Following is the report of Mr. A. E. Hoffman, Merrill, covering the work from May 1, to November 1, 1916.

Wisconsin Conservation Commission,  
Madison, Wisconsin

Gentlemen:—

I herewith submit to you my report of locomotives and rights of way inspected for the past six months, ending October 31, 1916.

The following table shows the number of locomotives inspected each month and their conditions:

	Total.	G.	F.	B.	R.	O. S.
May.....	91	86	4		1	
June.....	102	80	16	5		1
July.....	68	56	7	3	2	
August.....	39	31	1	4	3	
September.....	90	79	5		6	
October.....	131	112	10	2	7	
	521	444	43	14	19	1

The following is a table of the rating of locomotives inspected of the different roads.

The locomotives of the C. & N. W. Ry. and C. St. P. M. & O. Ry. are reported as one for the reason that they are occupying the same round houses in a great many places.

	Total.	G.	F.	B.	R.	O. S.
N. W. Line.....	186	171	7	0	8	0
Soo Line.....	96	92	4	0	0	0
C. M. & St. P.....	93	85	2	0	6	0
Green Bay & W.....	25	20	4	0	1	0
L. S. T. & T. Ry.....	19	8	8	2	0	1
Great Northern.....	16	9	7	0	0	0
Mar. Tom. & E.....	6	4	1	1	0	0
Wis. & Northern.....	6	4	1	1	0	0
D. S. S. & A. Ry.....	4	4	0	0	0	0
No. Pacific Ry.....	3	3	0	0	0	0
	454	400	34	4	15	1

## KEY TO TABLES.

G.—Good.

F.—Fair.

B.—Bad.

R.—In shop for repairs.

O. S.—Ordered out of service.

The following are ratings of the logging locomotives:

	Total.	G.	F.	B.	R.	O. S.
Hines Lumber Company,						
Park Falls.....	9	5	0	3	1	0
Rib Lake Lumber Company,						
R b Lake.....	6	5	0	0	1	0
Kneeland McLurg Lumber Company,						
Phillips.....	5	2	1	2	0	0
Robbins Lumber Company,						
Rhineland.....	5	3	0	2	0	0
Roddis Lumber and Veneer Company,						
Park Falls.....	4	3	1	0	0	0
Phelps Bonnell Company,						
Phelps.....	4	4	0	0	0	0
Mohr Lumber Company,						
Hixon Line.....	3	1	1	1	0	0
Goodman Lumber Company,						
Goodman.....	3	3	0	0	0	0
Leona and Northern,						
Leona.....	2	1	0	1	0	0
Kneeland & West,						
Lugerville.....	2	2	0	0	0	0
Foster Latimer Company,						
Mellen.....	2	2	0	0	0	0
Owen and Northern,						
Owen.....	1	0	0	0	1	0
Menominee Bay Shore Company,						
Soperton.....	2	2	0	0	0	0
Wells Lumber Company,						
Ellis Junction.....	2	0	1	1	0	0
Dunbar & Wausaukee Railway,						
Wausaukee.....	2	1	1	0	0	0
Westboro Lumber Company,						
Westboro.....	2	1	1	0	0	0
Union Land Company,						
Hixon Line.....	2	1	1	0	0	0
Turtle Lake Lumber Company,						
Winegar.....	1	1	0	0	0	0
Vilas County Lumber Company,						
Winchester.....	1	1	0	0	0	0
Menasha Paper Company,						
Ladysmith.....	1	1	0	0	0	0
Foster-Mueller Company,						
Hiles.....	1	1	0	0	0	0
Marathon County Lumber Company,						
Stratford.....	1	1	0	0	0	0
Medford Lumber Company,						
Medford.....	1	0	1	0	0	0
Keith & Heil,						
Crandon.....	1	1	0	0	0	0
Wachsmuth Lumber Company,						
Bayfield.....	1	1	0	0	0	0
Flambeau Lumber Company,						
Park Falls.....	1	1	0	0	0	0
Gurney Lumber Company,						
Gurney.....	1	1	0	0	0	0
	66	45	8	10	3	0

Of the 521 locomotives inspected, 355 head ends were opened.

215 had the 3 x 3 wire mesh.  
 107 had the  $\frac{3}{16}$  x  $1\frac{1}{2}$  perforated plate.  
 14 had the  $2\frac{1}{2}$  x  $2\frac{1}{2}$  wire mesh.  
 11 had the  $\frac{3}{16}$  x  $\frac{3}{4}$  draftac wire mesh.  
 8 had the 4 x 4 wire mesh.

Of the 521 locomotives inspected, 166 were hot and the front ends were not opened, the ash pans only being examined.

You will note that of the total amount of the large type of engines which numbered 454, but 39 defects were found, or 9 per cent, whereas, of the 67 engines used for logging purposes, 18 defects were found, or 27 per cent. In view of these facts, I believe that time would be well

spent in keeping a closer watch on the logging engines, rather than calling on the larger round houses so frequently.

The reason of the poor conditions of the logging engines is the frequent changing of crews, and the master mechanic or superintendent of the company neglecting to make personal inspections as to the conditions of same.

Records of head end and ash pan inspections at the larger round houses are kept to date with a few exceptions. Quite a large number of the smaller round houses which are terminals, where they house from two to five engines, keep no record at all.

Of the various kinds of head end spark arresters, now in use, the "Slater Box Front" of the C. & N. W. Ry. is the best. The Master Mechanic front ends used by the C. M. & St. P. Ry., Soo Line, G. B. & W. Ry., and others, are efficient and give very good service if kept in repair.

The "Teepee" stack hood used by the C. M. & St. P. Ry., is a very good one. At that I doubt if it is any better than the one used by the C. & N. W. Ry., which is a much easier one to be made and cheaper in construction. The Soo Line hood is a good one, but a bungly affair, and much more expensive to make than either of the others.

Engine crews with whom I have talked find no fault with the steaming of engines with hoods attached. The objection they have is that the cab is filled with live cinders, making it very disagreeable.

The Soo Line has installed on the sides of all their engines carrying stack hoods, observation windows, which will do away with a great deal of the unpleasant features regarding cinders.

Of all the different styles of ash pans, the hopper slide and C. B. & Q. of the large type of engines is the best. The hopper pan with drop bottom is a very poor one. The only engines equipped with same are the Lake Superior Terminal & Transfer Company of Superior, and they do not leave the yards.

The best pan for the small standard engines is the swipe pan, but I note that the C. M. & St. P. Ry., are replacing same with a shallow hopper pan which is not giving very good satisfaction, by reason of the many openings caused by the slide running through the hopper. The slat bottom pan, of which there are but very few still in use, are the poorest and most dangerous.

Twenty-seven rights-of-way were inspected. Of these, two were found to be "Good." The right-of-way of most of the main lines of the C. M. & St. P. Ry., the N. W. Lines and the Soo Line, are in very fair condition. None of them, however, are strictly within the law, and could be improved upon.

#### FOREST FIRES IN 1915.

Favorable weather conditions during the past four years have kept the damage of fires to a minimum. At the end of the fire season of 1915, circular letters were sent out to all town fire wardens outside the protected area. The data compiled from the reports of 318 fire wardens is as follows: