

There is one change that has been under consideration on several occasions; that is, the weighting of employee fatalities in our Railroad Employees' National Safety Contest; and it is a subject that I believe should be given serious consideration. Possibly others have noted that in one or two cases small Class I railroads have reported a single employee casualty for the year and—as recorded—that one casualty happened to be a fatality. Other small roads with two or three injuries and no fatality naturally felt that their somewhat larger total casualty rate represented, in reality, a better safety record. On the other hand, we are confronted with a situation which has been recognized by many; that the longer we can keep the respective contenders working hard for first honors, the more accidents will be prevented, and when a fatality occurs on the small road and is weighted by five or ten that road's chances of winning an award have been eliminated. Furthermore, if fatalities were to be penalized through weighting we would find instances where it would be necessary to charge heavily for an accident carrying no violation of rules as against an unweighted injury due to flagrant violation of safe practice. It must be remembered that a fatality, in many cases, is such by virtue of a fraction of an inch or a fraction of a second, or by a number of other uncontrollable variables.

After serious consideration of these phases of the situation it was deemed inadvisable to weight employee fatalities in our Railroad Employees' National Safety Contest, for it was generally conceded that the way to prevent fatalities is to eliminate accident causes, and that too much emphasis on fatal cases might tend to discount the real importance of reportable injuries and the need for investigating the causes of minor injuries and even the near accident that might reveal a serious hazard.

This leads up to another important principle. Years ago it was discovered that the one-day lost-time case was the "lowest denomination" that could, with ultimate safety, be utilized in an employee safety contest.

Report of Committee on Train Accidents

By G. H. WARFEL

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The speaker said in part: A train accident is one with or without casualties, arising in connection with the operation or movement of a train, locomotive or car, which results in damage to equipment or other railway property in excess of \$150 (including cost of clearing wreck and local expense of transferring lading, but not damage to the lading).

The outstanding features revealed by the 1933 statistics on train accidents are:

1. A slight increase in frequency of occurrence, particularly derailments.
2. Several accidents with an unusually large number of persons hurt, notably rear end collisions.
3. A greater number of casualties than in any year since 1930, resulting in a casualty rate per million train miles 5 per cent above 1930, instead of the 33 per cent reduction hoped for.
4. Train accidents accounted for 22 of the 48 passengers and travelers killed and 65 of the 468 employees killed (on duty) in accidents on Class I railroads.
5. The year's total of 5,623 train accidents of all kinds occurring on the road and in the switching yards is the smallest number ever recorded in any year. It includes 1,219 collisions, 3,291 derailments, 478 locomotive breakdowns and 635 miscellaneous accidents. There were 153 persons killed and 1,252 injured, exclusive of trespassers, both figures being higher than in the preceding year.

When these accidents are classified by causes, we find: 1,713 due to negligence of employees; 2,324 due to defects in or failures of equipment; 656 due to defects in or improper maintenance of way and structures; 930 due to miscellaneous causes.

The forms of negligence most disastrous from the standpoint of human casualties in 1933 were: first, disregard of fixed signals; second, excessive speed in violation

of restrictions; third, failure to properly protect by flagmen; fourth, overrunning meeting points with other trains; fifth, switches set in wrong position.

While the frequency rate of train accidents showed a small increase in 1933 as compared with the remarkably low figure of the preceding year, the rate of 7.22 accidents per million train miles run remains much lower than for any year prior to 1932, and represents a reduction of 63 per cent under the base year of 1922. The frequency rates of collisions and derailments are slightly higher in 1932, while locomotive and miscellaneous accidents attained a new low frequency of 1.43 per million train miles.

However, when we look at the figures for human casualties in train accidents, we find there has been a disturbing increase in both fatal and non-fatal injuries, the total casualty rate for 1933 being higher than for any year since 1929. This increase in casualties was due almost entirely to the unusual number of persons killed and injured in four or five accidents occurring on different roads. There were 83 persons legitimately riding on trains killed in train accidents in 1933, including trainmen, persons carried under contract and passengers, as compared with 61 the preceding year. Moreover there were 1,099 trainmen, persons carried under contract and passengers, injured in train accidents in 1933, as compared with 779 in 1932.

The 1,219 collisions, which involved 42 passenger trains, resulted in 32 fatalities and 630 injuries exclusive of trespassers. Certainly, the imperative necessity for taking all possible practical measures for the prevention of collisions must be obvious to every officer, supervisor and employee on American railroads, when it is realized that more than 200 casualties resulted from a single accident of this character last year. The conclusions of the I. C. C. Bureau of Safety investigators in each of the major rear-end collision cases reads almost the same: "Failure of an engineman properly to obey signal indications and stop at signals of a flagman."

In many other reports of similar accidents with a smaller toll of casualties, the conclusions reveal violations of rules by various employees as well as enginemen, and in several cases referred specifically to failure of operating officers to properly enforce observance of rules.

The press and public usually ascribe such occurrences to "human fallibility," and place the onus of responsibility almost entirely on the shoulders and conscience of the erring employee. Without any desire to minimize the employee responsibility, candor compels us to point out that there are occasional cases in which the greater degree of responsibility properly rests upon the management and operating officers of the railroad involved, for their failure to utilize methods which have been found highly effective for prevention of such accidents. We refer to the inauguration of continual bona fide surprise tests, carefully arranged to assure the surprise feature, made by men who truthfully report every detail of the actual performance of all members of the crew, and followed by severe and unrelenting discipline for failure or negligence in any detail of performance. These vigorous measures must, of course, be preceded by a thorough campaign of education and examinations to assure that the operating rules are fully understood, not only by the rank and file of employees, but by dispatchers, trainmasters, road foremen of engines, superintendents and supervisors in mechanical and maintenance of way departments.

Preventing Collisions and Derailments Due to Negligence of Employees

By C. H. LONGMAN

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Chicago

The speaker said in part: An analysis of the collisions and derailments on my own road shows that 88 per cent of the collisions and 25 per cent of the derailments can be traced to the failure of employees to observe the rules or special instructions.

One of the most serious derailments which we have had was due to the failure of the engineman to properly control the speed of his train on a four degree curve.