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Their Cause and Prevention

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RAILROAD ACCIDENTS

THEIR CAUSE AND PREVENTION

BY

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Introduction

Railroad Accidents

Their Cause and Prevention

Much has been said and written during recent years about the increasing number of railroad accidents in this country—their cause and what action should be taken by the government, the railroads and the employees to reduce them and the consequent loss of life and limb resulting therefrom. Believing that if the cause of our many accidents were properly understood more care would be taken by the corporations, employees and persons at fault to reduce the number, I shall try to point out in the following pages what investigation has shown me to be the cause of many accidents and how their reoccurrence could, I think, be prevented.

In the transaction of the business of a railroad its first and highest duty is to the passengers, to carry them safely and speedily; next, to take care of the property entrusted to it for transportation, and for which it is practically an insurer against everything but the act of God or the public enemy, and deliver it with reasonable dispatch to the consignee in practically the same condition as that in which it is received.

It is a self-evident proposition that the nearer the railroads come to performing this duty, the fewer losses and claims for damages they will have to pay, and, as a matter of course, the more money there will be left with which to pay wages,

interest, dividends, and make improvements. So it behooves all, who are working for those wages, to do everything they can to help carry on the business properly and correctly in order that the interest of the companies hiring them, as well as their individual interest, will be subserved, and for the more important reason of causing as little suffering, pain, and sorrow to those who by accident may be maimed or killed, which always brings trouble and sorrow to the victim as well as to his family, and frequently results in untold suffering and privation to the widows and children.

The report of the Interstate Commerce Commission shows that for the year ending June 30, 1904, there were

441 passengers killed.
3,632 employees killed.
839 not trespassers killed.
5,105 trespassers killed.
9,111 passengers injured.
67,067 employees injured.
2,499 not trespassers injured.
5,194 trespassers injured.

Making 10,017 killed and 83,871 injured, or a total of killed and injured of 93,888, many times over the casualties of our last war, and all the roads seem to have done their share of this havoc.

We should strive to see if in the coming year we cannot reduce the number, so that the casualties reported, and consequent loss to the companies, will be reduced, considering the number of employees, mileage, earnings, number of trains run, persons and property transported, and the territory traversed, and for the purpose of bringing this matter before you in a proper light I will call attention to a few of the many accidents which have recently occurred, which, with proper care and the use of good judgment, would have been avoided and fewer persons left to go through life crippled, fewer homes made desolate and fatherless, and sometimes motherless, and at the same time the money which has been necessarily paid out to settle the claims saved to the companies, and, consequently, just so much more money left in the treasury to pay for wages, interest, dividends, and betterments.

Taking into consideration the safety appliances installed by the railroads since 1898, the improvement in track and equipment, and the increase in wages paid, with even the same degree of care on the part of employees, the number of accidents should have decreased, but on the contrary they show an actual percentage of increase higher than that of earnings, and if the employees are onto their jobs they ought to and must find a way to reduce the number of such cases and consequent expense to the companies.

For the purpose of showing that the employees are the persons most vitally interested in this matter, as upon them falls the major part of the fatalities and injuries resulting from such accidents and upon themselves and families the suffering and pain which always comes after them, while upon the companies falls the immense and increasing financial drain, following their wakes, as well as loss of prestige and public criticism which necessarily follow, and which is increasing every day, I have prepared the following statement.

1. The percentage of employees to the number of passengers transported during the year ending June 30, 1904, was one for each 552.

2. The percentage of passengers killed (441) to the whole number of persons reported killed in all classes (10,017) was 4 per cent.

3. The percentage of passengers injured (9,111) to the whole number of persons reported injured in all classes (83,871) was 11 per cent.

4. The percentage of passengers injured (9,111) to the number transported (715,419,682) was about one in each 80,000.

5. The percentage of passengers killed (441) to the number transported was about one in every 1,600,000.

6. The percentage of employees injured (67,067) to the whole number of employees (1,296,121) was about one in every 19.

7. The percentage of employees killed (3,632) to the whole number employed (1,296,121) was about one in 360.

8. The percentage of employees killed (3,632) to the whole number reported killed in all classes (10,017) was about 36 per cent.

9. The percentage of employees injured (67,067) to the whole number reported injured in all classes (83,871) was 80 per cent.

10. The percentage of employees (300,000) engaged in the hazardous part of the business such as train, engine and yardmen to the whole number employed (1,296,121) was 25 per cent.

11. Percentage of those engaged in the hazardous part of the work, who were killed (2,343), to the whole number of employees reported killed (3,632), was 64 per cent.

12. The percentage of those engaged in the hazardous part of the work who were injured (32,345) to the whole number of employees injured (67,067) was 48 per cent.

An examination of the statistics published by the Commission also shows that

the number of accidents depends not so much on the actual length of track of a railroad in miles, but upon the density of its traffic and of the population of the territory through which it runs, for illustration take one division on a system that runs through a thickly settled country, that has five per cent of the actual mileage of the system and fifteen per cent of the train mileage, and another division in the same system that runs through a sparsely settled country, that has ten per cent of the actual mileage of the system and five per cent of the train mileage, and it is a well-known fact that the percentage of accidents on the former will be many times that on the latter;

That the heavier the traffic the greater need there is of more care being taken in employing and educating the right kind of men to operate the trains; and

That with denser traffic there should come more and better supervision to insure observance of the rules adopted for the safe operation of trains and that the increase in quantity and quality of that supervision should at least equal in ratio the increase in traffic. Indeed, I believe that when this is done many of the troubles and difficulties the railroads now labor under will pass away, and that the additional expense caused by such increase will be saved many times over by a general reduction in operating expenses, especially in waste and damage.

Accidents should be divided into four classes:

First. Unavoidable accidents, or those caused by the act of God, the public enemy, or by some miscreant who takes up a rail, misplaces a switch, or puts an obstruction on the track.

Second. Accidents to passengers, outsiders trespassing or not trespassing, caused by the carelessness or wantonness of the injured or some other person for whose act the railroad is not liable, or by the failure on the part of the State or municipality to make and enforce proper laws and ordinances to prevent stoning trains and trespassing on the premises and cars of the companies.

Third. Those caused by the want of care, foresight, or supervision on the part of the management of the company.

Fourth. Those caused by the carelessness, thoughtlessness, or neglect of employees.

Neither employees nor company can be held to blame or can prevent accidents resulting from the first and second causes, and fortunately for the reputation as well as the treasury of the companies over one-half of all the fatalities and a large proportion of the seriously injured come under the second class, and until the life and limb of a trespasser (10 per cent or 1,000 of the 10,000 killed and injured on the railroads of this country every year being children under fourteen years of age) are considered to be of some value to their families and to the

State, they will not only continue to occur, but will increase each year as our population and traffic grow.

Accidents caused by carelessness, thoughtlessness, or neglect of employees are the large majority of all that happen, and if we could eliminate them, or one-half of them, there would be little cause for complaint on the part of the management of the companies, or criticism on the part of the public, and the claim agent would have a bed of roses instead of the busiest and hardest worked office on the road, and I believe that when the employees really understand the matter many of them will be eliminated.

We should bear in mind that it is not the great train accidents that make the large majority of the total deaths and injuries on the railroads of this country, about which so much is said in the public press, but it is the little cases that are unheralded in the press, or in the courts, that make the totals so large; the little things that are happening every day, on every railroad in the country, which go on happening every year in the same old way, and they are the cases which could and should be avoided by the exercise of greater care and thoughtfulness—more of them come from thoughtlessness than any other cause. My experience leads me irresistibly to the conclusion that after all it is the *man*, not the safety appliance, that we must depend on to prevent accidents, as has been demonstrated by any number of cases that have occurred at points where the track has been lined with safety appliances.

The Cause

INJURIES TO PASSENGERS

Injuries to passengers for which employees are at fault, and which could and should be avoided, result from collisions, derailments, improper handling and management of trains and stations, and I will, by way of illustration, cite a few cases which have occurred and tell you how, in my opinion, they might have been avoided.

We will first take those caused by collisions:

> At Forest Station, April 2, in which 3 passengers were killed and 26 injured, caused by train No. 112, upon which they were riding, being run into by engine No. 405, hauling train No. 2, Engineman Jackson, at 4 p.m.

> Charles Early and ten other passengers injured May 21, at 8 a.m., caused by engine 109, hauling train 477, colliding with engine 309 backing a train to yards; latter train had been stopped five minutes, engine standing under 89th street viaduct, contrary to rule 31. Smoke blew down on track, hiding engine and train.

In a dense fog and on a part of the division and at a time when trains were thick, with a knowledge that he had followed No. 112 all the way from Thornton, the engineman was so careless as to run by two automatic signals set at danger, a flagman, and into No. 112, and three lives go out and 20 odd are injured. Could anything be more reckless? Do any of you want to ride behind that kind of runner or be on a train in front of him, even if you have your life insured and your home paid for? Will we not all agree that such a man is unsafe and unfit for the service? And in view of the dense fog and the number of trains moving, should not trains have been blocked a station apart? It is an absolute protection against accident, which the time interval is not. And when you enginemen see a signal against you, think of the wrecks you have known of since you entered the service, and STOP; take no chances. If you can't see the signal, if your view is obstructed by smoke or steam so that you can't see the track beyond the smoke or steam, stop or slow down until you know it safe to proceed. And don't do as was done in the second case mentioned above, but slow down to such a speed that you can stop within the range of your vision. In case of doubt always take the safe course. If you know a man with defective vision and so little regard for the lives of others as to try to remain in the service with that defect, you owe it as a duty to yourself, to your family, the passengers, and other employees, as well as to the company, to report him to the proper officer before and not after an accident occurs. Some day there will be a law requiring frequent examination of the vision of trainmen, but until that time comes we should all do the best we can to guard against such men.

Next we come to accidents caused by making a switch of cars containing passengers without the engine being attached to the car:

> Thomas H. Norton, injured Oct. 20, in Sixtieth St. yards; caused by the Pullman car Winona, in which he was traveling, being kicked down against a coach standing at the other end of track, by switch engine 731; and when switch crew tried to stop the car they claimed they could not do so with hand brakes, although they were in good condition.

Everyone knows that it is unsafe to handle a car containing passengers without the engine being coupled to it and air-brake in use, and that Rule 10 [1] expressly prohibits such work, yet in this case it was done by men long in the service, who probably had done the same thing before without accident and

without being caught, so they chanced it once too often, and the cost in this case would pay many times over for the time they had saved before. It is just as unsafe to switch caboose cars in which train crews are resting or cars loaded with horses and cattle or emigrant movables in that way, and it ought to be stopped. If it was, there would not be the injuries to trainmen or damages to live stock that we have now from that cause.

We all have no end of trouble with circuses and theatrical troupes traveling in their own cars, many of which ought to be in the scrap heap. These cars should never be accepted, no matter who is in them or what notice you may have received about the runs to be made with them, unless the brakes, running gear, and everything connected with them are in good repair, but when you do take them, handle them as carefully as if they contained dynamite, and get them off the line without accident. When you find such a car on a track which you are obliged to use—it should when possible be set on a track not used for switching —either to move it or some other car, handle it with the greatest care; don't do as was done at Harrison just a short time ago when

> Laura Jameson, with a theatrical troupe, was in car "Pomfret," Nov. 9th, which was coupled onto by engine No. 402 with such force that she was thrown from the chair in which she was sitting, bruising and injuring her.

Neither would any of the following cases, caused by careless handling, have happened:

> Mrs. R. A. Storrs, passenger injured at Whiteford, Aug. 8th, at 7:20 a.m. Engine was pulling train back in the yard and ran in on track that had some cars on it and collided with them, the switch having been left open.
>
> W. R. Thomas, injured at Winton, at 2:50 p.m., Dec. 10, by reason of standing up near stove in way-car when two cars were coupled on train, he was thrown against stove and onto floor.
>
> John A. Klohs, stockman, was riding in the caboose of extra stock train east, at Yale, June 4th; got up to take off his coat; the train was coupled up with so much force that he was thrown over the stove and his ankle injured.

Now we will take up cases caused by careless loading and unloading of freight from mixed trains:

It would not seem necessary to have to tell anyone that timbers or telegraph

poles ought not to be unloaded from moving trains carrying passengers, or from any moving train, and yet that is exactly what was done, when

> John A. Owen, W. A. Stead, Martin Kjoelseth, Andrew Thorsen, and C. G. Strombeck, passengers on train No. 82, were injured at Wallace, Aug. 2, by reason of the caboose in which they were riding colliding with some cars on the side track, caused by Anderson, a telegraph lineman, unloading some poles from a car in the train upon which they were riding while it was moving, one of which struck a switch target, opened switch, and caboose ran into side track and collided with cars.

And when you have a car loaded with logs in your train see that they are secure. If you do an accident like the one near Hamlin, January 8th, won't occur:

> Julius Lewinsky, passenger, was injured while riding in coach; chain on one of the cars gave away, and logs fell off and were forced through bottom of the coach, striking his left leg.

It would seem to be a simple matter to see that logs, water pipes, machinery, or other property liable to fall from cars are properly secured before car is taken in the train, and so avoid such accidents. Why not do it?

When in a terrible rain-storm you are running with a slow order over a track which is being repaired, don't do it at a speed of 50 or 60 miles an hour, if you value your life and the lives of those in the cars behind you. If you don't value them, don't do it because it is dangerous and your orders tell you not to, and because your family will suffer if you get killed in the attempt and the company's property will be damaged, and don't, under such, or any other, circumstances, run by a station five minutes ahead of time contrary to Rule 4, and yet that is just what was done on the night of July 2, when

> James Williams, engineman; Charles Jones, fireman; and two tramps were killed; and F. C. Stodmeister, brakeman; W. W. McAllister, baggageman; C. W. H. Brown, Charles Brown, and A. Parsons, porters; W. J. Smith, telegraph operator; Mrs. Miller, Alice Eager, and Mrs. David, passengers, and Thomas King, a tramp, were injured, 1½ miles west of Janeway by train No. 8 running off derail and knocking down the tower.

When you get a bulletin prohibiting your running down certain hills or around curves faster than 30 miles an hour, don't do it at 40 or 50 miles an hour, as it is unsafe, and yet that is exactly what was done May 12 near Wilkes, and resulted

in the derailment of freight train No. 18, and

> William Little, brakeman, was killed, M. J. McWheeney, Geo. Orneson, Jr., O. A. Dalseth, C. F. Shoelkopf, Geo. V. Hickock, and C. W. Doner, passengers, injured.

A bulletin was issued by Superintendent Davis prohibiting trains going down this hill faster than 30 miles an hour. From the statements of the train crew it would appear that no attention had been paid to this bulletin, and, from what the passengers say, it has been customary for a long time for trains coming into Wilkes from Notman and Guilford, if in sight of each other, to make a race to see which train could get there first, so as to get out of Wilkes for Joppa without delay.

Now, there was no excuse for the engineman and conductor not complying with the order. They both got off without injury, as the parties to blame for such accidents generally do. Neither was there any excuse for the train dispatcher not knowing that the order was being disregarded daily, as the train sheets would tell him that, and he should have stopped it. To my mind, he was just as guilty as the engineman and conductor, and should have received the same punishment. And when disregard of such orders and bulletins are not winked at, until an accident happens, there will be fewer cases of failure to observe them.

Don't try to run around curves 50 or 60 miles an hour, as a train I was riding on a few weeks ago did and went in the ditch; neither should freight or passenger trains run over interlocking switches faster than 15 and 25 miles an hour, respectively, because it is not safe to do so, and Rule 5 says you must not. Conductors, who are in supreme command of the train, should pull the air on any engineman who is running too fast around curves, over bad places, or through stations, and when you get in, report the matter to your superintendent, as reckless running should not and will not be tolerated.

Next we have the accidents resulting from occasional derailments, which were not serious, but might have been, and it is the cause, as well as the result, we want to eliminate, such as:

> Mrs. K. Smith and four other passengers, train No. 6, which was derailed at Heilprin, Sept. 3. The train was very crowded and these women were standing up at the time of the accident and were injured.
>
> Mrs. Jessie Doan and five other passengers, injured Oct. 11, caused by train No. 15 being derailed one-half mile east of Morse station, caused by reason of a brake-shoe on the tank of the engine coming off; this brake-shoe had an old defect.

J. E. Fitzsimmons, passenger, injured near Hedley, by derailment of train No. 316, on which he was riding.

None of which would have happened if some one had not failed to perform his duty, and when every accident, no matter how slight, is investigated by an expert—who reports not to the officer who may be primarily at fault, but to the chief operating officer—to ascertain the actual cause and find a remedy, such cases will be largely eliminated.

The same is true of injuries like the following, resulting from trains breaking in two:

R. B. Janeway, passenger, and J. P. Mitchell, baggageman, injured Jan. 9th near Gray. Train No. 280 broke in two and rear end ran into head end.

George Burgan and W. L. Smith and two other stockmen, injured at Newport, Neb., Nov. 21st; train broke in two, and when the two parts came together these men, who were sitting on the locker in way-car, were knocked down.

Another class of accidents which are of altogether too frequent occurrence are injuries caused by trains not stopping long enough for passengers to alight.

Frequently the persons injured are old people not accustomed to traveling, who are necessarily slow in their movements, and of whom we should take greater care. Think how you or I would feel if our mother or grandmother, if we were fortunate enough to have them with us still, were injured just because a conductor or brakeman didn't have forethought or decency enough to give them time to get off. If you will do that, there will not be a procession of such cases as the following, and the companies will be so much ahead.

Mrs. A. J. Denman, passenger from Norwood to Avon, injured at Garwin, Sept. 7th; caused by the train not stopping long enough for her to alight.

Mrs. C. E. Collinwood and C. Collinwood, passengers on train No. 32, from Omaha, injured at Hamburg, Oct. 17th; caused by train starting before they had an opportunity to get off.

P. J. Wilkins, passenger, injured at Johnsport, at 1:10 a.m., Oct. 31, getting off train No. 35, while in an intoxicated condition; brakeman gave signal for train to start as the man was coming down the steps, thinking as he claims, that the man would have gotten off before train started; both the brakeman and the conductor of train knew that the

man was intoxicated.

Sarapino Guiseppi, injured at Engletown, Sept. 26, at 6:15 p.m. When train stopped at Engletown a number of passengers crowded onto it and, before this man had an opportunity to get off, the train started, and, while alighting, he fell and was run over and lost his left arm.

It seems to me that if the instructions contained in Rule 19, requiring the announcing of stations by brakemen, were complied with and thereby passengers given ample notice of the approach of the train to their destination, they would be prepared to get off instead of in the present method, or, rather, lack of method, as the rule is so seldom observed as to cause comment when it is complied with, and if, before giving the signal to start, trainmen would get upon the car platform and look into the cars to see that there was no one else to get off, especially should this be done at night when passengers are tired and sleepy, when platform lights are not any too numerous, and with excursionists, and picnickers who are often none too sober and who are not accustomed to moving quickly, and if at division terminals trainmen would pay more attention to assisting passengers off instead of being in such a hurry to cut off a car, getting their markers, or getting away from the train, not only would such accidents as those last enumerated be avoided, but the journey would be made much more comfortable to passengers; and the road doing this would increase its traffic. Deadheads, who mostly ride in Pullmans or private cars, do not realize how annoying and exasperating to paying passengers is the present method of trainmen, going into the cars and pretending to call stations in some dead language, or by talking to themselves. In transferring passengers from express to local trains trainmen must bear in mind that the passenger is frequently unaccustomed to the surroundings, is generally overanxious about getting off so as not to miss connections, and coming from a lighted car out into the darkness, in his hurry and excitement may not notice that the train is running; in these cases the train is always moving so smoothly the passenger thinks (or says he does) that it has stopped, and off he goes, and it is necessary, to prevent such accidents occurring, to exercise the greatest care, and by proper announcement make it plain to all such passengers that ample time will be given them to alight, and that the train they are to take cannot pull out until after your train does.

And when you are receiving passengers, especially on mixed or freight trains, don't start until they have a chance to get seated, and then such cases as the following won't occur:

Mrs. A. L. Bishop, passenger on freight train 91 from Milton to Jessop, had gotten into caboose, but had not time to get seated before train started with a jerk; she was thrown down and injured.

> Mrs. Mary Hanson, passenger from Grant to Portsmouth, on train 15, June 4th, 1:15 p.m. Before she had time to get to her seat, train started, and she was thrown down and injured.

When you are making your station stop, don't jerk your train, after it has stopped, or is about to stop, and while the passengers are getting off, as they surely will commence to do so as soon as (if not before) the train is stopped. Don't pull up or back up a few feet to get to the standpipe or coal chute, because if you do, some one is liable to get hurt, as the following did:

> Dr. H. Q. Johnson, passenger, injured at Dale, Sept 6; train No. 603, stopped at station platform and then started to move ahead again. Dr. Johnson stepped from platform onto steps of coach and, as he did so, brakes were set to emergency and train stopped suddenly; he was thrown against the edge of vestibule.
>
> Helen Kennedy, a child 2-1/2 years old, with its parents, was on train No. 73, bound for Stratford; had gotten up for the purpose of getting off at Henderson, March 26. Train stopped and as passengers were on the platform it was backed up without notice, and this child was thrown, and her arm went between the car platforms, badly bruising and cutting it, just missed taking it off.

And when you are pulling into a station and intend to take water and are going to run by the pipe a few feet, don't use the emergency brake to stop with, because, if you do, some one is liable to get hurt. Nearly every one has been on a train when this has been done contrary to Rules 42 and 43, and if you enginemen could hear some of the uncomplimentary remarks that are made about you and the company on such occasions, you would feel like thirty cents. And when it is raining to beat the band, stop your trains so that the passengers can get off opposite the station building and avoid getting wet, do not pull them by a couple of hundred feet just because the locomotive is thirsty. Pull up to the tank after the passengers get on and off, so says Rule 24, and the women, and men, too, for that matter, will think you are a dandy and vote for you the next time you run for school trustee; and perhaps, by so doing, you may prevent your best girl spoiling her dress.

And when you are running an engine you want to know that its grease-cups are screwed on tight and that its brake-shoes are not cracked, if you do not want to have cases like the following:

> Fred. C. Mitchell, while waiting for a train on station platform at Lucian, Feb. 1st, was struck and fatally injured by a grease-cup plug from engine No. 206.

> Chas. C. Wilson, standing on the platform at Newton, June 30th, to take passage on a train; brake-shoe on engine No. 716, running through the station at 60 or 65 miles an hour, broke, and part of it struck him on the foot.

One of the rules most frequently disregarded is No. 11, prohibiting a train on the double track pulling through a station while another one is standing there unloading passengers.

About nine times out of ten you can do it without an accident, but the tenth time some one will get hurt and you will get a vacation from 30 days to life. I know it is tantalizing, when you are pulling a fast train and are, perhaps a little late, to be compelled to stop and wait until the other train has pulled out, and its last car passed the end of the platform nearest you, when you could sneak through the station and save a little time, and perhaps no harm be done and no one be the wiser; but don't do it, because the rule says you must not.

If that part of the rule which says, "When two trains are nearing a station from opposite directions at the same time, and only one of them is scheduled to stop, the train making the stop must reduce speed and let the other through the station before it arrives" was complied with, the trouble would be largely overcome.

You men who are running stations should see that your platform lamps are not only kept clean and properly filled, but that after dark they are burning so that passengers won't get hurt falling off platforms in the dark, and that the platforms are kept clear of freight as per Rule 17; that baggage and express trucks are placed where patrons won't fall over them, and, if there is a fast train coming, especially a mail or newspaper train, notify the passengers and get them inside the depot, the only safe place at such times. Especially is this necessary on the double track. If there is a broken plank or a hole in the station platform, nail a board over it until the carpenters can get around to fix it. See that the platforms are kept clear of snow and ice; but when there is ice on the platform throw ashes or sand over the ice so that people won't slip on it. And if you have people waiting for trains at your station, especially in the night-time, see that the fire in the stove in the waiting-room is kept going so that they will be comfortable and not catch cold. It will take you less time to do these things than it will to make a report of an injury, and then cases like these won't be put up to your claim agent to guess at:

> Mrs. J. P. Gedney, injured at Ontario, June 24, 10:27 p.m., was at station to take passage on train No. 17, went out of a lighted waiting-room onto a dark platform and fell.
>
> Mrs. Mollis Schmella and Dr. Cleveland, injured, passengers on train

> 31, arrived at Altruria 8:30 p.m., Saturday, Aug. 21st; raining; got off train, no lights on platform; doors of depot locked, and fell from platform to track.
>
> M. O. Hudson, passenger from Elton to Woodbridge, on train No. 47, arriving at latter place Aug. 28th, at 12:30 a.m., got off coach and ran up to baggage car to get baggage; in doing so ran against train signal on platform, was thrown down and injured; no lights on platform or in signal.
>
> S. W. Thomas, passenger on train No. 48, injured at Harkrader, Oct 21st, at 11:20 p.m., was getting off chair car, which stood 150 ft. south of the platform; there were no lights, and the porter had no lantern, and when he stepped from the car step to the porter's box he slipped and fell.

And sweep the car platforms, so passengers won't slip on banana peels, and then such a case as the following won't happen:

> H. T. Witheridge, injured at Wingate, Aug. 4, 1903, caused by his slipping on a banana peeling left on the platform of a coach in train No. 176 by the car cleaners.

When passengers are carried on freight trains Rule 12 says the car in which they are riding must stop at the platform to unload them. Don't do it out in the yard, and, if you have to do switching after unloading the passengers, stop at the station platform as you are pulling out and give the passengers a chance to get on and not compel them to go into the yard in order to do so. If at night, they might fall into a culvert or over some obstruction alongside the track and get hurt, and, if the platform at the station is short, arrange your work so as to make one stop where the passengers can get off safely, and notify them, so they will know when they can do so; and be sure to assist them in getting on and off, especially the old men and women, the children, and the cripples (that is what Rule 23 says, you always do it for the young and pretty girls) and then we won't be trying to conjure up excuses for cases like the following, or pay for them either:

> Miss Belle Saunders, injured at Milwood, Dec. 14, was a passenger on train No. 16 from Homer to Milwood. A mixed train. It was stopped some distance from the passenger station; the passengers were allowed to alight, and in getting from the track to the street going down the embankment she fell and sprained her left ankle. It has been the custom to stop this train at this point for some time and allow the passengers to get off there, the busses coming up as near as they could

to take them to the hotel.

Mrs. A. Zuehlke, injured at Granby, Oct. 10th, at 6:10 p.m., in getting off a train on which she had been riding as a passenger; the station platform is so short that only the platform of one car in train can be stopped at it.

Mrs. Mary H. Crawford, passenger, injured at Beulah, Oct. 13th, getting off train No. 35; porter allowed her to fall, and she stepped between platform and car steps.

Many of the roads have the steps on coaches that come near enough to the ground so that such accidents are practically impossible, but on the Pullmans and on cars of some of the roads they are so high from the station platform as to require a ladder to get on them. Why they are not all made on a proper and safe standard no one seems to know.

Another cause of injury to passengers, especially children, who always want the windows open, is by the windows falling and injuring them. Nearly always their little hands or fingers get hurt; or by ventilators falling on their heads. When you have an accident caused by a window falling examine it immediately and, if the catches are all right, show the injured person or, if a child, the man or woman in whose charge it is traveling, that is was not the fault of the window catch, and at the same time call the attention of some intelligent passenger and of your brakeman to the matter and have them try the window catch, and send in their names and addresses with your report. If, however, the catch is defective report the fact, but don't advertise it, and whenever you find any defective catches or anything else wrong about a car in your train call the attention of the first car repairer you meet to the matter and have it repaired, and report it to your superintendent. If the car repairers would make an examination of the windows, their catches, and of the ventilators, for the purpose of finding out their actual condition, we would get rid of many such cases. Do the same thing with the matting in the aisles, and when there is a hole in it get it fixed, or get a new one. If you can't do that, take the matting up and so prevent any one falling on it.

Ruth Darman, child five years old, injured December 25th, near Correctionville, was riding in coach 269, train No. 39; caused by ventilator window falling and striking her, injuring her head.

J. E. Wills, passenger on train No. 25, January 25th, stumbled over the zinc at end of matting, which was out of condition, in coach No. 659.

Mrs. Jones, passenger, injured September 23d, at Junction, was riding in coach 480, train 65, when train stopped at Junction. She walked to

rear end of coach and in doing so caught her foot in a hole in the aisle matting and fell forward on her face.

Nora Holm, 3 years of age, injured near Henshaw, July 24th; caused by a window in coach 338, train 9, falling on her arm, on account of a defective spring.

And, speaking of aisles, so far as possible get passengers to keep their valises, suit cases, and bundles out of the aisles so that other passengers won't fall over them. If the glass in a door gets broken, when the train is running, be sure that the glass is taken out of the frame, so that passengers won't catch their hands on it. Take pains to see that your passengers, especially the old and infirm, the women, and children, are provided with seats, and when some passenger, whether man or woman, who has paid for only one seat or is riding on a pass, is occupying three or four seats, have them make room for those standing. Pay some attention to ventilation—in cold weather open the ventilators on the side the smoke trails on, and then there won't be any draught. In other words, comply with Rule 20 and then cases like the following, which seem to be on the increase, won't happen:

Mrs. Alice Gahriels, passenger from Clinton, Iowa, to Lincoln, Neb., on train No. 3, June 2d, while returning from the dining car between Cedar Rapids and Belle Plaine stumbled over a valise which was left in the aisle of the chair car and fell and was injured.

Mrs. Little, passenger, injured at Van Buren Street depot at 9:52 p.m., March 9th, was alighting from train No. 594, and in doing so took hold of frame of vestibule door of coach. The glass in door had been broken and this lady's hand was seriously cut on the broken pieces which had not been taken out of the frame.

EJECTMENT OF PASSENGERS AND OTHERS FROM TRAINS

Everyone is supposed to know that neither passengers or tramps should be ejected from a train when it is in motion, and, in the case of passengers, the ejectment must only be made at an open station, so that the person ejected will have a place of shelter if at night or if it is storming; that women and children of tender years must not be ejected at all; and that if a person refusing to pay his fare is in such condition as to be unable to care for himself, he must be placed in custody of the nearest station agent. So says Rule 21, which also tells you to make a report of the ejectment, giving the cause thereof and names of the witnesses on Form 992, a blank which every conductor running a train that carries passengers should have in his set of blanks, and use it when he puts

anyone off.

The principal trouble in ejectment cases is when passengers are put off away from a station or when tramps are put off while the train is in motion, resulting often in a serious injury, and, while very frequently the patience of trainmen is severely tried by these "hoboes," don't put them off when the train is moving. After all, they are human beings and we don't want to maim or kill them. So stop the train; and don't shoot them unless in self-defense. I mention the following as a few sample cases:

> Charles Williston, while in an intoxicated condition, attempted to get on train No. 16 while same was in motion, at Alger, March 16th. Baggageman and express messenger was standing inside door of car and saw this man getting on; went to the front door, had the cross bar in his hands, and ordered the man off. In getting off, Williston fell and his leg was run over.
>
> Edw. Hock, injured at Smithville, March 25th, by being ejected from extra freight train, while same was running six or seven miles an hour. Hock had got on train, having been told by someone that he could ride on it—having mileage—and conductor made him get off while train was in motion, and in getting off he was injured.
>
> Louis Nelson, colored boy, had been stealing a ride on train No. extra 112; was ordered off by conductor at Avon, May 19th; after he got off conductor shot him in the arm.
>
> James Mills, injured at Pewaukee, October 21st, got on milk train for the purpose of stealing a ride. Was ordered off by brakeman while train was in motion. In getting off he fell and was run over.

When passengers are injured *by stones or anything else thrown through or at the windows of cars* render them such assistance as you can; have the company's surgeon called to treat them, and if the stone or object which broke the glass or which caused the injury comes in the car pick it up and mark it so that you can identify it in the future and send it in with your report, as per Rules 35 and 40. It is as unfortunate that so many such cases occur as it is that there is no way by which railroads can prevent them, and until the State and municipal authorities take a hand in the matter they will continue to happen and passengers will continue to lose their vision.

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[1] Copies of all rules referred to will be found in the Appendix.

INJURIES TO PATRONS AND DAMAGE TO THEIR PROPERTY

Next come the accidents in which patrons are injured and their property damaged. It is generally understood, and has been the custom on all railroads, and Rule 50 requires, that before going onto a track on which cars are placed to be loaded or unloaded by patrons or employees it is the duty of the person in charge of the crew to go along the track to ascertain if there is anyone in the cars, loading or unloading them, or wagons close enough to the cars to be injured or damaged by their movement, and, if so, to give ample warning in order that such persons, wagons, and gang planks may be moved to a safe place. In the mining district especial care should be exercised in handling cars being loaded or unloaded by the mining companies' employees, many of whom do not understand our language or the danger of the business, in order that ample opportunity be given them to get off the car before it is moved. How often that rule and custom is violated is shown by the following cases:

> Ludwig Hoffmeister, injured at Montmorency, July 12; some cars were switched down against the car from which he was unloading apples, without notice to him, and he was thrown down and injured.
>
> H. Schurmann, laborer, injured April 2 at Hennessy. He was in car piling tile when the car was struck by a car of coal dropped in on that track, knocking the tile down on Schurmann.
>
> Foster & Roberts Co., for value of building at Lewiston, May 3. Engineman and fireman left engine and went into factory to get a drink; the engine with car ran away and knocked building down.
>
> Car loaded with salt; was being kicked down main line at Hawkins, October 12, brakes broke, car ran in on side track and struck another car, knocking it against side of building belonging to Blumenthal & Co., breaking in the walls and damaging machinery.
>
> June 8, switching crew at Kempshall backed a box car against the ammonia pipe which carries ammonia from the brewery to the bottling works of the Kempshall Brewing Company, knocking down the pipe, which was only twelve feet high, allowing the ammonia to escape.

No one will pretend that these accidents and consequent injuries and losses could not have been avoided by the exercise of a little forethought and care. Why not do it and stop them in the future, avoid the injuries and save the money they cost?

ACCIDENTS TO TRAVELERS ON THE HIGHWAY

The increasing frequency of accidents to travelers crossing the tracks at highways, one-third of which the country over are fatal, are caused by the increased number and speed of trains, increase in the population of the territory through which the roads run, by the failure to always give the required signal of the approach of the train, frequently by freight trains passing through stations at a speed prohibited by Rule 6, by failure to have gates or flagmen at crossings where they are needed, by failure of gatemen and flagmen, when provided, to properly perform their duties on account of ignorance or carelessness, generally the former; but chiefly is the increase caused by failure on the part of the persons crossing the track to exercise any care whatever. Gates and flagmen are generally disregarded by adults and, as a natural consequence, by children, and the result is death and injury. I think that as a matter of dollars and cents it would be profitable to the companies to increase the number and quality of flagmen and have greater supervision given to this class of the service, as it seems to me a self-evident proposition that the lower the grade of labor the more supervision there is needed.

Among the many cases of this kind, I have selected some which will illustrate the matter. They are selected for the purpose of calling the attention of employees to accidents which might be avoided by the exercise of care on their part, and do not include any cases caused by such negligence on the part of the person injured as should bar a recovery.

> Herbert Janson, wife, daughter, son and George Griffith killed; Morris Peck and Henry Blume injured, December 18, at 9:00 p.m., while driving across the tracks at Haskell; caused by sleigh being struck by engine running forty miles an hour. Headlight not burning, as required by Rule 55. No flagman at this crossing at night.
>
> H. S. Sorner, who was riding in an automobile across the tracks at Morton, April 14, was struck by engine; automobile was demolished but occupants not seriously injured. No gates or flagman at this crossing.
>
> Jacob Reich and Elbert Harris struck and killed while driving on 13th St., Montgomery, May 29, at 5:30 p.m., by engine. Gates up. The piano wagon on which these men were riding was demolished as well as the piano, and the horse killed.
>
> K. L. Manson, injured, rural mail carrier, struck by switch engine No. 869, at Woodmont Ave., Custer, June 12. There are gates at this crossing, but they had not been operated for a year on account of being out of repair.
>
> Gertrude Schiff, aged sixteen years, and Gustave Schiff, aged twenty years, were injured while driving across the tracks at first crossing east

> of Granton, August 9, at 6:35 p.m., by being struck by engine. No whistle was blown for the station and bell not rung. The station employee, whose duty it was to be on the crossing to flag same when trains were passing, had left there only an instant before the accident in order to go to the station house to assist in loading and unloading baggage for another train.
>
> H. L. Connors, driving across the tracks near Lowell, November 18, was struck by engine. No whistle sounded or bell rung for the crossing. Whistling post not in right place.
>
> M. A. Graves, while crossing the tracks at 9th Avenue and Wilbert street, Ontario, May 8, was struck by switch engine. No one on the engine knew that the accident had occurred.
>
> Edward Langdon struck and killed by engine at 7:21 p.m., August 6, at Water and Orchard streets, Berlin. No one on the engine knew that an accident had occurred; train traveling twenty-five miles an hour. Ordinance provides speed limit of twelve miles an hour; gates at this crossing, but not in operation. If Rule 6 had been complied with this accident would not have occurred.
>
> Wagon belonging to the Empire Novelty Company struck at Calkins at 9:37 a.m., October 29; wagon and contents badly damaged. Flagman at crossing claims to have been sick at the time of the accident, was in his shanty sitting down. He could not speak or understand English. Driver injured.

Many of these crossing accidents occur and no one on the engine knows that they happen. Whether it is because of the kind and position of the headlight now used or because the men on the engine are not keeping a proper lookout or by reason of the recent manner of construction of the large engines, making it impossible for the men in charge always to see an object on the track, I do not know, but I notice that some of the Class G-9 engines have the air cylinder and pump on top of the running board. While riding on a train the other day, I asked an old runner whether they obstructed the view. His answer was an object lesson. He took his hat and placed it in front of the window opposite which I was riding and asked me if that obstructed my view. The cylinder could, I think, be put on the tank and the pump below the running board, which is now made wide enough to hold a political meeting on. Formerly they were narrow, just wide enough for a man to walk on, the old theory of construction being, as I understand it, that there should be nothing protruding from the sides of the boiler which would prevent the man in the cab seeing the bunting beam. If it were practicable to so construct the running boards and place air cylinders, pumps, etc., so that this could now be done, the engineman would certainly

have a much better chance to see, and possibly some of these accidents be avoided.

And while the public insist upon our running trains at a high rate of speed and guarding the crossings with gates, flagmen, or warning bells, they, at the same time, for some inexplicable as well as unconscionable reason, attempt to hold railroads liable for all deaths and injuries, no matter how great the care and foresight the companies have exercised, or how gross the neglect of the injured party. It therefore behooves us to do everything possible to prevent such accidents, not only that we may thereby save life, but also money.

If gatemen and flagmen were uniformed and given authority to arrest persons crossing the track when gates are down and a penalty provided and enforced against people attempting to cross or walk upon a railroad track when the gates are down or they are warned by a flagman, accidents at crossings would be greatly reduced. As it is now the public compels the erection of the gates and then almost universally disregards them.

Before leaving this subject of accidents at highway crossings I want to call attention to Rule 12, which says that when cars are being pushed by an engine (except when shifting or making up trains in yards) a flagman must be on the leading car, and Rule 9, which requires that when cars are being switched over highway or street railway crossings a man must be stationed on the ground to act as flagman. Too much importance cannot be placed upon the observance of these rules, not occasionally, but always. If employees would comply with them fewer people would be injured. Try it and see.

In municipalities, run as slowly and carefully as you can and see that the engine bell is always ringing. Rule 3. Freight trains in going through stations should reduce their speed and do so under control, as per Rule 6. The fireman, as well as the engineman, should be on his seat keeping a lookout, and not engaged in waving a signal to some one on another train or elsewhere, or putting in a fire, and the engineman should see that he does this. On the double track when you are going to meet another train at a crossing, try to get the engine over the highway before the tail end of the other train gets by it. If you can't do that, slow up a little, so as to give the people who may be waiting a chance to see you, and, if you think there is danger, open your whistle to let them know that you are coming; that is what the whistle is for.

In the country be sure to sound the whistle; not once, but four times as required by Rule 2, and see that the bell is kept ringing until the crossing is passed, at dangerous and obscure crossings where you can neither see the travelers approaching nor they you; if you are running at a high rate of speed, sound the whistle before you get to the post, as well as at it. The law requiring the giving of this warning eighty rods from the highway was enacted when few trains

exceeded twenty-five miles an hour. Now, when few passenger trains make less than forty, and many over seventy, in the open country, so little time elapses between the sounding of the whistle and the reaching of the highway that when possible more timely notice should be given.

And I want to say here that one of the difficulties met with in this class of cases, is the fact that sometimes engineers fail to blow the whistle and ring the bell, and as long as men are human I suppose such things will happen; but let us commence now and try to do it every time. The greater the storm of rain, snow, or wind, the denser the fog, or the darker the night, the more important it is to give the warning. In most of the states the law provides penalties for failure to sound whistle or bell. Some day they will be enforced.

If there is any way to discover whether the engineman and trainmen are observing the signals, which are located along the track for the protection of the passengers, other employees, travelers on the highways, themselves, and the property in their care, other than having inspectors observe their action on approaching signals, and ascertain if they give the required warning of their approach to highway crossings, etc., and you will advise the managements what it is, I am sure they will be glad to adopt such a plan. It has always been customary to have auditors examine the accounts of officers and agents handling money to see that not only are their accounts correct, that the money collected is remitted, but also to ascertain if the business of the company is done in accordance with the rules and a correct record kept of the transactions. No one for an instant thinks that the fact that the officers' and agents' accounts are examined is any discredit to them; most of us are not only willing but anxious that it should be done, as it is a protection to us as well as to the company. And if it is necessary to check up the officers and agents who handle money, is it not much more necessary to check up men who handle human beings and property of immense value, to see that they observe signals and rules before, instead of after, an accident?

And as it sometimes happens that an engineman will not notice that his headlight has gone out, especially when there is snow on the ground, any employee who sees an engine moving after dark without the headlight burning should stop it and tell the engineman; if you can't do it yourself call up the train dispatcher, so he can do it at the next station.

TRESPASSERS

Occasionally we have an accident in which trespassers are killed or injured while walking or playing on the tracks, which might be avoided by greater care and watchfulness to discover their danger, by warning them of the approaching

train, either by continuous sounding of the whistle, by slowing up, or by stopping when you have reason to think they do not know a train is coming, especially on the double track when trains are moving on both tracks. The most heartrending of them all are injuries to children, and, sometimes, to women.

Let me cite you several of such cases:

> Albert Jennings, ten years old, was sitting on the tracks north of Lampton, July 9, at 10:45 a.m., where he was struck by a work train of twenty-two empty flats backing north and both legs crushed. Air not coupled in as required by Rule 44; no hand brakes on the cars. Conductor was on the front car; claims he was keeping a lookout, and although he had a clear view for over a quarter of a mile says he did not see the boy until he was within three or four car lengths of him.
>
> Charles West, aged eighteen months, struck and killed 1,000 feet south of Savannah Station, June 16, by train. Child came on track through a break in the right of way fence.
>
> Margaret Kennedy, struck and killed on June 13, at 6:10 p.m., while walking on the tracks inside the city limits of Utopia, by engine running about twenty-five miles an hour; although the engineman saw her in time to have stopped, he did not realize that she did not see or hear the train coming, and failed to do so.
>
> Mrs. Helen Boston, eighty-four years old, struck and killed on a bridge near Lenox, September 1, at 4:35 p.m., by engine. Track is straight for about two miles and a half east of place of accident, and the woman wore a bright pink dress skirt. No one on the engine knew the accident had happened.
>
> December 21, engine ran over G. P. Krauss, at 5:40 p.m., a quarter of a mile south of Slazenger. Engineman says he saw something lying on the track and thought it was a bough of evergreen. He did not know until he reached the station that anybody had been struck.

As the traffic and population increase, cases of this kind grow in number, and, for some unknown reason, the public think that, while they must keep off the property of private individuals, where there is no danger, they are privileged to go onto a railroad track where everyone knows there is great danger, and after doing so a few times, the courts say they have a license to do so, and that we must look out for them and see that they don't get hurt. On the same theory I suppose the courts would say after a man burglarizes your house six or seven times that he has a license to try it again, and if he gets hurt because too much force was used in throwing him out, that you must respond in damages. So when you discover that people, old or young, are making a custom of walking

through the yards or on the track, report it to your superintendent before, not after, someone is killed or injured, and he will try to stop it. And if you find a child or a drunken man on the track, drive him off, because if you don't they are likely to get killed; and your company will not only back you up but thank you for your thoughtfulness.

INJURIES TO OUTSIDERS

Rule 27 says that cars must be placed so as not to project over highway crossings, and yet any one going over a railroad will see any number of them so left, and the result is that about once in so often a wagon strikes a car in an attempt to get across, a horse is frightened, and a runaway results, someone is hurt, and money paid to settle the claim.

> A serious case of this kind occurred at Warburton, July 9, in which Mrs. Jansen was fatally injured, caused by her horse being frightened by a freight car which was left standing fifteen feet in the highway, the end of the car being on the crossing plank. Horse ran away and she was thrown out.

When cars are left in such position they not only frighten horses and cause accidents similar to the one last mentioned, but also obstruct the view of approaching trains. Both the law and rules of the company prohibit this, and the practice should be stopped.

And right here I want to call attention to Rule 32, which prohibits engines standing within 100 feet of a highway crossing, under a bridge, or near cars occupied by passengers, when it can be avoided, and yet the rule is so often disregarded that one wonders whether any one knows of its existence. Especially is this so with engines hauling passenger trains stopping at stations and occupying half of the highway, when they could just as conveniently be back some distance from it.

The stoppage of trains with the rear car standing in the highway should also be avoided so far as possible, particularly in the winter time, when there is always more or less steam leaking from the hose, as it is likely to frighten horses waiting to get by or in crossing the track.

Rules 18 and 50 say that trains must not block highway crossings more than five minutes. The failure to observe these rules is the cause of as much, if not more, criticism and profanity on the part of the public than almost any other one thing that train and switchmen do. No one but the person who is waiting to get across the track, and sometimes it is a doctor answering an emergency call,

can realize how tantalizing and annoying it is, so, for goodness sake, observe the rules in the future.

LOCK TURNTABLES

Turntables should be locked (that is what Rule 31 says), and yet they are often left unlocked. The result is that children are attracted to the place, and sooner or later one of the little ones gets hurt as did the following, which are cited as examples:

> Anthony Young, a ten-year-old boy, had his foot caught at Grandison, March 30, while playing on turntable which was unlocked.
>
> Phillip Chartres, eight years old, injured at Alvin, August 14, 2:30 p.m., while playing on turntable, which is about 1,400 feet north of roundhouse. Turntable was not locked.

Now, it wouldn't take but an instant to lock the turntable. Why not do it and prevent some child, perhaps your own, from going through life a cripple?

Be careful not to leave any torpedoes around that are not attached to the rail, as required by Rule 7, and never put them on a rail in a highway; if you do children may pick them up and in playing with them get injured as did

> John Newton, aged nine years, June 30, about two miles north of Walker. This little boy with his sister and another boy were returning from school, walking along the track. They picked up a torpedo lying alongside the track, and after trying to open it with a knife young Newton placed the torpedo on the rail and struck it with a stone, the torpedo exploded and pieces of the tin striking him in the eyes and face, badly injuring him.

DAMAGE BY FIRE TO ADJACENT PROPERTY

One of the great risks that every railroad that uses coal for fuel runs is the risk of fire to adjacent property started by sparks or ashes from engines. Any man running an engine ought to know from the sparks thrown out and fires started whether the engine is in good or bad order. Rule 29 says that the enginemen must report defects in netting and ash pans; this is required so that if the inspector overlooks the defect, or if one occurs between the regular inspections, it will be remedied before any damage is done, and if an engine is throwing

more fire than she ought to, it is up to the engineer to report it and get it fixed. It will take less time than to make a report about the fire and condition of the engine, and, at the same time save both the owner of the property and the company a loss. In the lumber and sawmill country it is especially important that this be done, and where engines are working in or around sawmills, lumber yards, powder and tie plants, and other places where danger of fire is great, the apparatus for preventing the escape of fire should be absolutely perfect, and it ought to be the personal business of the engineman to know that fact; he should be present when the inspection is made, and see that it is done thoroughly, the same as he would if he and not the company had to foot the bill if the engine started a fire.

On the outlying divisions where traffic is light and trains are few, if an engine starts a fire, stop and put it out. If conditions are such that you can't do that with safety, drop a note off to the first section crew or agent, so that they can send men out to extinguish the fire. If you don't the Lord only knows where it may run to (on the western prairies I have known it to go twenty-five miles) or how much damage it will do in the lumber country.

If the precautions suggested here, which are neither new nor original, but can be found in the rules and on the bulletin boards, had been adopted, none of the following cases would have occurred:

> June 3, engine No. 2041 started a fire at Hansel & Woods Company's powder plant at Myron Valley; netting on this engine was in bad order; the hood provided by the company to be placed over the smokestacks of engines going into the plant of this company also in bad condition.
>
> A house and contents burned April 20, one-half mile south of Fort Andrew, started by engine No. 1759. This engine was inspected and reported to be in good condition, but upon re-examination was found to be defective.
>
> On August 17, engine No. 539 set out three fires between Selkirk and Belmont. Fires were observed by train crew, but train was not stopped, and no effort was made to extinguish the fires, which burned over 15,000 acres of ground, destroyed about 1,100 tons of hay in stack, one building, a large acreage of winter feed, fence posts, etc.

INJURIES TO EMPLOYEES CAUSED BY THE CARELESSNESS OF OTHER EMPLOYEES

And, first, as in the case of passengers, those caused by collisions. From the number of collisions on the main track and in yards one would almost think

that the general and fundamental customs and rules on railroads that "In case of doubt always adopt the safe course," and that "Speed must always be sacrificed to safety" were seldom observed; on the contrary, I believe it to be the exception and not the rule, else the number of accidents resulting from such failure, though many times what they should be (and as long as men are human we will have some accidents), would be so much greater in number that people would be unwilling to travel at all. I believe that in the near future the number of such cases will be so greatly reduced that the least thoughtful of us will stand aghast at the record of 1904 and 1905, and that these fundamental rules and the instructions contained in what are known as the "Flag Rules" and "Caution Card," will be so strictly observed and enforced *and that blocking of trains by space*, not time, intervals will become so general as to practically eliminate this class of accidents, which are caused:

By failure to watch for and observe block and other signals.

By trains following each other too closely.

By trains following at too high a rate of speed.

By failure to protect trains stopped on the main track.

By cars not being left in to clear at sidings.

By switches being left wrong.

By lack of caution in time of storm or fog; and

By general carelessness and failure to realize the terrible result which is bound to follow any lack of care, failure to comply with the rules and *the uncertainty of detection and punishment if such carelessness and failure to comply with rules does not cause an accident*.

Every man in the train, engine, and switching service ought to have every requirement of these rules by heart, understand exactly what they mean, and be ready at any instant, and in any weather, to execute them to the letter, and no punishment should be too severe for failure to observe them to the very letter, for on their faithful observance depend the lives of passengers—it may be some of your own loved ones—of employees, and the safety of the property entrusted to the companies for transportation, as well as their own. And yet, if the instructions contained in the two fundamental rules and those known as the "Flag Rules" had been observed, none of the following cases and many others that help fill the records and the daily press would have happened. It is a standing disgrace that such accidents happen, and the sooner employees help get the careless and reckless men and the drones out of the service, as it is your duty to yourself and the companies to do, the quicker the traveling public, yourselves, the property in transit, and that belonging to your employer and

yourselves, will be safe and the greater your certainty of getting to the end of your run to be welcomed by the wife and children awaiting you.

In this connection I want to suggest to the enginemen that when you discover a cause for the sending out of a flagman give him a chance to go back before you get stopped, so that he can cover the required distance quicker. And as these rules are among the most important, if not the most important, in the book, I call especial attention to them.

The following cases will illustrate how much room there is for improvement in this regard:

> Joseph Atkinson, brakeman, injured September 26, at Muggleton. He was standing on top of way-car in train which stopped just west of the depot and then started up and ran into side of freight train.
>
> Alexander Peabody, engineer, George F. Smivins, fireman, injured at 10 p.m., October 3, on track 3, near Penryn Ave., Peltonville; engine No. 784 was backing down track 3, and collided with engine No. 1891 standing on that track. Instructions require engines running on this track must run at slow rate of speed, so as to be able to stop within their vision. The engine was running so fast that it could not stop, although Engineer Peabody saw engine No. 1891 when 300 feet distant.
>
> J. L. McPherson, yardmaster, and Jacob Gonorowski, brakeman, injured at Peeweezle, July 28, were in caboose of extra engine No. 674, which was stopping for drawbridge, when engine No. 937, Engineman Isidore Guggenheimer, ran into the rear of train.
>
> Luke M. Peters, engineer, injured April 14 at Aromintap, was in charge of engine No. 2143, backing around Y, when train No. 31 backed into extra No. 7326, to which engine No. 2143 was attached.
>
> L. P. Jarvis, engineer, and Samuel Minns, fireman, injured November 20, at 7:15 a.m., one-half mile east of Peeble's Corners; engine No. 759 had just backed in on side track with work train, and switch had not yet been closed; engine No. 1473, train No. 48, Engineer Tibbits, Conductor Perry, came along at a high rate of speed, and ran into this open switch just east of the home signal, colliding with engine No. 759.
>
> February 14, at 8:20 p.m., one mile north of Indianapolis, Ohio division, extra freight engine, Packard conductor, collided with Ohio division passenger train No. 11. This freight train had an order to run from Indianapolis to Cameron as an extra. Indiana division passenger train 141, due at Indianapolis at 8 p.m., was 15 minutes late.

Conductor Packard of the extra was on station platform when this train pulled in. He supposed it was Ohio division No. 11 and so told his engineer, and pulled out and met No. 11 a mile from the station. Two engineers and one fireman were killed and five trainmen injured. If Rule 53 requiring conductors and engineers of trains at meeting points to ascertain by word of mouth what trains they are had been complied with accident would have been avoided.

Nov. 5 freight train No. 52 slowed down to take side track at Park Rapids when extra freight moving in same block, on caution card, ran into caboose and rear brakeman was killed. If Rules 7, 14 or 15 had been complied with accident would not have occurred.

Rule 12a says: When you get a train order the conductors must read it aloud and then sign it and show it to the engineman, the rear brakeman or flagman, and the engineman must show it to the fireman and in case of freight train to the head brakeman, who are required to read it, the object being that every employee on the train will know what the order is and if the engineman or conductor forget it the brakeman or fireman may remember and by remembering prevent an accident.

DERAILMENTS

Next come injuries caused by derailments, which generally result from running into open switches, off derails, too fast running at bad places in the track, defective equipment or track. Nearly all of the cases would be avoided by careful running, proper inspection of track and equipment, and by compliance with the rules.

Oct. 21. 10 a.m. Passenger train 41 derailed near Venice while running around a reverse curve fifty miles an hour. Engineer killed; fireman and twenty passengers injured.

April 27. Way car jumped track at middle lead switch in Pewaukee yard and switchman Jno. Williams killed; Jas. Grant and Robert Riley injured.

Lemuel Izzard and L. Wackles, killed; R. P. Bownes, engineman, Roderick Bloke, stockman, Robert Castel, fireman, C. Plympton, brakeman, injured, four miles west of Beadleston, July 24. Train No. 36 had broken air hose or axle, derailing and throwing third car from engine onto westbound track just as train No. 98 was coming. Train No. 98 ran into derailed car and 14 cars of time freight burned up. Izzard and Wackles were stealing a ride on train No. 36.

ACCIDENTS CAUSED BY DEFECTIVE EQUIPMENT

I shall next call your attention to accidents caused by defects in the equipment, especially in that of freight cars and engines. They are of such frequent occurrence as to no longer attract attention, but when the time comes *that the man who inspects reports not to the foreman, whose duty it is to keep the equipment in repair, but to a superior, whose duty it is to find defects*, there will be a material reduction in such cases. Train and enginemen should report defects discovered by them on Form 995 and attach card to truss rod of car or locomotive tank. And first we will take up those caused by defective cars:

> J. I. Smindorf, brakeman, killed at Snook's Junction, by falling from car, September 8, at 7:40 p.m. The running board was rotten and full of holes; the brake at the north end of the car would not hold on account of having a loose ratchet wheel.
>
> P. L. Merritt, conductor, injured at Pencost, November 12, was climbing down side of car; screw pulled out of top handhold, allowing Merritt to fall to the ground, striking on a rail.
>
> Randolph Smuck, brakeman, injured at Parrott, April 3, was going down side car; stirrup was gone and he fell to the ground.
>
> Matthew Brummage, switchman, injured January 4, at Keewahtah, was riding on car which was being switched; he tightened the brake, but the dog was in bad order and he had to hold brake with his hand. There was two inches of slack on the bottom brake rod, the chain slipped, and he was thrown from the car and his left foot run over.

How many of the accidents caused by defective running boards, handholds, ladders and brakes would have been avoided had Rules 25, 26, and 28, requiring trainmen to examine cars, brakes, and ladders and to set out bad order cars been complied with, I leave you to guess. And why when such defects are discovered by train and yard men they do not report them to the next crew taking the car, so as to prevent any of the latter being injured, I never could understand.

One cause of the great increase in accidents by trains breaking in two and by defective couplers is probably on account of the fact that many of the automatic couplers are commencing to wear out and are not repaired or renewed promptly enough, and, also, because the levers and chains of the coupling apparatus do not receive sufficient attention. Another reason is because of the unnecessarily hard usage given the couplers, especially in the yards where trains are made up. Just why an appliance to save life and limb should be abused by the employees, for whose benefit it was put on the cars and engines, is one of the things which

it would take a mind-reader to answer. But the truth of the matter is, as every experienced adjuster knows, that the automatic coupler has cost the railroads for equipment and freight damaged many times over what it cost them to settle claims for personal injuries caused by the old link and pin coupler; and when the brotherhoods take up such matters as this and try to remedy them, they will not have so many crippled members drawing insurance for permanent disabilities, which would have been avoided by the proper handling of cars.

Another class of injuries which has come with the safety appliance is that caused by the bursting of air hose, and it is surprising how many of them there are.

Some day a man will get up a hose which won't burst, or which will give notice of its intention so to do, and we will all rise up and bless him. The following are samples taken from a job lot of such cases:

> G. A. Graham, conductor, injured June 4, three-quarters of a mile north of Bogle; caused by air hose on car bursting, causing Graham to fall against stove in way-car.
>
> K. L. Grobbet, brakeman, injured one mile north of Brandon; caused by the air hose bursting, throwing on emergency brakes. This man, who was in front end of way-car, was thrown to the ground.

Now let us see the result to persons by reason of improper loading of cars:

> R. Puddles, switchman, injured at Grammaton, March 4, was hanging on side of car loaded with lumber, engineman shut off suddenly, and when car stopped the lumber slid and caught his hand between lumber and stake on car. Lumber was loaded in two piles 16 ft. lengths, leaving a space of about six or eight inches between the piles.
>
> George Brownell, brakeman, injured July 17, one and one-half miles south of Cranton. At Cranton train extra, picked up a car loaded with logs; two stake pockets broke; logs fell under way-car, which tipped over.

And it is just as important to properly unload packages of newspapers and mail from moving trains, and to exercise a little care in throwing coal from engines, as it is to see that freight is securely loaded. The number of accidents caused in this way since the running of the fast mail and newspaper trains commenced would fill a book and could all have been avoided by the exercise of that care which employees or postal clerks would have exercised if they, instead of the company, had to foot the bills caused by their carelessness. To me, it seems not

a difficult or unreasonable precaution to look, before you throw out a heavy bag of mail or half a dozen packages of newspapers, to see that no one will be hit by them, and that they could and should be dropped just beyond the far end of the station platform, but never in a street or public highway; and don't throw your clinker bars or ash bars off engines, or anything else for that matter, without looking to see if anyone is passing and when through with them put them in a safe place so they won't project and strike anyone on the next track or fall off and injure someone. If this had been done cases like the following would not have happened:

> Henry Forbes, roadmaster, injured November 3, at Marionette, was walking west on station platform, when mail sack was thrown from train struck him on the legs and knocked him down.
>
> Paul Rhelips, injured at Dragitt, May 15, at 5:30 p.m.; caused by his being struck with a block of hard wood which was tied to a letter thrown from train by the baggageman, while passing through the station at 45 miles per hour.

ACCIDENTS CAUSED BY DEFECTIVE ENGINES

During the last two years there has been an epidemic of accidents caused by defective grate-shaking rigging and defective shoveling sheets on engines, especially of the former. A few years ago they were practically unknown. Now they come so often as to create no remark. The following cases will demonstrate the necessity either of some different apparatus for shaking grates of engines, of greater care in using the apparatus, or of some better method of inspection and repair:

> A. G. Kenly, fireman, injured near Windermere; caused by the shovel which he was using catching on the shoveling sheet of engine No. 418.
>
> James Cooney, fireman, injured June 19, in Caster yard, was shaking grates on engine No. 917, and connecting rod broke, catching his hand between shaker rod and quadrant.
>
> H. D. Porter, fireman, injured near Mansfield, May 10; caused by grate rod breaking as he was shaking the grates on engine No. 1280.

Next we come to a class of accidents which is also on the increase and which is of comparatively recent origin, and which, I believe, could and should be absolutely prevented by the exercise of a little mechanical ingenuity or which,

even under present conditions of engine construction, would be avoided by greater care on the part of the engineman. And some day when an injector breaks or a blow-off cock is opened as some mechanical superintendent is passing an engine, and his legs are scalded, I will bet my next month's salary against an 1899 bird nest that they will find a way to prevent such injuries, which are as painful as they are unnecessary and expensive, either by putting the blow-off cocks under or on top of the engines, instead of having them project from the side.

> W. P. Willard, engineman, injured July 22, 4 miles west of Janesville; injector on engine No. 4618 broke, and Willard was scalded about face and head.
>
> Henry Jennings, conductor, injured October 1, at 5:55 p.m., north of Rathburn; was walking by engine, engineman started the injector and threw hot water on Jennings.
>
> Edward Sterns, night engine inspector, injured at Granby roundhouse, January 12, at 8:45 p.m.; he told engine dispatcher to open valve to see if sand was running properly; dispatcher opened the blow-off cock instead of sand valve, and steam and hot water scalded Sterns' right hand and leg.

Every year a number of accidents occur to employees caused by defects in engines and appliances furnished enginemen, nearly all of which could and should be avoided if there was a more thorough inspection, greater care taken in repairs and, what is just as necessary, more care taken by enginemen in reporting defects; and when you report defects, and repairs are not made, call the attention of your master mechanic or division roundhouse foreman to the matter and I doubt not that not only will the defects be repaired but greater pains will be taken in the future to see that your engine is kept in good condition.

> William Curbin, stripper, injured at Elmwood shops on the 10th of March, was taking boiler front off engine No. 3461; removed all bolts except one, and while waiting for crane to be attached to the door to lift it away, the door fell on Curbin's leg, who was standing on the pilot beam of engine. Investigation showed that the bolt which had not been removed, and which had been left to hold door, was a "dummy."
>
> G. M. Cramer, fireman, injured, September 9, at Huntingdon, was climbing up on cab of engine No. 784, to get coal chute down, when brake released, and on account of leaky throttle, engine started back, and caught his leg between cab of engine and chute.

J. B. Olsen, fireman, overcome by heat on engine No. 941; caused by absence of lagging on side of engine.

M. H. Woodrow, engineman, and Douglas Evans, fireman, injured half mile east of Peverly, June 19, caused by whistle valve on engine No. 2605 becoming stuck, they being unable to fix it, and they were almost deafened by the continuous whistling. Whistle had been reported on the trip before by the engineman, but was not repaired.

Henry Winterson, a boiler washer, injured on May 15, at Kendrick, was using a 4-ft. nozzle to wash out boiler of an engine, when the collar of nozzle came off, and he was thrown against cab of engine, injuring his back.

The thought has often occurred to me that if the master mechanic or some one other than the foreman, whose duty it is to inspect and repair, would check up the work slips Form No. 141 and inspection records to see that the repairs called for on them were made, we would not have so many engine failures or accidents of this kind.

Before leaving the subject of engines I want to say a few words about accidents caused by the breaking of lubricator glasses and water gauges; they grow more frequent every year and until somebody invents something to take the place of glass—possibly the celluloid glass now used on automobiles may be available —which will not burst, as you value your eyesight, which becomes more necessary every day as the number, speed of trains, and signals increase, carry the shields, which the company has provided for your, not its, protection, over the glass, not in your seat box as many enginemen do now, and then when the glass breaks, and no one can tell when it will do so, there is little danger of your vision being impaired or lost by your eyes being struck by flying particles of glass.

DEFECTIVE SCAFFOLDS, DERRICKS, ETC.

Accidents caused by use of defective derricks, scaffolds, and the careless handling of derricks are comparatively new and are one of the recent surprises in the business. I venture to say that the companies have paid out during the last 18 months in the investigation and settlement of accidents caused by defective scaffolds enough money, not only to furnish the most approved scaffold now known, but to nickel plate them as well. The following cases will show what is going on in this way:

R. B. Babcock, bridgeman, injured at Ferncliff, a mile and a half north

of Whiteston, Jan. 14, while standing near derrick mast, which was being raised and put in position on abutment; the mast suddenly slipped, and knocked this man off the abutment to concrete foundation 34 feet below, breaking his leg in two places and his arm, and bruising his hip.

H. R. Roberts, bridgeman, killed near Red Creek, March 4, at 11 a.m.; derrick car in rounding curve an attempt was made to swing the boom of derrick to outside of curve, but it suddenly swung over to the other side of car and tipped the derrick car over; Roberts was standing on front end of car and jumped, falling back onto the track, and the derrick tender, which did not leave the track, ran over him. A 2×4 cleat, nailed on side of mast to hold sling-lines in place came off, allowing ropes, which control swinging of boom, to slacken so that movement of boom could not be controlled.

B. H. Jackson, seriously injured at Leicester, Dec. 30; caused by the plank on which he was standing, used for scaffolding, slipping out of the hooks, on account of its being covered with ice and snow, and allowing him to fall 15 ft. to the ground.

Within the last few years injuries caused by defective jacks and drop cables, which, when I commenced to investigate accidents, were unknown, have become very frequent. I mention the following to show what they are. All of them would have been prevented by proper inspection—not by inspections made to find things O.K., but by inspections made to find defects; and if not made for that purpose they had better be discontinued.

L. M. Lumpkins, section foreman, injured Feb. 20, at Graves; he was helping car repairer, and had jacked up a car in order to move the trucks, but when ready to let the car down the jack would not work, and all at once gave way, and Lumpkins was struck on the head by the lever and knocked down, injuring him.

R. J. Hopkins, laborer, injured June 22, at Osazi, was giving signals to have train, loaded with ties, moved, when cable broke and hit him in the face.

In the same category, while perhaps not of the same class, come accidents at coal chutes and water tanks, roundhouses, stations, and other places. Had inspectors, repairmen and employees using the appliances, done as they would have done if the loss occasioned by neglect was to be theirs, none of the following accidents would have happened:

Will Flanigan, cinder pitman, injured May 21, at Cranby shops, was raising cinder bucket with hoist; chain broke, and the bucket fell on his foot.

Frank Hogan, fireman, injured in Colby yard, March 16; had just finished coaling engine and pushed up lever to shut off the coal, when the pulley, over which cable works, dropped and struck him on the head.

W. R. Brady, fireman, injured at Quarton, June 1; was standing on tank of engine to take water; rope was frozen and coiled up and he could not reach it; got the ash hoe and caught the rope and pulled the spout down; when it was part way down it fell and struck Brady in the back.

D. W. Dalmann, operator and leverman, injured Aug. 12, at Hampton; was in interlocking plant throwing distant signal, when chain connecting lever with counterbalance weight broke and he was thrown to the floor.

Stanley Lord, freight brakeman, injured at Rembrandt, May 20; was unloading freight from a car; the skid which was being used was broken off at one end, causing it to slip, and allowing Lord and the boxes to fall to the ground, injuring Lord.

ACCIDENTS CAUSED BY DEFECTIVE FLOORS, PLATFORMS, ETC.

Another class of accidents which might also be avoided is that caused by defective floors and platforms in roundhouses and at stations, the failure to keep tools in repair, lack of light, and failure to properly secure lights on switches. While, fortunately, they are not so great in number, yet they go to swell the total, as well as the expense, and ought to be cut out, as they could be with proper care and supervision.

L. N. Corbey, brakeman, injured at Calton, Nov. 28; went into coal shed to get coal for caboose. In coming out he stepped on a broken board in the floor of coal shed and sprained his left knee and left hand.

H. L. Minturn, injured at Acworth, Jan. 16, while running to throw a switch, he ran into a three-throw switch upon which there was no light.

Jacob Paley, boiler-maker helper, injured July 11, at Hinsdale; was striking punch knocking out rivet; the punch came off the handle and struck him in the eye.

A. D. Yarrow, injured April 3, at Alberon, while throwing switch near roundhouse, the switch light fell and struck him on the head.

Albert Kaufmann, machinist helper, injured July 6, at Hamburg; was in roundhouse working near dynamo belt, which became unlaced and loose end of belt came round and struck him on the left arm.

ACCIDENTS CAUSED BY OBSTRUCTIONS

Next in order, I wish to call your attention to accidents caused by overhead obstructions, drawbars, lumber, poles, cinders, and other obstructions left too near the rail, holes and trenches left uncovered, and failure to block guard-rails and frogs, etc. Everybody is or should be familiar with Rules 45 and 49, which require blocking of frogs and guard-rails and a clear space of six feet from the rail, and yet one would sometimes think, from the appearance of some yards, side tracks and switches, that the rules, like the midnight closing ordinance, were dead letters. It, however, is the intention and desire of the managements that they, like all other rules, should be enforced, and no one is so much interested in that enforcement as the train and yard men, who work in the yards and on side tracks and switches. If they had been observed, or if their non-observance had been reported by the men who must have known of their violation, none of the following accidents would have occurred:

P. B. Montgomery, brakeman, fatally injured at Mason, while attempting to uncouple car G., P. & A. No. 593 from O., M. & C. No. 1783; chain on pin being broken; blocking gone from guard-rail.

John Lenahan, switchman, killed at Juniper, June 4; footboard of switch engine on which he was riding struck a telephone pole lying in the grass alongside the track, throwing Lenahan under the engine.

P. D. Kendrick, brakeman, injured at Bentley, Jan. 5, 7:00 p.m.; was riding on the side of a box car, when he was struck by a spike sticking in a board, which was part of the fence around the cellar which was being excavated for the new depot at Bentley. It was necessary to amputate two fingers of Kendrick's right hand, his right leg, and he also received a very bad scalp wound.

Peter Alton, brakeman, was climbing up the side of A., B. & C. car No. 2843, at Hackley, when he was struck and knocked off the car by a highway crossing sign at that place, and so badly injured that it was necessary to amputate both his legs below the knee, and his right shoulder blade was also broken. This crossing sign cleared this car only 2 ft.

> K. G. Purdy, switchman, killed in Walton yards, Dec. 10; caused by his being knocked off the top of a car by the Avery Street viaduct and run over and killed.

I want to call especial attention to the Alton, Montgomery, Purdy and Kendrick cases. In the former the crossing sign had been in the same place for over 20 years. The man who put it there, roadmasters, and section foremen, who should have discovered its dangerous proximity to the track and moved it to a safe distance, the one required by Rule 49, were grossly careless, and the injured man and other trainmen who had passed it daily for years must have discovered that it was too close to the track, and if they had reported it, as they should have done, this accident would not have happened, and they were blamable for not doing so. In the Montgomery case the section foreman was at fault for not properly blocking the frog, as required by Rule 45, the roadmaster for not seeing it was done, and the car inspector and repairer for not discovering that the coupling apparatus was defective and repairing it. In the Purdy case the management was at fault for not seeing that warning whips were up for the viaduct—they are now; and in the Kendrick case the man who hung up the lamp too close to the track to warn people, instead of making it a protection, increased the danger, and the division engineer who allowed it to be done was inexcusably careless. Such cases not only swell the total number, but account in a large measure for the total increase in personal injury accounts of the railroads.

Section foremen do not seem to realize the importance of examining the whip guards for overhead obstructions every time they pass them to see that they are in proper position and if not, pull them down with the hook provided for that purpose. If the roadmasters would be more particular to see that this is done we would have fewer accidents of this kind in the future.

And in removing hand cars in yards, place them far enough away from the rails so that a man riding on the side of a freight car won't be struck by them, as happened to

> A. T. Swanson, brakeman, injured at Tracy, Aug. 30; he was hanging on the side of a car, and was struck by the handle of a hand car, which had been left too near to clear a man on a car.

ACCIDENTS CAUSED BY CARELESSNESS OF ENGINEMEN

I shall next call your attention to accidents caused by carelessness of enginemen which should not have happened and with proper care and thoughtfulness will not occur in the future:

George Bowman, engineman, killed at Holstein, on Sept. 9; caused by engine running off the track, this being the end of the road, and the first time Bowman or any of the crew on the train, other than one brakeman, had been over the line. A section foreman, who was sent along as pilot, claims to have told Bowman when he came to the Y, north of the depot, but Bowman paid no attention to the warning, and made no effort to stop. This engineman had been on duty for 14 hours when he got to Creever, at about 12 o'clock midnight, and asked for 8 hours' sleep, but was sent out again in four hours and a half.

Michael O'Neill, turntable man, injured Oct 17, at Patten; he was pushing turntable with engine on it, and while doing so engine ran off before he got it to the stall where it was to go in; struck him on left shoulder.

Ralph Burnham, rear brakeman, train No. 55, seriously injured at Bradley, night of Dec. 21, by being caught between the tender of engine No. 641 and the mail car. This man was standing on east side of track and started to cross over to the west side to help couple the air, steam hose and whistle. He knew the engine was coming back, but owing to the amount of steam escaping from it did not realize it was so close, and before he could get over was caught. The steam was escaping from the steam hose at the back of the tender. It is customary for some engineers to have this steam blowing off as they are backing up to make couplings; others shut off the steam, as when it is blowing off it is almost impossible for the brakeman to see. Why should not all enginemen shut it off?

In a double track district, if you are running on the wrong track and there are any section men working on the track or employees or others walking or running on the track, you should act upon the theory that even if they know you are coming they will think you are on the track usually occupied, and until you know that they actually understand the conditions you must be prepared to stop in time to prevent injuring them. And if two trains are passing on the double track and there is anyone around, don't let it be your fault that an injury occurs because ample warning was not given of the approach of two trains instead of one.

John Cooper, section laborer, struck and killed by engine No. 1564, April 16, at 9:00 a.m., near Steuben, while working on the track, cleaning the crossing, engine was running on south-bound track. Although running on the wrong track, engineman is unable to say whether or not he whistled for the crossing. No one on the engine saw the man.

ACCIDENTS CAUSED BY MOVING CARS ON OR UNDER WHICH MEN ARE WORKING

Injuries caused by the moving of cars being iced or on or under which men are working seem to me of a class so inexcusable as to merit the discharge of the party at fault. Think how you would feel if you or your boy was under, on, or in, a car with a flag out and someone moved the car without notice and you or he was run over. The following are a few such cases:

> Philip Elder, car cleaner, injured at Armstrong, July 5; caused by train being moved by switch engine while he was on the ladder filling the water cooler.
>
> Patrick Connelly, car repairer, injured Nov. 29, at Falesburg, was under end of car on repair track; Switchman Moody backed train No. 27 on No. 5 track, and cars did not clear coach No. 368; it struck the car under which Connelly was working, moving it about 10 ft. and dragging Connelly, who caught hold of brake-beam. Flag out as required by Rule 1.
>
> A. F. Brown, car cleaner, injured at Perryville yards, May 3, at 10:00 a.m., was working in smoker No. 762; engine No. 37 coupled onto the car and pushed it down track and it collided with some other cars, knocking this woman down. No switchman riding on the car at the time of the accident.

Injuries caused by carelessness in throwing switches and derails we all know ought not to occur, and yet they are of frequent occurrence. The following are samples.

> G. M. Claney, engineman; Alfred Dolan, fireman; injured about 10 a.m., June 4, at Peronia; after going in on side track to get some cars, got signal from brakeman to come ahead. Brakeman failed to throw derailing switch, and while going to main line engine left the track, went down embankment, and turned over.
>
> Richard Jones, brakeman, injured May 7, at Nelson. Foreman Brinson told him to cut off two cars and ride them out onto main line, and after he had started the foreman noticed an engine coming up the main line, and threw switch for side track, the cars collided and he was thrown down in car.

ACCIDENTS CAUSED BY KICKING CABOOSES

Accidents caused by kicking caboose cars in which men are resting are of altogether too frequent occurrence, and are as inexcusable as they are frequent. Rule No. 10 should, I think, prohibit the practice, as it does of moving cars containing passengers unless coupled to the engine and air-brakes in use. Had this been done, the following cases would not have happened:

> K. M. Simpson, brakeman, injured Dec. 12, at Albion, was in way-car cleaning ashes out of stove, when the way-car was struck by another car kicked onto it by switchman, throwing him against end of car.
>
> Paul O'Connor and E. Putnam, brakemen, injured Feb. 22, at Dodworths, were asleep in caboose No. 1473, on caboose track. Switch engine went in and got caboose and kicked it out on lead. It did not clear the switch track, and as other cars were kicked back on caboose track it was struck by them throwing these men to the floor.

Indeed, I believe that if the practice of kicking freight cars in yards and at stations was prohibited the saving in the cost of repairs of equipment and for damage to contents of cars would be greater than the increase in pay-roll caused by necessary increase in the number of men in the crews.

Speaking of accidents of this kind brings to mind those resulting from careless handling of boarding cars, which are now so common during the summer season. We all know the class of people who inhabit boarding cars, how little they appreciate the danger, that they are on the sides, top, under, and in the cars. So handle them, not as some brakemen do egg cases, but carefully; never move the cars without going to see that no one is under them cooking his dinner, that the occupants of cars are all in a place of safety, and never make a fly or kick with them, always have the engine coupled up, and don't uncouple it until the car has got to the place it is to be left. Roadmasters and foremen should see that the opening for ingress and egress from the cars is on the side away from the traffic. The switch to the track on which the cars stand should be locked and the key in the foreman's pocket, or else a rail taken up so that no one can get in on the track without notice. If you run across any cases where this is not done, report them before, not after, some one is hurt.

MOTOR AND HAND CAR ACCIDENTS AND INJURIES TO SECTION MEN

Before leaving the subject of injuries to employees caused by the carelessness of other employees, I want to mention some motor and hand car accidents and injuries to section men caused by the use of defective cars, by fast running, overloading, and by failure to comply with the rules. Why men on motor cars

and hand cars coming in from work want to run faster than is safe (they never do it on the way out), why they should overload, use defective cars, run closer together than 300 feet, be out after dark without a light, leave their cars on the highways to obstruct the same and frighten horses, contrary to Rules 46, 47, and 48, we may perhaps guess. And yet we can see no good reason for failure to comply with the rules which are made for their own protection, as well as that of the company, and if more careful instructions were given them by the roadmasters and more supervision exercised, many of the accidents mentioned below would not have happened. And on account of the class of men now employed on the track, such instruction and supervision is more necessary than ever, as the records show that we have many more such cases in proportion to the mileage and business than we did a few years ago.

> G. Botticelli, laborer, injured March 23, south of Yerkesville, was riding on the front end of hand car, which was being followed by another hand car; section foreman signaled to the rear car not to come too close to first car, signal was not heeded and the second car ran into the first, derailing it.
>
> H. P. Dennis, laborer, injured May 28, west of Orion; caused by the handle of a hand car breaking.
>
> N. R. Forbes, injured near Larkin, June 24, with four other men, was riding on a hand car going home from work. While going down grade, trying to get to station before train pulled out, car jumped track, all the men were thrown off, and Forbes injured.

In passing over highway crossings, especially in cities and in running past stations, hand and motor cars should be so run that the man in charge could stop the car in its own length.

INJURIES TO EMPLOYEES CAUSED BY THEIR OWN CARELESSNESS

Lastly, I shall call your attention to a few of the accidents in which employees are injured by their own carelessness, thoughtlessness or recklessness, and frequently it is the latter. If we could eliminate them and one-half of those caused by the carelessness of other employees much of the unfavorable criticism of railroads would cease, as the cause would no longer exist.

We will take up some of the most common accidents of this class, caused by coupling cars, getting on or off, or falling from, trains or engines, moving or standing. The following cases will serve to illustrate how frequently

unnecessary chances are taken and the result.

Can anyone imagine a reason why a man of common sense who is old enough to be out of school should stand on a footboard and when the couplers are almost together put his hand in between them to pull them over or try to kick them over with his foot, walk backwards, contrary to Rule 51, between the rails fixing a Jenney to get ready to couple, instead of stopping the car or engine and getting the coupler in position; why they should stand in the middle of the track and wait for an approaching engine or car to reach them and then step onto the footboard or brake-beam, when they could just as well get on the side or other end, and do it with safety; why men jump on an engine pilot, which Rule 33 prohibits, or on a moving car to ride a few feet to a switch, when the same is going so fast as to make it dangerous, unless they want to show how expert they are; why they should get off moving cars or engines under the same circumstances; why a man should not get off a standing car or engine without getting hurt; undertake to climb from car to car when unnecessary; cross the track in front of moving cars or engines, when they are so close to them that to the uninitiated it looks like suicide; or cross between cars, when they could just as well climb over? But rather than take the time, which the company pays for, they take the chances, and then if they get across, like the man who drove over in front of the engine at the last highway crossing and waited on the other side to see the train go by, they wait until the tail end comes along and get on there, but if they get caught blame the engineman for coming too fast, or the company for not having the track nickel plated, or for having a handhold in the wrong place.

Why they should allow themselves to be struck frequently in broad daylight by overhead obstructions, for which tell-tales are erected to warn them; by building close to the track, with the location of which they are familiar. Yet rather than work their gray matter a little, they get hurt. Why a man sent out to look after broken rails or defects in the track shouldn't watch for trains from both directions or take the trouble to ascertain before starting whether trains are on time. And yet we all know that just such chances are taken every day with results shown in the following cases, which are such as happen all the time; the only reason or excuse that can be given for them, that I can imagine, is, that the men injured never should have been employed; that instead of being employed on trains and engines and drawing—not earning—more pay than principals of schools, and frequently than school superintendents, they should be working in a barn or shoveling dirt instead of on a railroad, where their recklessness, carelessness, and failure to realize the dangers of the business and the necessity of complying with the rules and taking no unnecessary chances, not only endanger their own lives, but those of others. They are of the same class that the railroad organizations, for the protection of their desirable membership, ought to help get out of the service, not try to keep in until someone is seriously

injured or killed, and then complain and say the company is liable because they kept such a grossly careless, incompetent man in the service; and if you will think for a minute, you will know that none of the careful, forehanded men—the men who own homes and have a little money in the bank—are in this class.

I will first refer you to some cases caused in coupling cars, and by getting on and off cars, of which the following are fair samples, each of which not only could but should have been avoided by the exercise of a little common sense by the injured person:

> G. L. Penston, collector, injured at Wanley, May 10; went in to uncouple hose after getting train onto track; did not tell anyone he was going in between the cars; other cars were switched onto train and his head was caught between the cars.
>
> Henry Kendrick, switchman, injured at Mertonville, March 13; was standing on front footboard of engine, which was about to couple onto a car; draw-bar on engine was too far to one side to make the coupling and Kendrick attempted to kick it over with his foot, but missed it and his foot was caught and crushed.
>
> M. T. Bowers, fireman, Fairmill, Jan. 6, was trying to jump from the running board of engine to footboard, when he fell and was injured.
>
> L. B. Gorky, conductor, Panitoca, Aug. 14; was standing on top of car, gave engineer a stop signal, and when slack came back, fell off car.
>
> P. F. Newton, conductor, injured Oct. 3, at Durham; got off head end of train, and tried to get on way-car as it came along, and was thrown to the ground and badly injured. Train was moving about 15 miles an hour.

Then comes the class of injuries caused by crossing between or going between moving cars or in front of moving cars or engines, and those caused frequently in broad daylight by obstructions with the location of which employees are perfectly familiar, but fail to take any care to avoid, such as the following:

> H. M. Tupper, switchman, injured at Murferton, March 21, ran ahead of moving car to throw switch; after throwing the switch he attempted to cross the track again ahead of the car, was struck and badly injured.
>
> David Spurton, switchman, Olivia, Dec. 12; while hanging on side of car, was caught between car and viaduct, and severely injured.
>
> L. Q. Lafflin, switchman, Rutherville, Oct. 4; was sitting on top of car

> riding backward his head struck viaduct, and he was knocked off and injured.

Among other classes, altogether too frequent, as well as unnecessary, are those caused by leaving cars too near a switch to clear a man on a car on the next track; by going under cars to repair them, or under engines to clean the fires, without putting out a flag; by cutting steam hose without first knowing the steam is turned off.

Now why a man switching cars will not take the trouble to put them far enough in on the track to clear himself riding the next cut in on the adjacent track, or why a man will go under an engine or car to repair it or for any other purpose, without protecting himself from injury by putting out a flag as required by Rule I, passes my understanding. Whenever you find the rule disregarded, report it, so that it will not happen with the same man in the future; why a man should undertake to cut the steam hose before he knows the steam has been turned off, the devil himself could not tell, and yet the following cases would seem to show that a man with a big stick is needed on the railroads as well as elsewhere.

> William Jacobson, switchman, injured at Delavia, May 19; he left caboose on side track too near the lead, and then rode some cars down the lead, and was struck by the caboose.
>
> H. J. Calpine, car repairer, killed at Mestigo, June 3; was under car making repairs; did not put out flag or tell anyone that he was going under the car; the car was moved and he was killed.
>
> J. P. Alton, switchman, injured at Wolton, July 13; cut hose between sleeper and coach and failed to turn steam shut-off cocks; was badly burned by steam.

And lastly I will refer to a few cases of injuries which cannot well be classified, so we will say from other causes. They are a miscellaneous lot, none of which ought to have happened, or indeed would have happened if the first rule of nature, self-preservation, had been observed. But I will give you several examples:

> A F. Ford, brakeman, injured at Lenopa, Sept. 3; hanging on side of stock car instead of ladder, cow kicked him and broke his wrist.
>
> B. L. Pomeroy, brakeman, fatally injured at Schuyler, Oct 29; in attempting to oil a hot box while train was running, he fell under the wheels.

John Leveridge, fireman, injured at Worthington, May 8; passing through town, waved hand at trainmen standing on side track, struck mail crane, and injured his arm.

Richard Manville, switchman, injured at Poulsville, June 17; stood on top of car giving signals and when slack ran out fell off of car; left leg broken.

K. T. Morrison, brakeman, Homerton, April 26; went back along the track, to flag his train, went to sleep on track, was struck and killed by another train.

Prevention

SUGGESTIONS

And so I might go on detailing the various accidents that have occurred from the carelessness of employees, but I believe I have enumerated enough of them to illustrate the point I wish to make; that is, the employee is too careless, thoughtless and negligent; and I hope also to demonstrate that the larger part of them could be avoided and that a united effort should be made by all to prevent them in the future. It does not require any argument to prove that the many accidents occurring every day, and the resulting injuries and destruction of property, ought to be reduced, and that, if the rules were complied with and proper care and supervision exercised in transacting the business of the companies, their number and consequent money loss would be materially reduced; and it is up to the employees to do their share to bring about this necessary result. Railroads that advertise that they have the best of everything —including men—that have spent not thousands but millions for safety devices and appliances, as many of the lines have, ought to be able to make a better record; and I believe when the employees really understand the matter such roads will be where they belong—at the head of the procession, not only so far as freedom from accident is concerned, but in everything else.

Blackstone, in his Commentaries on the Common Law of England, said that the great beauty of the common law was that under it "there was no wrong without a remedy," and so I say that there must be some remedy which, if properly applied, would prevent the happening of a large proportion of these casualties; and I suppose that the man who says there is a wrong or criticises results ought to be able to suggest some remedy which will sound plausible, even if it is not practicable.

In addition to the suggestions which I have made in discussing the different classes of accidents herein mentioned, there are several others which, in a general way, I submit.

The most necessary thing in securing good results and as few casualties as possible is to hire good, competent, careful and sober men to do the work, and when the railroads have bureaus of employment properly conducted to secure the best men and schools in which to instruct them as to the rules under which railroads are operated, what their duties are, and how to perform them, in conjunction with the physical examination of applicants for employment they will have taken the most important step to do away with accidents; and when they clear their roundhouses, repair yards, coal stations, gate houses and all other branches of the service connected with the transportation of persons and property of men with whom neither other employees nor the public can communicate because of their inability to understand or talk the English language, they will have taken the next one.

When labor organizations and employees generally do what they can to keep incompetent, careless men out of the service, not in it, and when they are discovered in some careless act, or cause some accident, and are discharged or suspended, instead of trying, through the influence and power of their organization, to have the discharge or suspension set aside, do all they can to sustain the order of suspension or discharge, we will not have the list of casualties staring us in the face that we do now, and the organizations will not have so many crippled members asking for assistance, and the proportion of employees killed and injured to the whole number won't be 36 and 80 per cent respectively.

Employees should read the newspapers, railroad as well as brotherhood, so that they will get some of the theory of the business to fit them for a better place. Familiarize yourselves with the advertisements of the company, train schedules, maps, names of the officers and where they are located, so that you can answer questions of patrons and others. Treat everybody politely and decently, as by your conduct and manners the corporation and management will be judged. Take advantage of what others have learned by the greatest of all teachers—EXPERIENCE.

After getting good competent men we need good track and equipment and sufficient and intelligent inspection to see that not only the track and equipment are kept in good repair, but also that the men keep in good physical and mental condition.

A method of inspection and repair by which the man who inspects will be required to have some mechanical experience, who can talk and understand English and comprehend what the result will be if he fails to discover defects

and have them remedied, and who will report, not to a foreman whose duty it is to repair the defect, but to a superior whose business it is to find them. This is the sort of inspection necessary to prevent injury and loss. And when we do this the record will be different.

Then we want good rules and instructions (the fewer and simpler the better) telling how the trains shall be run and the business of the companies conducted, and if it is true that one of the worst evils from which our country is now suffering is the failure to enforce all the laws on the statute books, I am afraid the same saying will apply to the operation of railroads. Too many rules, orders and bulletins are disregarded by employees, and that disregard not discovered or is overlooked until some accident occurs. If there are any rules that are impracticable they should be cancelled, but until they are their observance by officers and employees should be insisted upon. The quickest and best way to get a bad rule or law cancelled or repealed is to enforce it.

And last but not least, we want sufficient and efficient supervision. Poor Richard, the philosopher, never said a truer thing than that "*The eyes of the master will do more work than both his hands*." And as the business of a railroad increases and grows more complicated every day, it requires more and better, and not less, supervision. If the number of employees and the tonnage of trains increase fivefold, so should the supervision increase, in order that the business be conducted in accordance with the rules and that safe and economical operation be secured, and there should always be enough supervision to obtain this necessary result.

After we get the men, the track, the equipment, rules and supervision, we should see that all employees know and understand the rules and their duties and how to perform them. Some day we will have a training school for this purpose, just as the government has for its soldiers and sailors, and many municipalities for their police. Employees should study and familiarize themselves with the time-tables and rules, the same as they do with their pay schedule—they all understand that. The rules were made by men who have come from the ranks, who know from actual experience what the failure to observe them means to passengers, to yourselves, and the companies, and if you don't understand them, have someone who does explain them to you until you know them by heart and exactly what they mean, and when you have done this, comply with them and things will go better; there will then be few accidents, suspensions and discharges.

Do the company's business the same as you would your own. If the time ever comes when you are unwilling to do this, quit. Think before you act, not afterwards, as then it will be too late. And remember that other lives, perhaps that some one near and dear to you, may depend upon your acting and doing immediately, and not to-morrow, the right thing and in the prescribed way.

Make it your first duty to protect the lives and property entrusted to your company, as well as the lives of those crossing over its tracks and those of your fellow employees, then will come to you not only the knowledge of duty performed, but promotion in position and increase in salary. That is why your president, general manager, and the whole push are where they are now, instead of working in the ranks.

Never go out without sufficient rest. Don't try to get in too many miles or hours for the pay there is in it, as you may get hurt or killed doing so, or injure some one else.

When an order is given you in writing, or verbally, if you don't understand it, ascertain exactly what it means before you undertake to execute it, and if you understand what is wanted, but don't know how to do the thing, find out from someone who does before, not after, you have made a mistake, as it will take you less time to learn to do it right than it will to explain why you did it wrong, and by so doing you may prevent yourself or someone else getting hurt.

With additional care on your part and that of your fellow workers, together with more and better supervision, based on the theory that it is equally as important to see that rules and orders are observed as it is to issue them, that MEN are more important in the running of a railroad than *things*, accidents and consequent losses will, I believe, be reduced one-half.

APPENDIX

The following operating rules are referred to in the foregoing:

In case of doubt, adopt the safe course.

Speed must always be sacrificed for safety.

1. A *blue* flag by day and a *blue* light by night, displayed at one or both ends of an engine, car, or train, indicates that workmen are under or about it. When thus protected it must not be coupled to or moved. Workmen will display the *blue* signals, and the same workmen are alone authorized to remove them. Other cars must not be placed on the same track, so as to intercept the view of the *blue* signals, without first notifying the workmen. Train, engine or switchmen going between or under cars or engines to make repairs, chain up or examination must protect themselves in the same way by use of red flag or red light.

2. The engine bell must be rung on approaching the whistling post at

every public road crossing at grade, and kept ringing until the crossing is passed; and the whistle must be sounded at all whistling posts, two long and two short blasts.

3. The engine bell must be rung upon approaching and passing through stations, cities, towns, and villages.

4. It must be understood that a train is due to arrive at a station upon its schedule departing time at preceding station.

A train must not leave a station in advance of its schedule leaving time.

5. Passenger trains will not exceed twenty-five miles, and freight trains fifteen miles per hour, passing over interlocking switches.

6. All regular freight trains, extras, and work extras will pass into and through all stations and will approach all isolated side tracks, and also all water tanks and coal sheds with train under full control, expecting to find trains at such points. Speed must be reduced; enginemen and trainmen must commence to get their train under control one mile from all such specified points, so that under no circumstances whatever shall it be possible for them to strike any train, car, or engine that may be within the switches of any regular station, or that may be taking coal or water at any coal shed or water tank. Trains occupying main track at stations, as an additional precaution, must protect themselves as per Rule No. 7.

PROTECTION OF TRAINS BY FLAGMEN.

7. *For this purpose flagmen shall have for* DAY SIGNALS *not less than two torpedoes and a red flag*.

For NIGHT SIGNALS *not less than two torpedoes, two red fusees, and red and white lanterns*.

CONDUCTORS *shall see that flagmen have these signals when they go on duty.*

UNSCHEDULED STOPS.

When any train makes an UNSCHEDULED STOP *(whether at a station or between stations, or whether such stop be caused by accident to the train, or by signal, or in any other way), the train shall be protected as follows*:

a. In the NIGHT-TIME *the flagmen shall immediately place a lighted* RED FUSEE *in center of track about five hundred feet behind the rear of*

train.

He shall then go back as rapidly as possible with RED *and* WHITE LANTERNS *to a point less than three-fourths of a mile (twenty-four telegraph poles) distant from rear of train and until he reaches a point where the danger signal can be seen not less than one-fourth of a mile (eight telegraph poles) by the engineman of any approaching train. When the character of the road or weather makes it necessary the flagman shall go a greater distance with signals, so as to* INSURE ABSOLUTE SAFETY.

b. In the DAYTIME *he shall carry a red flag and proceed to a like point.*

c. When he reaches such point, whether in the night-time or daytime, he shall at once place ONE TORPEDO *on the rail on the engineman's side and shall remain at that place until recalled. If a train approaches he shall flag it and remain until the train stops.*

d. When recalled, if no train is approaching, he shall place a SECOND TORPEDO *on the rail 200 feet nearer his train and return with all possible dispatch.*

SCHEDULED STOPS LONGER THAN USUAL.

e. When any train makes a SCHEDULED STOP *at any station and occupies the main track* LONGER THAN USUAL AT THAT STATION, *whether on account of baggage, passengers, or for any other reason whatever*, THE FLAGMAN MUST PROTECT HIS TRAIN IN THE SAME MANNER.

STOPPAGE BY PRECEDING TRAINS.

f. When any train has been stopped by a preceding train in the manner above mentioned, the flagman of the last train must protect his train in the same manner.

PROTECTION OF FRONT END.

g. When it is necessary to protect the front of a train, it shall be done in the same manner.

BOTH CONDUCTOR AND FLAGMAN RESPONSIBLE.

h. In all cases above mentioned it shall be the FIRST AND IMMEDIATE DUTY OF CONDUCTORS *to see that flagmen* OBEY THIS RULE.

i. Both CONDUCTOR *and* FLAGMAN *will be held responsible.*

j. When a flagman goes out, the next brakeman or baggageman must take his place on the train, as required by paragraph s.

k. The engineman on approaching train, on SEEING FLAGMAN'S SIGNAL, *shall immediately indicate it by one short blast of the whistle, and immediately reduce the speed of his train and find out the purpose of the signal, and if he does not hear the second torpedo he will bring his train to a stop.*

l. If the engineman on approaching train sees no signal (the flagman having been recalled), but HEARS THE FIRST TORPEDO; *he shall reduce the speed of his train and thereafter proceed cautiously, and prepared to stop within vision, until the track is clear.*

m. On HEARING THE SECOND TORPEDO, *the engineman will know that the flagman has been recalled and will* PROCEED CAUTIOUSLY, *keeping a sharp lookout for train ahead and prepared to stop within vision, until he is notified by signal or otherwise that the track is clear.*

n. If a FUSEE *is seen, the engineman shall* NOT PASS *it until it is burned out, and thereafter shall* PROCEED CAUTIOUSLY *and prepared to stop within vision, until notified by signal or otherwise that the track is clear.*

RECALL OF FLAGMAN.

o. When the whistle is sounded recalling the flagman if there is not a clear view to the rear for one-fourth of a mile (8 telegraph poles) the train should be MOVED AHEAD *at a speed of not less than* SIX MILES *per hour, until a point is reached where the track is straight for one-fourth of a mile in the rear of the train*, ALWAYS BEARING IN MIND THAT THE TIME OF THE FLAGMAN'S RETURN IS THE PERIOD OF GREATEST RISK.

p. Should a train for any cause be required to gradually reduce its speed between stations or at unusual points the engineman will sound one long and three short blasts of the whistle, as notice to the conductor to drop off a flagman with the proper signals to protect rear of train.

q. In addition to the above protection a red fusee will be considered an extra precaution, and will be used under circumstances requiring the same. Should a train, for any cause, be required to reduce its speed between stations or at unusual points a red fusee must be lighted and placed upon the track as an additional protection for following trains, to insure a time limit between trains of not less than five minutes.

r. If a train be obliged to back up, a flagman must be sent back in

advance of the rear end of the train, and kept far enough in advance to insure absolute safety against a collision with any train that may be approaching.

s. When the flagman goes back to protect the rear of his train, the head brakeman or baggageman must, in the case of passenger trains, and the next brakeman in the case of other trains, take his place on the train.

8. When cars are pushed by an engine (except when shifting and making up trains in yards), a flagman must occupy a conspicuous position on the front of the leading car and signal the engineman in case of need.

If such signal cannot be seen by the engineman or fireman, the engineman will bring the train to a stop immediately, and not proceed till signal is visible.

9. When switching is being done over highway or street railway crossings by yard or trainmen, a man must be stationed at that crossing to act as flagman.

10. Cars must not be moved over highway crossings or in front of passenger stations detached from engine, other than at terminals, where express authority has been given so to do by the division superintendent. Cars containing passengers must not be switched unless coupled to the engine and air-brake in use.

11. In approaching a station where a passenger train is due or past due, and where the view is not clear, trains must be under perfect control, so that they may be stopped, if necessary, before reaching station. Trains on the double track must not, under any circumstances, pull into a station at which a passenger train in the opposite direction is standing or into which it is pulling to receive or discharge passengers, until such train has started up and the rear coach thereof has passed the end of the station platform nearest the approaching train, excepting where tracks are divided by fences. When two trains are nearing a station from opposite directions at the same time and only one of them is scheduled to stop, the train making the stop must reduce speed to let the other through the station before it arrives. When two trains going in opposite directions arrive at a station and both are scheduled to stop, the inferior train will not pull up to platform until superior train has departed. At stations on single track, all trains will reduce to a speed of four miles per hour in passing a point where a passenger train is receiving or discharging passengers, and pass such trains with the engine bell ringing constantly.

12. Passengers will not be allowed to ride on freight, extra, or work extra, except upon such regular freight trains as may be designated in the division time-tables. Freight trains that carry passengers will be particular to have the caboose stop at the depot platform to receive and discharge them. Before the arrival of train at any station where they stop, the conductor will distinctly call out the name of station. This rule applies to employees of the company not actually on duty, as well as to other persons. It is, however, understood that persons accompanying live stock or perishable freight shall be allowed to ride on the same trains therewith, for the purpose of taking care of the same, upon the presentation of proper transportation.

12a. Conductors must show their orders to rear brakeman or flagman, and the engineman to the fireman, and (in case of a freight train) to the head brakeman, who are required to read them. The copy for the engineman must be delivered to him personally by the conductor and the engineman must read it aloud to the conductor before proceeding.

13. Dispatchers must not authorize operators to issue caution card to any train or engine to enter a block occupied by a passenger train, except in case of accident.

If from the failure of telegraph line or other cause a signalman be unable to communicate with the next block station in advance, he must stop every train approaching in that direction. Should no cause for detaining the train be known, it may then be permitted to proceed, provided ten minutes have elapsed since the passage of the last preceding train, using caution card.

14. Trains moving on caution card must do so with great care. As block is not clear enginemen must be prepared to stop within their vision.

15. Trains moving on caution card must expect to find main track occupied at all stations regardless of the position of block signal.

16. Agents are required to see that cars are properly loaded, to obtain, if possible, the maximum capacity, and not permit an overload to exceed 10 per cent of marked capacity. It is important that the load be distributed evenly, securely staked, and that no projections extend over the ends of cars.

17. Freight, baggage, and other articles must not be allowed to stand on the depot platforms where they might cause accident or inconvenience to passengers or employees, or receive damage from the weather. United States mail pouches must not be left unprotected upon the platforms or in the waiting-rooms and other exposed places

at stations.

18. Agents will see that conductors of freight trains do not block public crossings longer than five minutes.

19. On leaving a station passenger brakeman will pass through the train, from the front to the rear, and when about one-third the length of the car from forward end, with closed doors, will announce in a clear and distinct voice the name of the next station, then proceed to within the same distance from the rear end of the car and make the same announcement. If the train is to stop for meals the brakeman will so state, giving the length of time the train will stop. Conductors of all trains stopping at stations at which lunch counters or eating-houses are located will announce in the lunch or dining room notice of departure of the train in ample time to allow passengers to get aboard before it starts. Upon approaching a station located at or in the vicinity of a railroad crossing, when it is necessary for a train to stop at such crossing, before reaching the crossing brakemen must give warning of the fact by calling out distinctly in each car, "The next stop is for railway crossing, not a station." Junction points, railroad crossings where a stop is made, and terminals will be announced, passengers notified when to change cars, and attention directed to their parcels and other belongings.

20. Passenger train employees will pay particular attention to the comfort of their passengers and will see that proper lighting, ventilation, and temperature are maintained and sufficient drinking water is provided. They will not allow passengers to violate any rules of the company (such as riding on the platforms, etc.), and, while avoiding unnecessary conversation with passengers, will answer all questions courteously.

They will see that passengers are properly seated. They will pass through sleeping cars only when necessary and then as quickly as possible, exercising special care at night to avoid disturbing the occupants.

21. Conductors must collect the proper fare from every passenger not provided with a ticket or pass in proper form. In all cases, on the refusal of any passenger to produce a proper ticket or pass, or to pay the fare, the conductor shall cause the train to be brought to a full stop at a regular open station and shall require such person to leave the train, and, on refusal, shall remove him therefrom, and must procure and report the names and addresses of persons who were present and witnessed the controversy. Each conductor will be held responsible for the exercise of a reasonable discretion in the performance of this duty, being careful that no unnecessary force is used, that the company may

not be subjected to unnecessary litigation or annoyance. They must not eject women or children of tender years, and any person unattended in such a condition of body or mind as to be incapable of caring for himself must be placed in the custody of the nearest station agent, who will wire the Superintendent for instructions regarding such person's final disposition. In removing a person from the train, the conductor must use extreme care to avoid controversy and not indulge in abusive language or in any manner insult or maltreat the person to be removed, or use unnecessary force in so doing, unless in a clear case of self-defense, when an assault is made upon the conductor or his men, and then the infliction of unnecessary injury must be carefully avoided. A sufficient force must be brought into requisition to overcome resistance and to place the person on the ground without inflicting injury, the law being that conductors may command employees or any of the passengers to assist in such removal. In all cases except where passengers shall be ejected for refusal to produce proper ticket or pass, or to pay the proper fare, the conductor, before so doing, must tender such passenger such proportion of the fare he has paid as the distance he then is from the place to which he has paid his fare bears to the whole distance for which he has paid his fare. In case of such ejectment a report must be sent to the Superintendent by first mail with full particulars.

22. Passenger trainmen will be required to securely close vestibule doors and platform traps of all passenger cars when in motion; and after departure from a station will observe whether or not there are any passengers clinging to the hand-rails of the vestibules.

23. Passenger brakemen will place themselves at the steps of coaches at stations, and will assist passengers in entering or leaving the cars. Special care must be taken with children and aged and infirm passengers, assisting them to and from trains, giving them ample time to insure safety. They will prevent passengers boarding or leaving the train while in motion, see that passengers are provided with proper tickets, and that they take the right train.

24. When a passenger train has stopped at a station platform, it must not move to take coal or water or do other work until the conductor permits by the usual signal.

25. Freight conductors and brakemen must be on hand not less than thirty minutes before the leaving time of their trains. They shall examine their trains while stopping at stations on the road and see that everything is in proper order.

26. Freight train employees are required to examine very carefully the condition of all brakes and ladders that they are to use, and to know

that they are safe and in good condition before using them. If brakes are unsafe, or ladders out of order, brakemen will report them to the conductor at once.

27. Conductors leaving cars on side tracks will see that they are properly secured and sufficiently clear of the main line. In leaving loaded cars at any station they will place them most conveniently for unloading. The cars must be so placed as not to project over line of highway crossings. If a car be set out without a brake, conductors must securely block the wheels. Cutting off engine and cars before a train has stopped and allowing the balance of train to follow is prohibited.

28. Conductors must call the attention of the repairer of cars, or that of the station agent in his absence, to any damage which may have been done to the cars, or to any which may come to their knowledge, that they may be promptly repaired, and they must note these in their reports. Cars in bad order, set out at stations, will be reported at once by the conductor, by telegraph, to the train dispatcher, stating number and initials of car, contents, nature and extent of damage, and will note the nature of defect on waybills.

29. Enginemen must use every precaution to prevent damage by fire from their engines. They should report all defects in netting, ash pans, etc., at the end of their run. Ash pans or front ends must only be cleaned at designated points.

30. No person will be allowed to ride upon the pilot of a locomotive, either in the discharge of duty or otherwise, and they are prohibited from getting on the front end of engines or cars approaching them.

31. Turntables must be locked with a switch-lock by enginemen and others immediately after use, except when in charge of employees. When turntables are found unlocked, and when tables or locks are out of order, report at once to the Superintendent by wire.

32. Engines must not be permitted to stand nearer than 100 feet to a street or highway crossing, or under any bridge, when it can be avoided, nor in the vicinity of waiting-rooms, offices, or near cars occupied by passengers, where the noise or smoke will disturb occupants.

33. Agents are instructed to make a personal inspection of all special loadings and where same do not comply with these requirements and illustrations and where there is any question in their minds as regards the safety or proper loading of the same they should at once communicate with the Superintendent of Car Department, who will

send a man, competent to judge, for the purpose of inspection and passing on same before car is forwarded.

(a). Yardmen, conductors, and trainmen must familiarize themselves with these instructions and will not take cars into their trains unless they come within the requirements of these rules and illustrations. Where defects occur in loading of cars in transit, unless they can remedy the same, they will set the car out and notify the train dispatcher.

34. Whenever passengers or employees are injured, see that everything is done to care for them properly, calling the company's nearest surgeon to treat them, or, if prudent, remove to the nearest place at which the company has a surgeon, and leave them with such surgeon for care and treatment.

If the injury be serious call the nearest competent surgeon obtainable to attend until the company's surgeon arrives.

35. Whenever an accident happens to any train on which passengers are carried, whether collision or derailment, of whatever nature, on main line or siding, or within the yard limits where trains are reconstructed, conductors must take down the name and address of every passenger on the train, and ascertain from the passenger, and note opposite his or her name, what injury, if any, they received. In such cases, conductors, after first making everything safe, must give their undivided attention to the care and comfort of their passengers, especially to those who are injured. Bedding and linen may be taken from the sleepers for this purpose, the conductor keeping a careful account of all material so taken, and its return or safe keeping attended to; and when deemed necessary, injured persons may be put in the sleepers. When a number of persons are injured the service of competent surgeons in the vicinity should be at once secured, and every possible effort made to care for the injured, the company's surgeon in each direction being notified by wire to come immediately to the place of the accident.

36. When persons (other than employees) by reason of climbing on or jumping from moving trains, or walking or lying on the track, are injured, they should be sent to their homes or placed in charge of the local city, village, or township authorities and no expense incurred on the part of the company in the matter.

37. A report of all accidents must be telegraphed immediately to the Superintendent or his assistant by the conductor, engineman, agent, yardmaster, foreman, or person in charge, by wire, giving the names of the injured persons and witnesses, the extent of injuries, and the

names of the owners of the property damaged and the extent of damage, and as soon as possible a full and detailed report made and forwarded to the Superintendent or his assistant, a separate report being made for each person injured. If the person injured is an employee he should also make and sign a statement of facts in relation to the accident in his own handwriting on the same form; should he be unable to write, the statement should be written at his dictation, and after being read over to him he should sign it by making his mark, the person writing and reading statement signing same as a witness.

38. Whenever an employee, whether on duty or not, witnesses an accident in which a person is injured or property damaged, in which the company is in any way concerned, he must report it immediately. Every effort must be made to procure the names and addresses of all persons, particularly outsiders, who witnessed the accident, especially when persons are injured within the corporate limits of any city, town, or village, or when crossing the tracks at a public highway.

39. When an accident occurs on an engine, or is caused by an engine striking any person or conveyance, or when cars are being coupled or uncoupled, a full report must be made by the engineman, as well as by the conductor or the person in charge of the train.

40. When persons are injured while coupling or uncoupling cars or in getting on or off cars, whether passenger or freight, or in any other way, in which the accident may have been caused by defective appliances or machinery, the cars or appliances must be immediately examined by the person in charge, or by the agent, to ascertain their condition, and report made of the inspection, giving the numbers and initials of cars examined and the names of the persons making the inspection. The Superintendent or his assistant will then notify the inspector at the first division terminal, who will also examine the machinery, cars, or appliances and make report. When an accident is caused by defective machinery or by the breaking of machinery, tools, appliances, or rails, the broken or defective parts must be so marked as to be readily identified and immediately turned over to the Superintendent or his assistant.

41. When an accident occurs which results in the death of any person, the remains of the deceased must be immediately picked up and carefully conveyed to the nearest station building, care being taken not to remove the body outside the limits of county and state in which the accident happened. The agent at such station will then notify the Superintendent by wire, as well as the family or friends of the deceased.

42. Apply the brakes lightly at a sufficient distance from the stopping

point, and increase the braking force gradually as may be found necessary, so as to make the stop with one application, or at the most two applications of the brakes.

43. In making a service stop with a passenger train, always release the brakes a short distance before coming to a dead stop, except on heavy grades, to prevent shocks at the instant of stopping. Even on moderate grades it is best to do this, and then, after release, to apply the brakes lightly to prevent the train starting. This does not apply to freight trains, upon which the brakes must not be released until the train has stopped.

44. A train must, at all times, have not less than 50 per cent of its cars equipped with air-brakes, which must be operated.

45. They must see that all switches are in perfect order and that frogs, guard-rails, and switch-rails are properly blocked and spaces in planked crossings kept clean.

46. They must permit their hand cars to be used only in the service of the company, and no one will be allowed to ride on these cars except employees in the performance of duty, unless provided with a written order from the proper authority. When two or more hand cars are following each other they will keep at least 300 feet apart. Hand or velocipede cars belonging to private parties will not be allowed on the track except by order of the Superintendent.

47. When obliged to run hand and velocipede cars after dark, two red lanterns must be so displayed on the car as to be visible to trains in both directions.

48. Hand, dump cars, and velocipedes must not be attached to moving trains, nor shall they be used upon the main track in foggy weather, unless properly protected, and they must not be taken from the track at public or private crossings, except to avoid an approaching train.

49. No wood, ties, or property of any description must be piled within six feet of the main or side track, or elsewhere, in such manner as to obstruct the view of, or from, approaching trains. Old ties, fencing, and similar property, also links, pins, draw-bars, spikes, and all other material and iron work that is found on the section must be picked up at once, piled neatly, or disposed of as directed by the roadmaster. Rails and other material must *not* be left scattered about station grounds.

50. While at station conductors will do such switching as may be required by the station agent. Trainmen and switchmen must not couple to or move cars that are being loaded or unloaded on side

tracks without first ascertaining whether anyone is in or about such cars and giving them ample notice that same are to be moved. They must not obstruct street or public crossings with their trains and be particular when at junction points not to allow any part of their train to stand on railway crossings or interlocking plants.

51. All employees are prohibited from going between cars or between car and engine for any purpose or in front of any moving car to fix couplers while same are in motion.

52. Enginemen must keep the headlights of their engines in good order, and when running after dark, or when storms, fogs or other causes render it necessary, they must be lighted. When trains are waiting on side tracks, clear of main track, or on the end of double track, headlights of engines must be covered.

53. When trains meet by special order or time-table regulations, conductors and enginemen must inform each other by word of mouth what trains they are.

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