

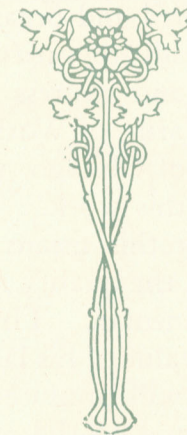
Feeding the Iron Hog

The Life and Work of
a Locomotive Fireman.



Feeding the Iron Hog

The Life and Work of
a Locomotive Fireman



COPYRIGHT 1927

PUBLISHED BY THE BROTHERHOOD OF
LOCOMOTIVE FIREMEN AND ENGINEERS
CLEVELAND, OHIO

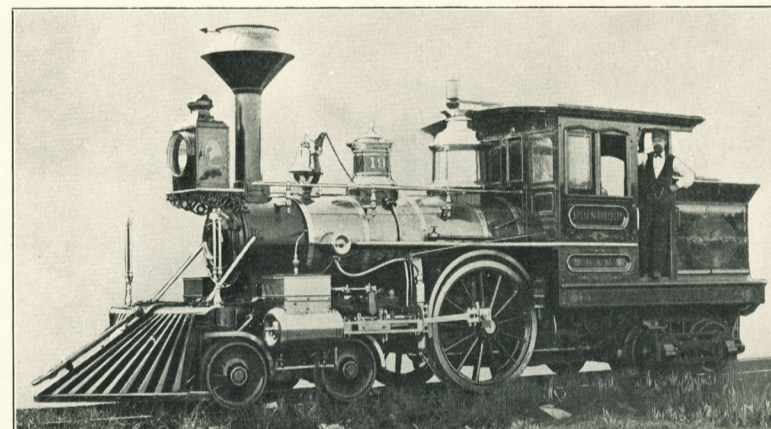
FOREWORD

Feeding the Iron Hog is a brief story of the life and work of a locomotive fireman. The purpose of its publication is fully explained in the opening chapter. The reader will find no footnotes to distract his attention with reference to authoritative books, reports or tables of statistics. But he may be assured that the facts, figures and quotations, which give integrity to this little volume, have been compiled from the best and latest sources available. The grand lodge officers of the Brotherhood, and their staff, have gathered and organized this underlying material and stand ready to verify it. In addition we should acknowledge and express appreciation for the services of Frank J. Warne, of Washington (D. C.), and Donald R. Richberg, of Chicago, who have made valuable contributions to this work.

It is our hope by this means to increase common knowledge concerning the quality and quantity of labor performed by an engineman. Thus may arise a better understanding of the value of his labor, and of the working conditions which will produce the most satisfaction to the public served and to the man who renders this essential service. Also, if our aim has been accomplished—if the life and labor of a locomotive fireman have been presented as in a mirror, not distorted by emotional appeal or clouded by dull argument—we will have enabled ourselves to appraise the value of our service more fairly and to establish at the proper level our self-respect and our own pride in our work.

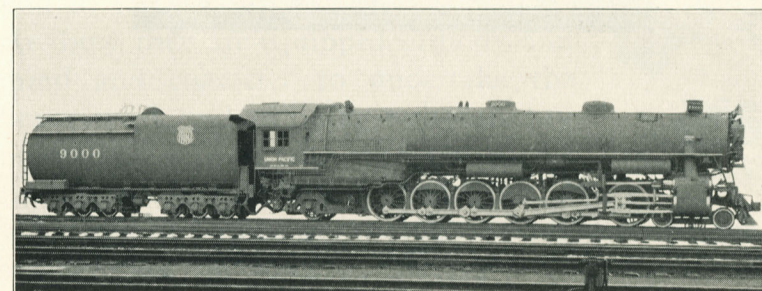
D B Robertson
President, Brotherhood of Locomotive Firemen and Enginemen.

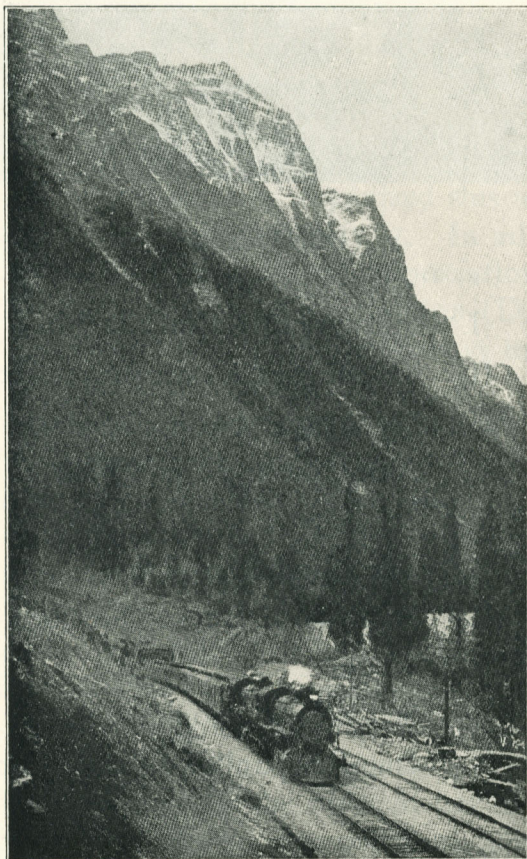
January 1, 1927.




CONTENTS

	Page
Chapter I. "Put Yourself In His Place".....	7
Chapter II. Training of a Locomotive Fireman.....	12
Chapter III. Learning to be an Engineer.....	22
Chapter IV. Ambition and Promotion.....	28
Chapter V. Seniority	35
Chapter VI. The Blind Alley Job.....	44
Chapter VII. Hazards of Engine Service	52
Chapter VIII. Wages	61
Chapter IX. Self-organization	73
Chapter X. One Fireman's Life and Work.....	90






DAVIS & CANNON, PRINTERS
CLEVELAND

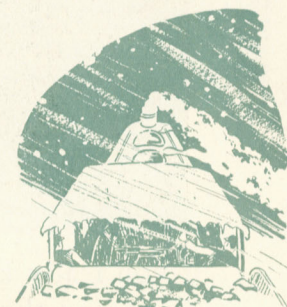
FEEDING THE IRON HOG

The Life and Work of a Locomotive Fireman

CHAPTER I.

"Put Yourself in His Place"

YOU are drifting off to sleep in your Pullman berth, snuggling a little closer under the blankets as the sleet dashes against the windows. Does it ever occur to you that far up ahead where the great locomotive is pounding its way into the darkness, there are two men working with taut muscles and vibrating nerves, partly inside the steaming cab and partly exposed to the fury of the storm? Does it ever occur to you to wonder what sort of men these are, how they are equipped in body and mind and character to undertake the heavy work and straining responsibility necessary to drive the monster engine that is hurling 800 tons of steel and wood and human beings through the night at the rate of seventy miles an hour?



Perhaps you have grinned a bit sometimes at the picture of a President of the United States shaking hands with the engineer or fireman at the end of a journey. But

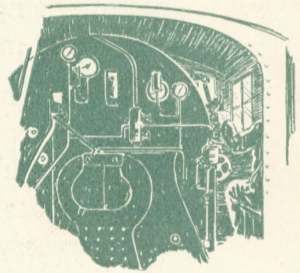


if you really knew what the men in the engine cab were doing and the conditions under which they were working, while you chatted or dozed comfortably in the sleeping cars, you might feel inclined to shake their hands

yourself or to wave a greeting to them when you arrive safely at your journey's end.

The locomotive engineer is a fireman who has graduated from the hardest work in train service to the most responsible and nerve-straining task. Every engineer has been a fireman. Therefore, if you read the story of the life and work of a locomotive fireman, you will learn something about all the work that is done in an engine cab. You will learn of the back-breaking toil, the technical education, the living and working conditions of the human beings upon whom most directly rests the responsibility for transporting a billion passengers and two billion tons of freight in the United States every year.

In this machine age of civilization, it is easy for us to forget, or to undervalue, the services of those who operate the machines. We are so impressed with the intricate and powerful mechanisms that produce and distribute the necessities of life to 110,000,000 people, that we are inclined to overlook the fact that somewhere in the heart of every whirling, hissing organization of steel and copper and brass, there is a human hand on the controlling levers. There are human eyes watching the gauges. And upon the skill and devotion of human beings depend the entire safety and efficiency of the enterprise.



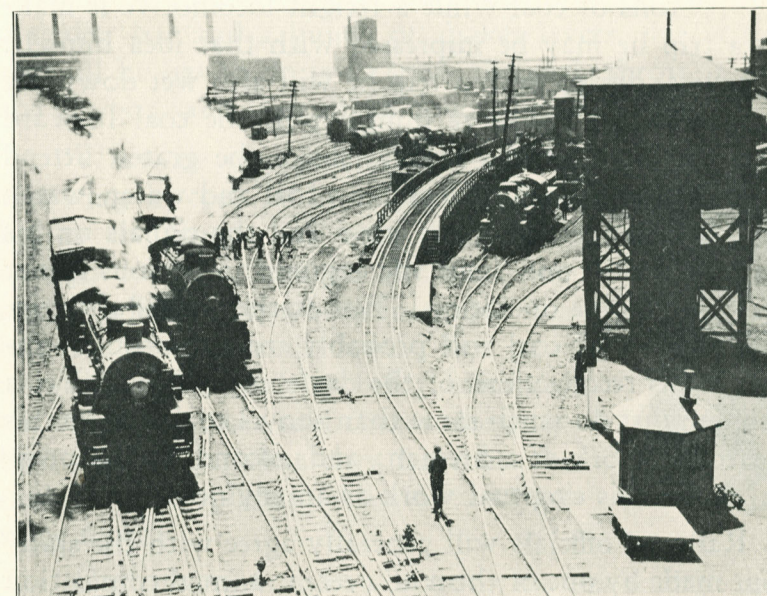
If the 200,000 trained enginemen were blotted out of existence tomorrow, the social and industrial life of the nation would be paralyzed. Mines, factories and public utilities would cease production. Food supplies would accumulate remote from the great markets. Babies would die, while men and women fought for bread and meat. It would take, not months, but years to train the

men necessary to restore the constant, reliable flow of commerce upon which the life of the nation depends.

So we may say that these men in the engine cab are rather important citizens. They are useful public servants; and although we may have no fear that they will all be blotted out, we have, every one of us, a vital interest in being assured that, as these men grow old and are disabled or die, new men will be recruited from youths of strong bodies, keen minds and good character, who will be able and willing to do this useful and essential work in the service of all the people. Thus we have a personal interest in understanding what the work of a locomotive fireman is. From time to time a controversy arises over the wages and working conditions which are vital to the lives of these firemen. "Public opinion" is sought upon the question: What are just wages and fair conditions? But there can be no intelligent public opinion upon this question, unless those who assume to express opinions know something about the work which is being done and the living and working conditions of the men employed.

A large measure of the injustice which men do to other men results from ignorance. "Put yourself in his place," if you would understand the desires and the disappointments, the hopes and the sorrows, the happiness and the misery of your fellowman. His hunger and thirst mean little unless you can feel them as your own. This little book is printed in the hope that it may be read particularly by those who, from time to time, may be called upon to express opinions or to pass judgment upon the value of the work of a locomotive fireman and the conditions under which that work should be performed. Those who would measure out justice to him as an individual and justice to the community which he serves,

should be interested to know about his life and work—so that, with all their wisdom they may also "get understanding."



CHAPTER II.

The Training of a Locomotive Fireman

HERE is a common impression that the locomotive fireman is just a coal shoveler. Perhaps—after a fireman has shoveled from 10 to 20 tons of coal while a freight locomotive is making a trip he may be impressed with that idea himself. Of course, during such a trip he will also wet down the coal, break up the large lumps, pull the coal forward from the back of the tender, shake the grates, attend to the matter of clinkers, take on coal and water, watch the steam gauge and water glass and the signals on his side of the cab; and assist the engineer in various minor phases of engine operation. But at the end of the trip, the shoveling of coal will probably remain most prominent in his recollections of the day's enjoyment. Yet a fireman must do much more than shovel coal, first, in his immediate work as a fireman; and, second, in his preparation for his eventual work as an engineer.

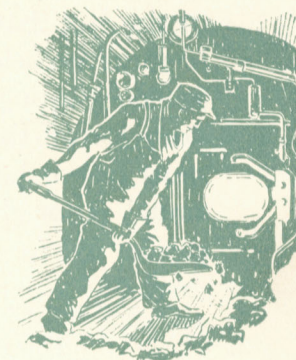
Railroad officials will generally agree with the statement made by one of them at a recent annual convention that "every day in every way it is getting harder and harder to get the right kind of men for the hand-fired engines."

A committee report at the same convention explains this fact by pointing out that locomotive engineers must be developed from firemen and that "it takes brains to run a locomotive, and as our only source of supply is from the left side of the engine, it follows that the fireman must have brains or he cannot become an engineer."

Then this report gives a vivid picture of the start of a fireman's job, from which we quote:

"Granted, then, that we set out to employ a man who can think. We place him on a large hand-fired engine to learn the art of firing. When he looks back he sees from sixteen to twenty tons of coal staring him in the face. On the deck he sees a large scoop, a coal pick and a clinker hook. He turns around and sees a fire-door which, when opened, pours out a stream of heat that will burn the overalls off him if he gets too close, and near the door a shaker bar and a bunch of shaker levers. He is told that all he has to do is to crack the coal, throw it into the fire-box, and then shake down the ashes.

"When he sees the regular fireman throwing in coal 'to beat the band,' he begins to wonder if they will have enough to take them to the next terminal, which he has been informed is a hundred or more miles away; but he is immediately cheered by being informed that there are more coal chutes along the line, and when what they have on the tank is used up they will stop and get some more.



"Understand, this man is out on his first student trip, and the regular man is doing most of the firing; therefore, after he has filled the torch and the hand oilers, swept the deck, wiped a little dust off the boiler-head here and there, and finished the other little chores that the fireman is supposed to do while he is resting, he has a little time to stand in the gangway and view the scenery while Mr. Regular Fireman is breaking his back heaving coal. (The regular fireman has no time to "rubber," take it from us; we know.) * * * * *

"Remember, this fireman that we are trying to break in is the man with brains, and as he goes along his "think tank" begins to work; finally when they get in and are humped up over the lunch counter filling up on coffee and 'sinkers,' he asks the regular fireman why he went firing, and gets as a reply, 'because I was a damn fool, I guess. I thought I would only have to fire three or four years, when I would be promoted; but every time I get close to the top of the list the Company buys two big engines that take the place of three little ones, and there I am, at the end of ten years, nearly as far from promotion as I was when I started.' Our thinking friend turns in; not much time to take a bath or clean up right, as they are told they would get out on their rest; but regardless of the fact that he did not work very much, he is rather tired nevertheless, and he realizes that he was mistaken when he thought the engineer had a snap because he seldom got off the seat box, for he now sees that even that must be work, for he himself who did not do any more actual labor than the engineer is mighty tired just the same.



"However, even though he is physically tired, he cannot go to sleep. He keeps thinking, thinking, and when the caller calls him for the return trip, he is still thinking.

"He is allowed to do a little more firing going back. They also let him take water, and he wonders how it feels to get from in front of the fire-door, scramble up on the tank and hold the spout down for three or four minutes with the thermometer registering around zero and the wind blowing a gale.

"All the way he keeps thinking. He again passes the garage, sees the man tinkering on a car, and visions the day when that man will have a garage of his own.

"He sees the men building the house, and visions the time when each of these, the carpenter, the bricklayer, etc., can by proper application become contractors; in fact, every place he looks he sees possibilities of promotion, until he looks at the fireman, and then he begins to figure: 'Let me see—I am twenty-one now; if promotion continues as slow as at present I will be nearly forty before I am promoted. I wonder if the romance of the calling won't be somewhat worn off by that time—I wonder.'

"When they get back to the home terminal, he has worked out the problem to his own satisfaction. He gathers up his few belongings, thanks the engineer and fireman for their help and courtesies, and 'beats it.' Does he ever come back? Well, hardly ever, and so the Traveling Engineer who employed him feeling that he caught a prize, has another bright dream shattered, and looks around for another man who don't think so much."

* * * * *

The foregoing story was told by employers of firemen, reporting to a convention of employers, so it cannot be regarded as the "sob-story" of an employee. If

that is what the employers think of the job, imagine the thoughts of the employe!

In 1907 a traveling engineer (the official who employs the firemen) said at the traveling engineers' convention that:

"When you come to ask a fireman to shovel coal for possibly 150 or 200 miles, with the thermometer standing approximately 90° to 100° Fahrenheit, within ten feet of the large boilers in front of him, you give a pretty hard proposition, especially if he has to handle from 50% to 75% of the coal over for the second time."

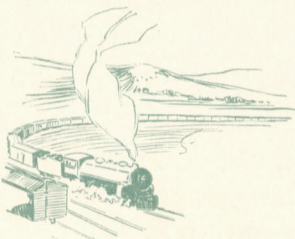
In 1911 a committee report at that convention stated:

"The power of the present day is breaking down the fireman before he is fitted to assume the more responsible duties at the throttle."

One of many speakers at the same convention who described the heavy work of firemen said:

"I believe we have all agreed that the large engines and heavy tonnage trains have reached the limit of human endurance. * * * * * If we continue to increase the size of engines and the tonnage of trains, something will have to be done to reduce the amount of labor on the part of the firemen."

Thus *fifteen* years ago the men who employed firemen were in agreement that as tonnage increased the labors of a fireman must be reduced. Since that time the locomotives have grown steadily larger and the *freight trains have grown longer and heavier*. Practically the only way in which the load behind the locomotive can be increased in size is to increase the power of the engine that does the hauling; which means, to increase the amount of steam; which means to increase the amount of heat, which means to increase the amount of coal burned.



So, as the statistics show the tractive power of locomotives doubled and the tonnage of trains doubled in the space of fifteen years, you may picture the shovel of the fireman swinging faster and faster. You may see month by month the pile of coal that he must feed into the flaming hog in front of him rising higher and higher behind his back.

Gradually during these years the task of the locomotive fireman became so unbearable, as the size of locomotives increased, that it became apparent that either two firemen must be used or a mechanical stoker must be developed so that a machine could do the work which human muscles and nerves struggled in vain to do.

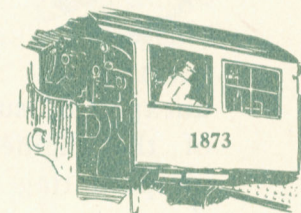
In 1920 the firemen made a request that all coal burning locomotives in road service weighing 200,000 pounds and over (total weight) should be equipped with mechanical stokers and that two firemen should be employed on those locomotives until so equipped. This question was submitted to the Railroad Labor Board and never decided and yet it appeared that on January 1, 1922, there were only 5,500 locomotives equipped with mechanical stokers. In 1919, a mechanical engineer of recognized authority (President of the Traveling Engineers' Association in 1922), stated that, in his opinion "a human being is not large enough and strong enough to stand up against the locomotives with 100 square feet grate area and shovel coal for eight or twelve hours a day. We should put stokers on all locomotives above 40,000 pounds tractive effort." Yet at that time, 1919, the average tractive power of all locomotives was about 36,000 pounds. It is now (1926) over 40,000 pounds, which means that there are thousands over this average although less than one-seventh of the locomotives have mechanical stokers. Thus only

a small portion of the locomotives are even now equipped with mechanical stokers, which should have been equipped with them years ago.

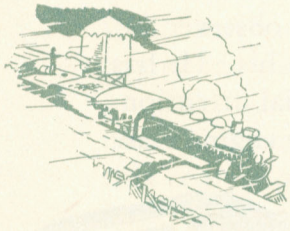
Over 125,000,000 tons of coal are annually thrown into the locomotive fire boxes and only a small part of this coal is conveyed by mechanical means. The great bulk of it is shoveled in by firemen. During the steady increase in the size of locomotives, with its rising strain upon human capacity to the point where it could not be endured, locomotive firemen have been carrying the burden of trying to do the impossible in order to prove that human flesh could not endure the strain. And as long as the transition period lasts, it is inevitable that locomotive firemen will be called upon to exert themselves up to the border line of physical exhaustion.

It is true, therefore, that a considerable part of a fireman's work is that of shoveling coal, except on the comparatively few oil burning or electric locomotives, or on the comparatively few coal burning locomotives where mechanical stokers are used. These mechanical stokers, however, do not give the fireman a life of ease. He must constantly operate the stoker and supplement its work so far as is necessary to maintain the proper kind of fire to produce the necessary amount of steam. He must be continually active to maintain the efficiency, and to vary the speed of the stoker as the demands upon the locomotive vary and to prevent the break-down of the mechanical contrivance. In the event of its stoppage, he must be prepared, for the time being, to do what he can of the super-human labor of the mechanical stoker, with only the strength of his arms to swing a coal scoop. Otherwise an "engine failure" is recorded with its attendant delays, which call for the most detailed explanation and frequently result in the fireman making a trip "to the office" to explain in person.

The fact, however, that much of a fireman's labor is that of shoveling coal makes the casual observer inclined to overlook the other tasks which are his. He has one side of the engine cab requiring his special attention. In many modern locomotives a fireman and engineer are practically invisible to each other. The fireman is in many respects an assistant engineer; and upon the vigilance and intelligence of his aid may depend, not only the efficient operation of the locomotive, but the safety of the public that travels by rail and the public that travels the highways crossing the railroad tracks. A considerable part of the scenery on the left side of the train is invisible to the engineer. The fireman not only aids in picking up signals, but he must be the eyes of the engineer to observe conditions over one-half of the circle through which the train is traveling.

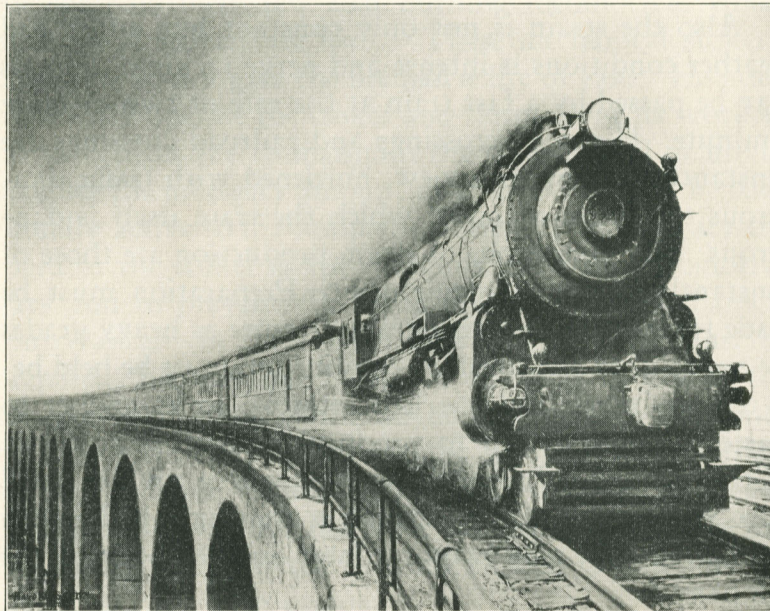


Also the strain is not only constant but under bad weather conditions is intense and nerve racking. Signals may be passed by a fast train at the rate of two or more a minute. Highway crossings and railroad crossings are constantly coming into view, burdened with traffic dangerous to the train and to which the train itself is dangerous. The conditions of steam production are those of constantly changing requirement. Preparation must be made for maintaining the steam pressure as heavy grades are approached. A constant equilibrium must be held between too much and too little steam—so as neither to waste fuel nor to fail to produce the necessary power. With a black cloud from the smoke stack or a white cloud from the pop valve, the fireman is writing a bad record on the sky that may reappear later on the books of the company.



At intervals water or coal must be taken on, which means that the fireman may come out of the sizzling hot engine cab into the freezing temperature of winter, sweating worse than an athlete in the height of competition.

In addition to these normal labors, there is always the possibility of the unexpected, such as an accident, or a sudden illness of the engineer, or an injury partially or wholly incapacitating him. In this situation all that saves the great train from plunging to destruction or destroying other lives and property, is the ability of the fireman to take emergency charge of the situation and, for the time being, to become a substitute engineer. This obligation upon a fireman shows how important it is to the public that the fireman himself should not be a mere coal shoveler, or a mere helper to the engineer, but should



be capable in extreme emergencies of taking charge and temporarily performing the duties of the engineer. In order that the fireman may be so equipped, it is necessary for him to begin promptly the study of the duties and work of the engineer, not only in order that he may be fitted for promotion, but so that in case of an accident or sudden illness of the engineer, he may take emergency charge of the situation on the "head-end" of the train.

Only an Incident in Lives of the Men Who Operate Fast Trains

WHEN the world's fastest train (the Twentieth Century Limited) was entering Syracuse one day last week the engineer leaned out of the cab window to watch the escape valve as he pushed the ejector to force more water into the boiler. He was struck on the head by a water plug and fell unconscious to the cab floor.

The fireman heard the sickening thud as the plug hit the engineer. The uncontrolled train rounded a curve and hurled the fireman almost out of the cab as he started toward the engineer's seat. In a moment he reached the throttle and put the train under control.

Edward H. Peck of Buffalo, the engineer, was dead in a few moments after being struck. G. H. Schoolmaster, also of Buffalo, the fireman, ran the train into the Syracuse station, while the conductor, James Leonard, shoveled coal and fired the boiler.

Hundreds of passengers on the train never knew of the tragedy on the engine or how their lives had been saved by alert and efficient employes, themselves in the presence of death.

rate of \$1 per hour. It now employs
Mexi exclusively at half th

CHAPTER III.

Learning to Be An Engineer

FEEDING coal into the flaming mouth of the iron hog is the heavy labor of a fireman. He may be expected to shovel in 10 to 20 tons of coal in a trip by hand firing, or to see to the proper feeding of more than 20 tons by a mechanical stoker. It will be noted that the mechanical stoker does not shake the grates, or keep the fire even, so there is plenty for the fireman to do when the mechanical stoker is passing the coal.

But the real job of a fireman is that of learning to be an engineer. The engineers necessary to operate 70,000 locomotives must come from the left side of the cab and they must be constantly graduating to the right side, if steam transportation is to be maintained. So the railroads have little use for a fireman who is not capable of becoming an engineer and such a fireman is not only undesirable but may be a menace to the traveling public, because its safety depends upon having an apprentice engineer in the cab, even though he has not qualified to draw an engineer's pay. So the prevailing custom is that a fireman shall take a series of examinations over a period of years and if he is unable to pass these examinations, he will not be retained as a fireman, so long as other better equipped men can be employed.

Before the fireman is accepted for service, he is required to pass a preliminary examination on rules and signals, as well as a rigid physical examination, including exacting tests of vision. So he has to be something more than a coal passer even to be accepted as a fireman. Then

he has ahead of him the preparation for the progressive examinations. To give an understanding of what these are, a set of such examinations of one railroad will be outlined. (These examinations vary considerably on the different railroads.)

Examination six months after employment: 10 questions on general rules; 24 questions on definitions; 9 questions regarding standard time; 13 questions on time tables; 6 questions on signal rules; 6 questions on color signals; 16 questions on engine whistle signals; 9 questions on air whistle signals; 38 questions on train signals; 21 questions on block signals; 55 questions on the movement of trains; 42 questions on air brakes.

First year examination: 59 questions on firing and fuel economy; and additional air brake questions.

Second year examination: 44 questions on locomotive firing practice; and additional air brake questions.

Final examination: 616 questions on operating rules, brakes, signals, time tables, train movements, train orders and engine machinery are listed in a typical examination. But since one of these questions has 42 sub-questions and many of them require several answers, it is fair to say there are about 1,000 questions. They range in variety from such simple inquiries as "What is the number of the current time table"; to such questions as the following:

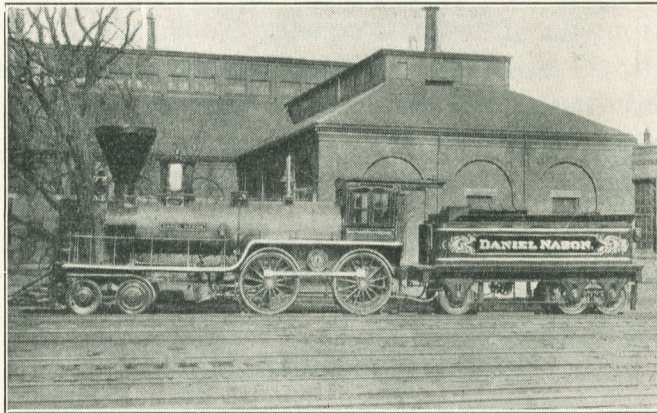
"If, as conductor or engineman of an extra or an inferior class train running in the same direction, you held an order reading No. 1, Engine 25 will run twenty minutes late A to C and ten minutes late C to Z, what time must you clear No. 1 at C?"

"In case left back eccentric rod should break, what would you do?"

"What is the purpose of the little reservoir connected to the Westinghouse brake valve? What would you do if the pipe leading to it was broken?"

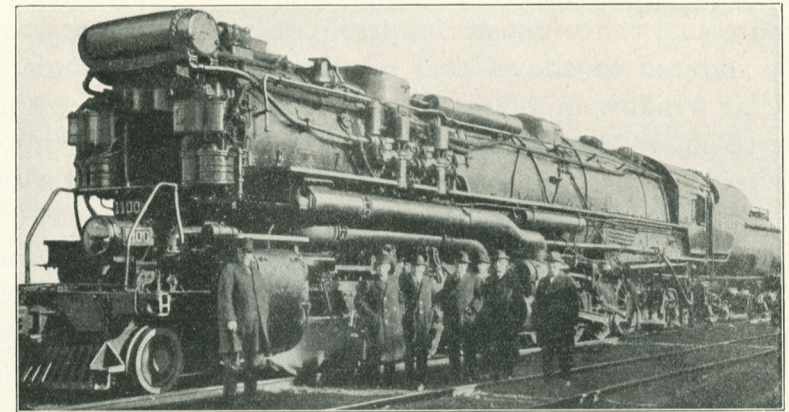
"How could a leak in the rotary valve or lower gasket be distinguished from a leak in the feed valve attachment, or the gasket between it and the brake valve?"

It should also be understood that a fireman doesn't learn merely the operation of one engine, either as a fireman or engineer.



There are many varieties of locomotives; locomotives of all ages; locomotives of ancient and modern construction; and they have many differences in both construction and operation. Under the Whyte system, some 44 locomotives are classified ranging from the four-wheel switcher with two driving wheels on each side to the articulated triplex with 12 driving wheels on each side. Some of the locomotives in common use vary from one having a wheel base of 25 feet and a weight of about 39 tons (the old "Standard" locomotive) to a modern "Mallet" having a wheel base of over 50 feet and a weight of 250 tons, exclusive of tender. A fireman is expected to graduate as an engineer capable of operating

any locomotive in service. So the variety of locomotives which a fireman may be called to fire, or an engineer to run, will indicate the amount of educational work in front of a man who starts out as a fireman; and will show the reason for differences in pay awarded to firemen and engineers for operating the larger and more complicated engines.



It should also be clear that a fireman will not equip himself to become an engineer merely by firing. In the first place he is going to be too busy firing to do much of anything else while on the road. In the second place, what he can learn of the operation of the particular locomotive he may be firing will not alone give him the ability to act as either fireman or engineer on all locomotives in the service which he may be called upon to handle. So the fireman goes to school both while he is working on the road and during his out-of-service time. He takes correspondence courses. He studies technical books. He studies the technical articles published in his organization magazine. Frequently he goes to school



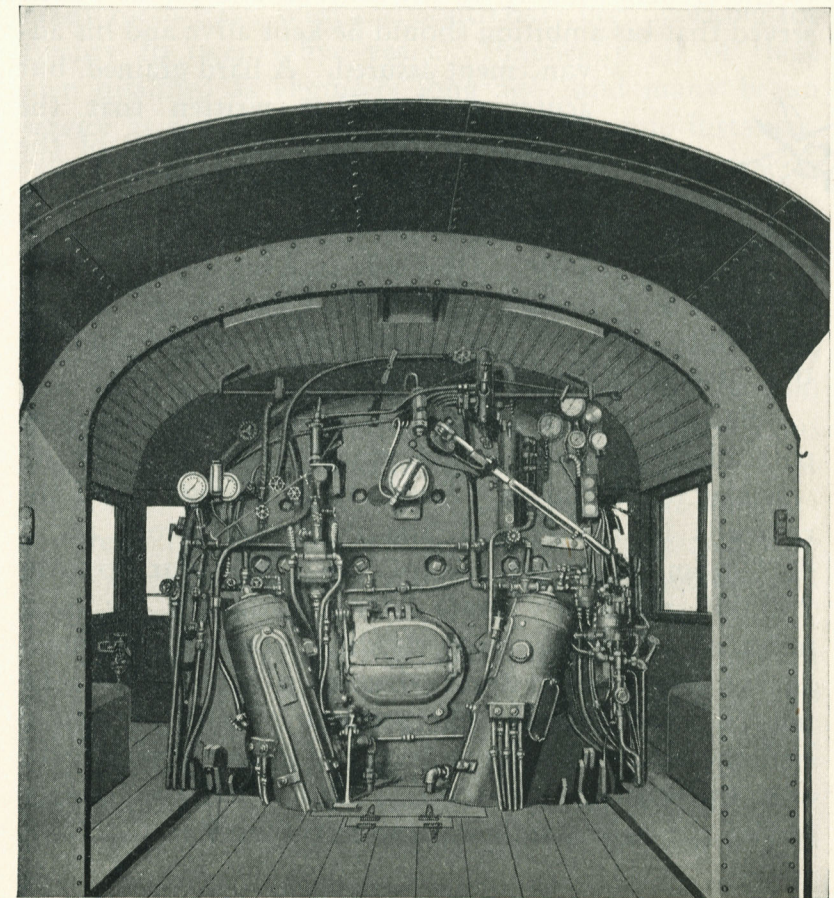
in the "instruction car" furnished by the railroad. Meanwhile he is storing away in his head all the special rules and details of engine operation and train movement on the particular railroad system where he is firing. Then he has examinations to face, both oral and written. The final written examinations may last as long as five days or a week.

No, the fireman is not just a coal shoveler. He shovels more coal continuously for less money than a man can be induced to shovel coal off the sidewalk through a cellar window in a large city. He shovels this coal while teetering on the rocking deck of a locomotive going anywhere from 10 to 70 miles an hour. He shovels in temperatures ranging from 30° below zero to 110° in the shade. It is hard to tell which condition is the worst. Of course, within reasonable degrees it is easier to work in a cold temperature. The labor becomes almost unendurable in the heat of the desert in summer. But on the other hand, shoveling coal in the winter time means also constant exposure to bitter cold when the whole body is dripping with perspiration.

But, the fireman is not just a coal shoveler. He is a student of the mechanics of engine operation; he is the extra arm and extra eyes of the engineer; he is a student of train movements, reading the train orders, helping to guard against mistakes and to carry out the final directions for train handling.

In addition to all these things, he goes to "night school" and studies for long, exacting oral and written examinations; examinations to decide, not (as in grade school) whether he will get an A, B, C or D on a teacher's report card, but examinations to determine whether he is making a success or a failure of his life work. Rather important and difficult tests.

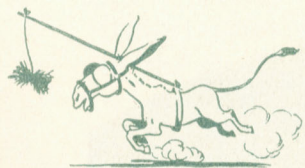
And then, if the fireman proves his worth and qualifies himself as an engineer, that doesn't mean that he becomes an engineer. Oh no, he may go on firing for ten or twenty years without attaining his promotion. He may become an engineer and then, without fault, be demoted and go back to firing again at the age of forty-five when the back is not quite so limber and the muscles are not quite so supple as they were when he began firing as a young man. But the ambition and promotion of a fireman is a story worthy of another chapter.



CHAPTER IV.

Ambition and Promotion

A MAN without ambition to improve himself is a man going down hill, since motion in one direction or another is the law of life. Thus it becomes important to the fireman himself, to the railroad and to the public served that his ambition should be kept alive and his advancement assured. A hard grained, but acute observer, has written that the greatest discovery in the history of the world is that if you tie a bunch of hay in front of a donkey's nose, *it will keep going forward*. This is a bitter sounding philosophy. But it is somewhat true of all mankind. It is the anticipation of better things ahead that keeps man moving forward.

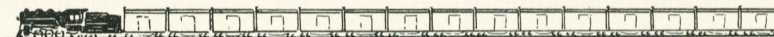


For many years promotion of all railroad employees, particularly firemen, was reasonably assured as the reward of reliable labor. Single track mileage of all the railroads in the United States increased from about 40,000 miles at the end of the Civil War to over 250,000 miles fifty years later. Although the total miles of all tracks have steadily increased the mileage of *single main* tracks has been actually decreasing in recent years. On account of their increased size, the number of locomotives has increased very little, even though the total tonnage carried and the tonnage carried per freight train has increased heavily.

Thus it has come about that in the last twenty years



1908 ~ 352 Tons



1924 ~ 647 Tons

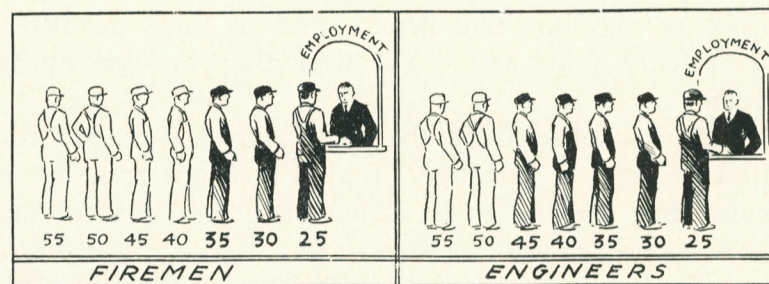
promotion has been more and more delayed. In 1917, The Federal Eight Hour Commission reported that firemen in the West would serve an average of eleven years before promotion; ten years in some parts of the South; and over fifteen years in New England. Recent reports show that senior firemen in service in July, 1926, on many roads East, West and South have been working for twenty to twenty-five years. Practically all of these men qualified as engineers long ago; and many began service as engineers ten, fifteen, and in some instances, over twenty years ago. Yet now they are serving as firemen.

Reports collected at the same time show that the senior firemen on furlough (that is men not actually in service, but waiting to be called back into service) are men who began work as firemen five, ten or fifteen years ago. Road after road is listed showing 400 or 500 firemen cut off the working list and furloughed. Thus a graphic picture is presented of the effect of the increasing size of locomotives and the decreasing railroad mileage upon the ambition and promotion of the men who must now be depended upon to fire locomotives and eventually to run them.

A fireman out of service must live. What is a fireman to do who went to work in 1918, 1912 or 1908 and finds himself in 1926 furloughed—that is, out of a job, although admittedly competent and willing to work? Isn't it rather likely that he will seek other employment? Thus the benefit of the years of his work are lost to himself and to the transportation service.

Consider the case of a fireman in service, who at the age of forty-five is still firing a locomotive; uncertain when he may become an engineer and conscious that his aging muscles and nerves are gradually unfitting him for further service as a fireman.

At this point it is well to mention that as a general rule a man will not be engaged as a fireman after he is over the age limit fixed by various railroads at from twenty-five to thirty-five years; and that he will not be engaged as an engineer after he has passed an age limit varying from thirty-five to forty-five years. Thirty-five years may be accepted as the general deadline established by the railroads for firemen and forty-five for engineers.



In order to get a picture of the opportunities for promotion held out to a fireman, one must understand the operation of the seniority rules, whereby the man longest in service is given the right to bid for a new position open through retirement or promotion of the man ahead of him. Also, when forces are reduced, the engineers and firemen are demoted likewise according to their length of service. To explain the seniority rules will take another chapter. But for the time being, it is enough to understand the general principle of seniority.

Thus it happens that when larger engines are put in service there is a tendency to reduce forces all along the line following the reduction of the total number of en-

gineers and firemen required on the railroad. The junior engineers are demoted to firemen. The senior firemen are pushed further back from promotion and the junior firemen retired from active service to the inactive list—out of a job. Variations in traffic have similar results. The testimony of a fireman presented in the Western Arbitration of 1914 gives a graphic picture of what has been happening throughout the country.

Question: "How many firemen have been laid off in your seniority district because of fluctuations in business, perhaps, and increased tonnage of these huge locomotives?"

Answer: "Well, there have been very few laid off, but the last three or four years firemen have been quitting and a few getting discharged and they have not been hiring as many to take their places and they have gradually allowed the seniority list to dwindle down in that way until now on the firemen's seniority list proper we carry 30 firemen and there are 2 cut off, which leaves 28 firemen carried on the seniority list. And on this seniority list of August 29, 1911, there were 61 men on it. The difference between the 28 men on the list and the 38 men we have in firing service is made up from the fact that we have 10 engineers in firing service."

Question: "You said that these firemen are quitting. Why do they quit? Are they dissatisfied with the work they have to do, or the pay they receive?"

Answer: "Before the assistance was given and the second fireman was put on these engines they used to quit quite rapidly, on account of the hard physical duty that they were forced to perform on those large engines; but since the second fireman has been put on, there have not been so many quitting and they have been staying a little better."

Question: "Did I understand you to say back in 1911 you were number 21 on the list?"

Answer: "Yes, sir."

Question: "And in 1914 you are number 23?"

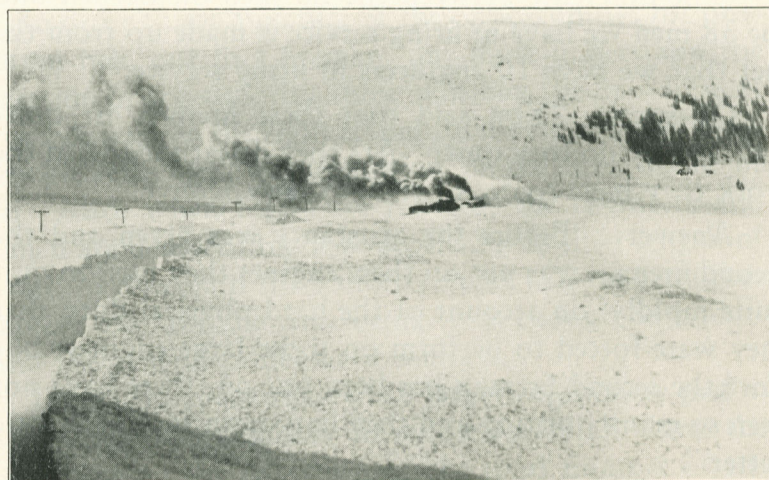
Answer: "Yes, sir."

Question: "At that rate how long will it be before you are number 1?"

Answer: "It will be quite a while!"

This same witness brought out a curious situation in his testimony, showing that the firemen of a division on his railroad had requested the road either to add another engine to the train or to add another crew, because the firemen were being overworked and so they were willing to have their earnings cut by the employment of more men, although this fireman was making less than \$100 a month.

He also brought out another interesting point, showing that in order to get two hours' additional rest he would have to lay off and lose 262 miles on his engine, which would cost him \$10.48.

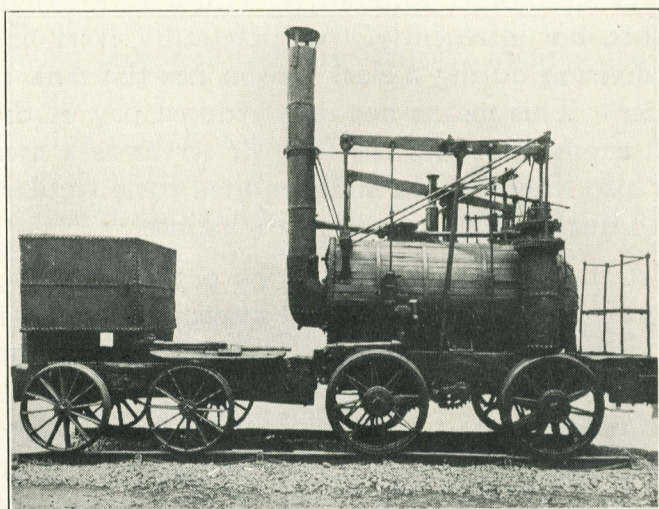


This testimony will give some indication of the reason why enginemen ask for complicated rules and working conditions which are unintelligible to an outsider. The enginemen are trying to get working conditions under which a man can earn a decent living without such long and exhausting hours of service as will put him on the scrap heap and make him an old man in middle life.

The effect of seniority rules in many ways may seem disheartening to the ambitious and a means of delaying promotion. When the number of crews is reduced, it is pointed out that every engineer demoted displaces two firemen; one on his locomotive and the one whose place he takes on another locomotive with a senior engineer. It occurs, not infrequently, that practically every fireman on a division during a slack season has the rank of an engineer. This means not only reduced pay of the demoted engineer during the time he serves as a fireman, but it also lengthens the time required for a regular fireman to qualify for promotion to engineer.

Yet these seniority regulations provide the greatest comfort in railroading to an ambitious, industrious man. They provide the most reliable assurance that promotion eventually will be the reward of steady, honest work. Indeed it may be fairly stated that if it were not for the seniority rules, employment conditions on the railroads would have been far worse than they ever have been in an industry where there are such tremendous changes, both seasonally and from year to year in the amount of traffic and, therefore, in the amount of men employed. Were it not for seniority rules, it is quite certain that the labor turnover, which is always a very costly operating expense, would be far greater than it is, particularly in engine service. Therefore, it is quite impossible for any

person to have an intelligent opinion upon the value or character of a fireman's work, upon his obligations to his employer and to the public and upon their obligations to him, without having first an understanding of exactly what seniority rights mean and their value both to the fireman himself and to the transportation service.



CHAPTER V.

Seniority

SENIORITY rights and preferred assignments—a complicated system—can only be understood in detail by examining the formal agreements between the railroads and the employe organizations. But the general principles governing seniority rules can be explained without using technical language.

The first principle is that the longer a man remains in service and gives satisfactory service, the more valuable he is to the employer and the more he is entitled to preferred assignments, generally providing better working conditions or larger earnings, or both; because his service is worth more; and because this is the appropriate reward of long and faithful work, which it is worth while to hold out before a man in order to induce such work.

The second principle which is written into an agreement providing for seniority rights is that when a position is vacant, the senior man in line of succession, if qualified, *may* bid for it. On the other hand, generally he is not *required* to bid for it, because this might change a right and a preference into a duty and a burden. For example, a fireman running out of St. Paul, Minnesota, may have an opportunity to bid for a better run; one with easier hours or better pay. But this might require him to establish his home at another terminal and give up the home associations and perhaps the house he owns in St. Paul. Again, the one offering better pay may impose harder conditions. Thus in order that seniority may be a benefit and not a burden it is regarded essentially as

a privilege. However, although in some cases firemen may not desire to be promoted to become engineers, because this will usually change steady employment as a senior fireman into unsteady employment as a junior engineer, nevertheless good railroad practice and organization policy now require enginemen to move upward along natural lines of promotion; and the qualified fireman is compelled to accept promotion to the position of engineer.

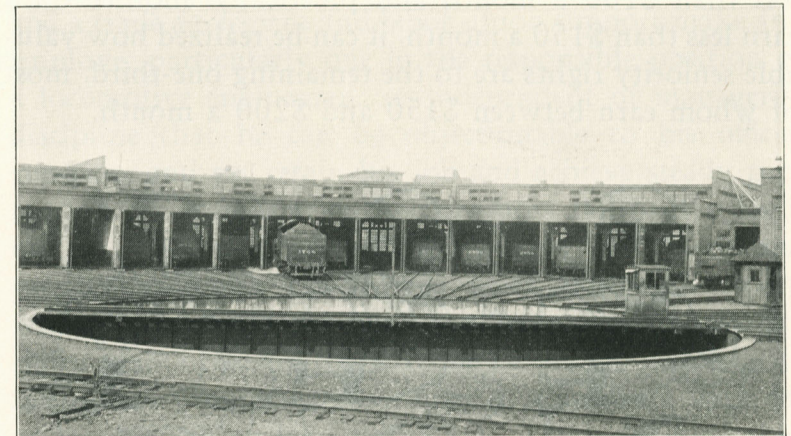
There are three principal classes of services in which a fireman may be engaged: Yard Service, Road Freight Service, Road Passenger Service; being generally regarded as progressively desirable in the order named. Seniority rights in some employments are separate as between yard and road service. However, it is a general practice for yard firemen to be eligible to road service. Yet men often prefer yard service, because of a greater regularity of work, or because road service would take them away from an established home. Sometimes men with considerable road seniority will seek a transfer to yard service when age or declining health or family considerations make this desirable for them. Passenger, freight and yard seniority generally run together for enginemen.

On many railroads firemen are permitted to exercise their seniority in filling positions as hostlers (inside and outside) and this is also true with regard to filling positions of outside hostler helpers.

These "outside" hostlers and outside hostler helpers, who receive less pay than an engineer and fireman, are generally employed in handling engines to and from trains, between the roundhouses and stations, or yards, or on main tracks; coming in contact with train signals and main track operation in the terminals where traffic is usually very dense; they are required to qualify on the

application of train operating rules, care and responsibility of locomotives while in their charge, including train and block signals in use in the territory where they are assigned. The very nature of the work demands that competent men be employed as outside hostlers so that in their constant mingling with main line trains, the lives of their associates and the traveling public will not be jeopardized and the millions of tons of moving freight will be properly protected.

"Inside" hostlers are the men employed in handling engines in and about the roundhouses, coal chutes and ash pit tracks. In many instances they are required to clean the fires of locomotives arriving after the trip or day's work has been completed; take on coal, water and sand; assist in turning the engine on the turn-table and "spotting" it in the roundhouse or placing it on the outgoing or ready track, from where it is taken by the engineer and fireman on reporting for duty.

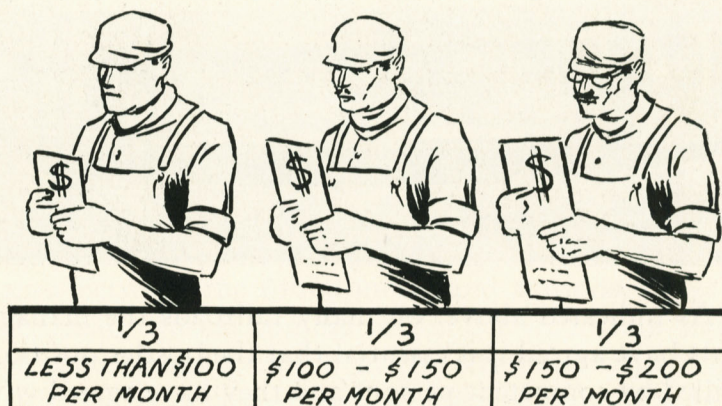


As indicated above, on many railroads the managements have agreed it is essential that the hostler positions be filled by competent persons and they have agreed with

their firemen to permit them to exercise their seniority in selecting and filling these positions.

The geographical districts over which seniority rights operate vary greatly on different railroads.

These various conditions affecting seniority are mentioned merely to increase an understanding of the general purpose and utilization of seniority rights. Looking at these rights from the standpoint of the employe, they may be regarded as a sort of industrial insurance which he purchases year by year. He pays for it in the service he renders. Essentially it is as much a part of his wages as though he received an amount of money and bought income insurance with that money. Ten years' service theoretically gives him ten times the certainty of having a job that is obtained by one year's service; ten times the certainty of earning an income upon which he and his family can live. When it is realized that one-third of the firemen on the railroads in the United States earn less than \$100 a month and practically another third earn less than \$150 a month, it can be realized how valuable seniority rights are to the remaining one-third, most of whom earn between \$150 and \$200 a month.



Seniority rights have another great value in increasing the self-respect and self-confidence of the worker. It is inevitable that the comfort and security of any employe is dependent, to a considerable extent, upon the representatives of management who supervise his work. Seniority rights do not make an employe independent of this good will, but they do minimize the extent to which personal favoritism may govern the promotion of an employe. They aid in giving assurance that if a man is competent and reliable and sticks to his work and educates himself for advancement, he may rely upon the improvement of his working conditions and the increase of his compensation, surely, even if very slowly, as the years go by. Of course, he is always subject to the possibility of unjust treatment, unfair discipline or unmerited discharge. Against such treatment his adaptability as a social being and the support given him by his organization afford his chief protections.

It can not be truthfully asserted that seniority rights and a trade agreement and labor union support make any employe, particularly one in the responsible position of a locomotive engineman, so independent of managerial discipline that he can be objectionable to his official superiors and yet retain his job and achieve steady promotion. But it is true that on most railroads a locomotive engineman who is thoroughly competent and socially adaptable can do his work with self-respect, without servility or toadying, and rely upon his seniority rights, supported by the strength of his organization to insure him promotion somewhat in accordance with the opportunities for better positions which are available.

At this point a little emphasis must be laid upon the value of his organization to the fireman and in fact to every railroad employe, particularly in the protection of

his seniority rights. The subject of organization will be considered further in a later chapter. But it is necessary to mention here that the employe's organization gives practically the only assurance that the benefits of seniority may be obtained as a right and not as a favor.

The trade agreement under which wages and working conditions are fixed for groups of railway workers gives very little legal protection to the employe's "right to work." Such a trade agreement fixes the wages which he can require paid for service when performed. Provision is usually made for the conditions under which he will normally work and provision is commonly made for the manner in which the employe may seek redress for his grievances, redress for violations of the agreement in the matter of wage payments, or arbitrary changes in conditions, or unfair discipline. But the final power of the employer to discharge an unsatisfactory employe is practically absolute and although it will not be exercised irresponsibly by intelligent officials, it may nevertheless be exercised with practically no responsibility, except so far as a labor organization can make the injustice to one an injustice to all and get greater consideration for the rights of the individual than he alone could obtain.

Since seniority rights are of such vital importance to every employe, the value of his organization in protecting these rights is immediately shown wherever there is a break in relations between a railroad and a labor organization.

If a group of railway employes strike, one of the first announcements always issued by the management is that if the men on strike do not return to work by a certain day they will forfeit their seniority rights. The management thus assumes that a seniority right is not a right which has been earned by the employe; not in-

surance which he has bought and paid for; but is a favor to be granted at the will of the employer. So long as relations are harmonious, the favor will be continued; in case of disagreement the favor will be ended.

The explanation is usually offered that the men left the service when they struck and that, therefore, they themselves abandoned their seniority rights. Yet nothing is better settled, as a matter of fact and a matter of law, than that when men strike they do not leave the service; they do not abandon their jobs or any rights connected with them. They simply decline to continue working until a disagreement over the terms and conditions of work can be adjusted. Of course, a railroad president would prefer to have his locomotives operated by engine-men thoroughly familiar with all the local conditions and with the particular locomotives owned by that road, than to have new men attempt to operate these locomotives, even though the new men were competent engine-men. Therefore, if a railroad should resume relations with the striking employes, it is clear that from the standpoint of the railroad, they would be far more valuable men than new employes. Thus to re-employ the old men and yet to deny them their seniority rights, is simply to take away from them the rewards of long service from which the railroad has benefited and from which it will continue to benefit.

However, the strike question has only been raised in order to point out that what a fireman calls his seniority "right" is in fact a *conditional* reward of service, which a railway management feels itself authorized to deprive him of without redress, as a measure of discipline, or which it allows to him as a favor. Thus it becomes clear that if it were not for the support of an organization behind the individual employe, his seniority right would

not increase his sense of security and comfort, but would actually increase his insecurity and discomfort year by year.

If, for example, a fireman by twenty years of service had accumulated a seniority right, which assured him of earning \$175 a month and working out of his home town on a run which would permit him to spend four or five nights a week with his family—and if that right could be denied him by an official whom he had offended—if he could be reduced to a position on the “extra board,” where he might only earn \$75 a month and whereby he might be required to spend most of his time away from his home—what would be the result? It must be plain that the very fact that this fireman had accumulated a so-called “right” of such value to him, would make him desperately fearful lest he should lose that

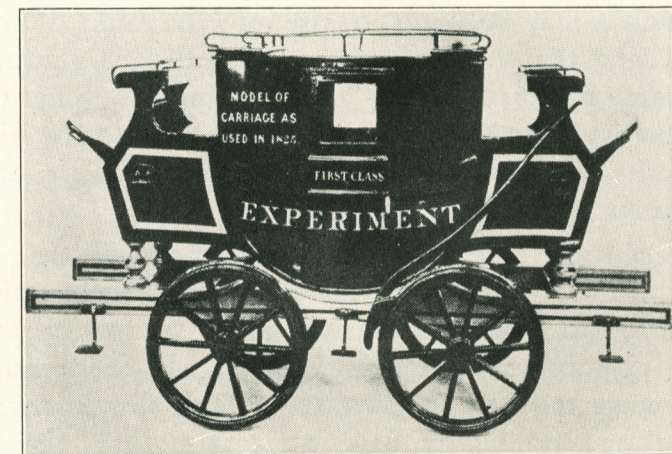
right through incurring the disfavor of someone in authority. As long as human beings are human, irresponsible power will breed constant abuse of power. It is a truism that self-respecting labor must be labor independent of arbitrary and capricious control; must be labor which can rely on its own competence and need not rely upon personal favoritism, in order to obtain its just reward.

A very good example of the actual menace to employes of a seniority right held only by favor, occurred recently, when having forced out its regular enginemen, a railroad management ordered its pensioned enginemen to return to duty and stopped the pensions of those who failed to respond. The pension was a favor or bounty. These enginemen who had given a lifetime of service,



expecting as a reward to have the security of a pension in old age, found suddenly that, by relying upon favoritism for support in old age, they had subjected themselves to the alternative of either giving up their means of support, or else committing slow suicide, by going back to work after they had become incapacitated.

Thus it appears that the seniority right so precious to railroad men is only a “right” when it can be enforced by the strength of their own organizations. The seniority right is peculiarly precious to firemen and engineers, because as they grow older, the doors of opportunity are closed one by one, until by the time they have reached middle age, they have practically no assurance that they can earn a livelihood, except the assurance that they will be permitted to work on an engine so long as they are physically able. This is because the work of a locomotive engineman is unfortunately one of those blind alley jobs that do not lead to any other work. This is the subject of the next chapter.



CHAPTER VI

The Blind Alley Job

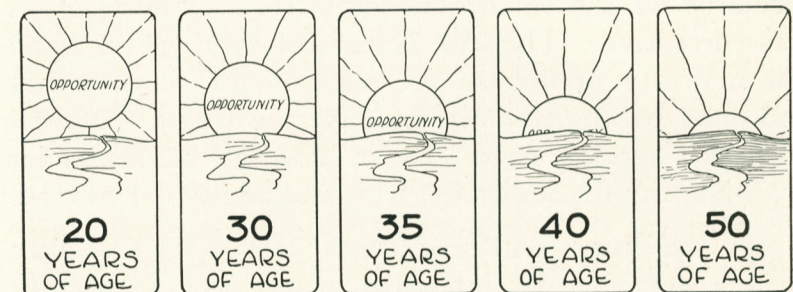
LOCOMOTIVE firemen are fitting themselves for practically one job—that of a locomotive engineer. The Federal Eight Hour Commission has truthfully reported that there is only one engineer in a thousand who rises above that rank in his railroad career. The incentive, therefore, before a man from the time he goes to work firing a locomotive, the ambition which he may hope to realize, is only that he may become, first an engineer and then, year by year, a better located, better compensated engineer.

Men engaged in directing train movements, telegraphers and dispatchers, for example; men engaged in the maintenance of equipment: machinists and round-house foremen, for example,—have some opportunity, although it may be slight, to rise into the ranks of those supervising the work of other men and thus gradually to become members of the “official family.” Such men have before them the possibility of rising into the highest positions in the operation of railroads, or other enterprises.

True it is, these opportunities are rare; and true it is that there are very few positions comparatively, which 1,750,000 to 2,000,000 railway employees may hope to reach. Nevertheless, hope is eternal; and even though the average railroad employe has a very slim chance of graduating into highly paid, attractive work, the ambitious, optimistic men outside of engine service have at least the illusion that they may some day leave a life of

“happy toil” and seek the unhappy luxuries of Pasadena and Palm Beach.

But the men in the engine cab have no such prospect. They are required to be men of sufficient intelligence so that they will soon realize that the door out of their job is growing narrower and shorter with every year, until eventually there is no door at all, but only a little window through which, from time to time, they may gaze upon a world of opportunities forever closed to them.



The intelligent fireman—and no one wants a fireman who is not intelligent—must find the stimulus to ambition and the hope of promotion within the engine cab. Otherwise he will break away from this work in the first few months or years, or else he will gradually become a mere machine, interested only in getting through with his job as quickly as possible, and with as little work as possible, in order that he may have some time and strength left with which to enjoy life.

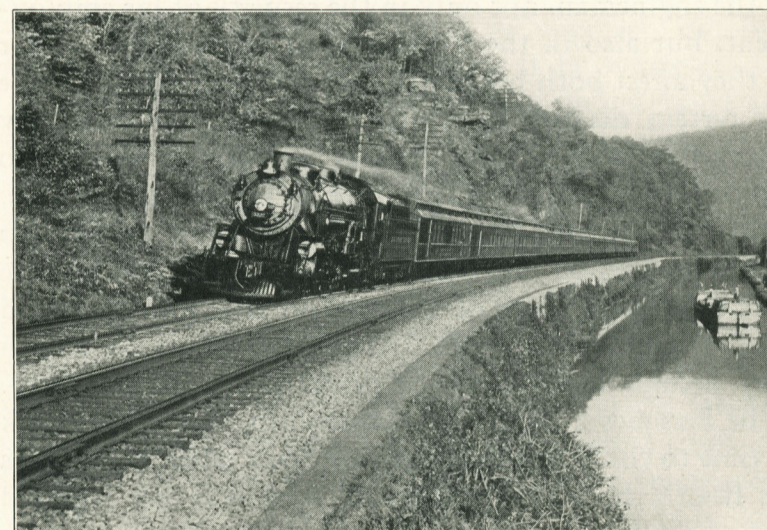
Seniority gives him some assurance of gradual improvement in his condition, although at the present time, when promotion to a permanent position as an engineer may be deferred from ten to twenty years, even this assurance is not altogether satisfying. But if we assume that a fireman is to look forward to twenty years' service

as a fireman and then twenty years' service as an engineer, his peace of mind will demand that there shall be at least opportunity for constant improvement in working conditions and wages in each of these positions.

There is a small percentage of jobs open to firemen where the work is more attractive and where the earnings are larger than in the average firing position. The number of these "good jobs" is not as many as the careless observer might imagine. In the first place the "average" pay of firemen, as commonly reported—particularly by the Interstate Commerce Commission—is very deceptive. The low average of earnings made by the majority of firemen for *eight hours*' work is not indicated by the statistics of "average wages," because in these "average wages" are included all payments for overtime and for additional trips and additional services.

Actual wages will be discussed later. At this place in our story, we are interested merely in pointing out that the fact that there are even 7 firemen out of every 100 who receive something over \$2,400 a year, has a great value in stimulating the other 93 firemen to stay on the job and not either to drift into other occupations or to cease their efforts to obtain promotion. In every walk of life the stimulus to the large majority of workers is found in the exceptional rewards that come to a few. In most occupations these rewards come when a man graduates from the ranks into the officer class. The salesman becomes the salesmanager, with the hope of becoming an officer of the corporation. The stenographer may become a secretary and graduate into officialdom. The clerk may become a department manager. The factory hand may become a foreman and move upward in the management.

Such promotions are possible to many men engaged in railway service, but it is very seldom that a man graduates out of the engine cab into any other employment. Railroad officials are not ordinarily taken from the enginemen. The enginemen are not trained to become executives. They are not trained in the financial or general operating problems of railroads. They are trained and eventually equipped to do one thing, to operate a locomotive safely and economically so as to



carry a freight or passenger train from point to point, according to schedule. The very fact that an engineman becomes skilled in one job, which is peculiarly necessary to transportation service, makes it unlikely that he will be taken from that job and transferred to other work for which he has no special training. He is a specialist and he has a real value just where he is and he has no special value anywhere else in the railway service. This is the reason for the statement in the report of the Federal Eight Hour Commission:

"It is only the thousandth engineer or conductor who rises above that rank in his railroad career. But within the compass of this occupation, the remainder receive repeated advancement to more desirable assignments, or branches of the service—from slow to fast freight; or freight to passenger runs, and from a branch or local ultimately to the speediest and most luxurious extra fare limited."

The fact that the men on the engine have a "blind alley job" furnishes an additional reason for the interest of the engineman, not only in the security of his employment, but also in the conditions of employment so far as they affect both his health and daily comfort. There are certain diseases to which this worker is peculiarly susceptible, such as lung diseases, and certain injuries to which he is peculiarly liable, such as injuries to the eyes. These will be considered in the chapter upon the hazards of the occupation, but should be mentioned here because they take away much of the comfort that may be found even in a blind alley job. After years of service a man may become temporarily or permanently incapacitated. If he becomes a victim of tuberculosis, but stops work in time to check this dread disease, then when he recovers his health, he may find himself in middle life required to find a new occupation with practically all his accumulated training and experience useless in his pursuit of a livelihood.

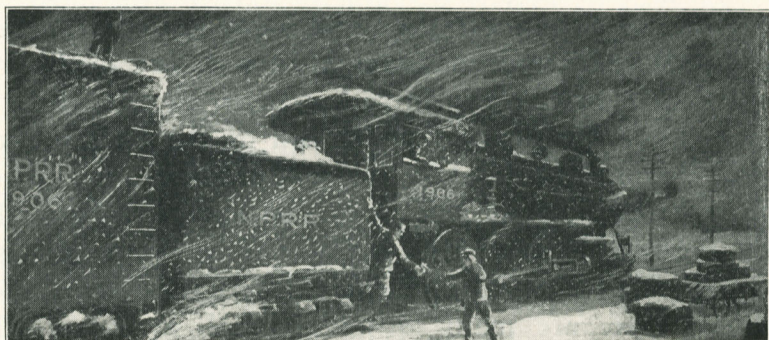
Various diseases, such as heart disease or Bright's Disease, which will not terminate a man's usefulness in other employments, generally lead to disqualification for service as a locomotive engineman, due to his inability to withstand the strain and because of the menace to train safety in an engineman who may be subject to a sudden attack. The engineman, returning to work after any severe illness, or temporary disabling accident, will

be given a physical examination and may find that the after effects of his disability have disqualified him for further service.

Enginemen are subject particularly to impairments of eyesight. The glare from the fire box, the constant exposure of the eyes to the wind, dust and cinders, the continual strain upon the eyesight in watching road-way and signals, particularly in bad weather, all put a heavy strain upon the delicate mechanism of the human eye. Some companies will retain, but will not hire, a man who wears glasses. Some will retain an engineer, but will not promote a fireman to engineer if he wears glasses.

Outside of the obvious effect upon lungs, heart and vision, there are many other physical strains which would be quickly apparent to an untrained person who attempted to ride any great distance in an engine cab. The conditions of labor differ from those anywhere else on earth. A mass of iron and steel, weighing from 50 to 250 tons, is being driven at a speed of from 10 to 70 miles an hour, hauling behind it a load of from 60 to 6,000 tons (or more) up and down grade, around curves, through the open country or congested cities. A huge hot fire is being maintained, creating a tremendous volume of steam power. The entire engine is in constant vibration, swaying and jolting with a peculiar, unsteady motion severely wearing on the engineer and firemen. "The sense of responsibility and latent danger always remains." In bad weather there must be a constant watch for soft tracks or possible washouts or slides. Blizzards may distort or conceal customary landmarks or the entire outlook may be blurred with fog, snow or sleet. Behind the engine is traveling the great tonnage of the train, with the constant possibility that defects in the equipment will develop, such as hot boxes or breakages.

Under these physical and mental conditions, the enginemen are required to perform tasks calling for physical strength and skill and mental alertness of high quality.

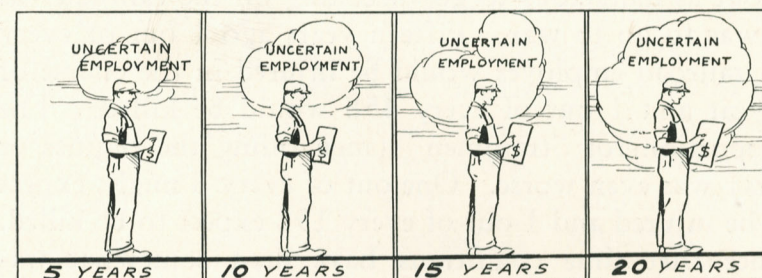


All these conditions impose heavy strain upon the human mechanism, the extent and tolerability of which are practically inconceivable to one who has never experienced them. The imposition upon the fireman of long hours; of special strains and of additional duties and responsibilities are not only a menace to his ability to perform his immediate tasks, but also endanger his ability to continue, year after year, to do his work with the efficiency which is absolutely essential.

If the fireman could sustain an exceptional burden of labor for a few years and then graduate into a less exacting occupation, he might be more willing to carry such a load. He might accept the philosophy of the man who, in comfortable middle age, brags about the long hours and straining labor which he put in while climbing out of the ranks of the wage earners into the ownership or employing group. But the fireman cannot intelligently base his work and life upon such a philosophy. He cannot rely on the chance that he may be one in a thousand to graduate into another job. He looks

forward to continuing in the same job, knowing that if he must overstrain his physical powers today, he must continue to over-strain them tomorrow. He must look forward to the fact that if he continually over-strains himself, continually over-loads the strength of his muscles, his lungs, his heart and his eyes, there will come a time when his physical powers will give away. He will no longer be able to perform his tasks competently. With health broken and physical powers impaired, disqualified for engine service, with twenty or thirty years of life ahead of him, he may find himself facing the world without a job and without special training to earn a living. At a time of life when a man should be obtaining more security and comfort in living he will be out of work and his age will count against him in seeking suitable employment.

The intelligent engineman cannot forget that he is working at a blind alley job. He must, for the protection of himself and his family, do all within his power to insure not only such promotion as is possible, but also such conditions of work as will permit him to continue working throughout the years in which a man should be fully self-supporting. These factors should be borne in mind when one considers the hazards of this occupation and the wages paid, in order to understand what are fair and what are unfair hazards and what are really compensatory wages.



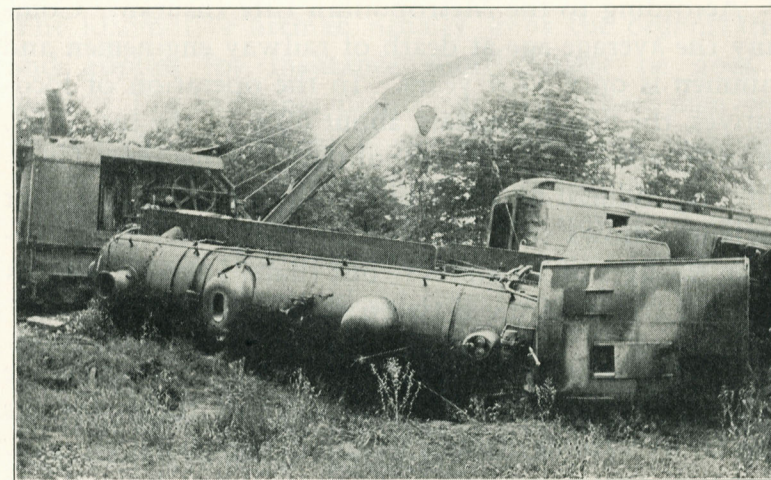
CHAPTER VII

The Hazards of Engine Service

PROBABLY few persons who travel or send goods by railroad know that the enginemen, who create and operate the power necessary to give this transportation service, are called upon daily to risk life and limb and health. The railroad passenger is so safe that an accident insurance company will pay double indemnity if the passenger loses life or limb. But the fireman and engineer are so unsafe that many old line insurance companies and many fraternal organizations class them as "prohibited risks." Other companies class them as engaged in "extra hazardous" occupations and charge an additional premium, or reduce the amount of benefit under the policy. Thus one reason for the strength of the Brotherhood of Locomotive Firemen and Enginemen and the value of this organization to its members, is that it provides them with life insurance and accident and health insurance and pensions, which cannot be obtained for the same cost, if at all, elsewhere.

There was a time, not so long ago, when it was about as dangerous to go "working on the railroad" as it was to go to war. Fifteen years ago 1 out of every 13 railroad employees would be injured in the course of a year and 1 out of every 458 would be killed. The proportion for "trainmen" (men riding the engines or cars) was even worse. One out of every 8 might expect to be injured and 1 out of every 192 expect to be killed. Since that time conditions have been somewhat im-

proved. Yet in the year 1925 there were 722 trainmen killed and 29,175 injured.



Perhaps against this background of the general hazard of train service, some statistics regarding the special hazards of the fireman's occupation may stand out more clearly. The Medico-Actuarial mortality investigation of 1913, a national investigation, found that the general death rate of firemen and engineers was from 60 to 90% above the average for all occupations. More recently the New York Life Insurance Company has given locomotive firemen a death rate of from 75 to 100% above the average for all occupations—the same as structural ironworkers and miners.

The death rate *from accident* for locomotive firemen has been found to be *nine* times the normal rate. The Metropolitan Life Insurance Company has recorded that the highest proportion of accidental deaths was found in railway enginemen and trainmen, that is, 42.3% of all deaths, which situation the statistician of the company has properly characterized as "frightful." The

Prudential Company has reported that 43.6% of the deaths of firemen were from accidental violence.

According to the Metropolitan Life Insurance Company the average age at death of railway enginemen and trainmen is only 37.4 years. In the operation of locomotives, the firemen sustain about 60% of the casualties. Another report of the Metropolitan Life Insurance Company, reproduced by the United States Bureau of Labor Statistics, shows that in *all* occupations 41.7% die between the ages of 15 and 44; but that 71.4% of enginemen and trainmen die between these ages.

It must be apparent that with such a high percentage of deaths by accident, the percentage of these workers who die by various diseases should be somewhat reduced, because a certain percentage of those dying by accident would inevitably have died by disease, if permitted to live longer. Nevertheless we find high percentages of deaths from tuberculosis and pneumonia (brought on by exposure and rapid changes of temperature); a high percentage of deaths from typhoid fever (caused by questionable water supplies) and a high percentage of deaths from heart disease (caused by physical over-strain).

The general medical examiner of the Brotherhood of Locomotive Firemen and Enginemen has reported that in 39 years' experience 30% of all deaths and over 65% of all disabilities have resulted from railroad *accidents*. He also reports that locomotive firemen are subject to cardio-vascular and renal *disease* far above the average in other vocations. This medical examiner also makes the startling statement that out of 4,882 rejections of Brotherhood men for insurance, on account of physical disability, 4,837 were because of physical defects due directly to service as a locomotive fireman. This is the

result of a recent 20 years' experience and it is significant that most of these cases of rejection occurred when only a year had elapsed since the employment of the fireman. The locomotive fireman usually joins the organization and applies for insurance shortly after he goes to work. The examiner points out that "these men were hand picked from the flower of American manhood. * * * * * the physical effort required to hand-fire locomotives today is beyond the power of human endurance and that in endeavoring to meet this physical requirement the heart, blood vessels and kidneys of hundreds of firemen are ruined annually."

The statement by the medical examiner summarizes some very significant statistics.

"It would seem that the excessive muscular exertion, and the exposure to all varieties of weather conditions, tends to exhaust the vitality and resisting powers of the locomotive fireman and render him more susceptible to zymotic or germ diseases. In 39 years there have been 1,497 deaths and disabilities due to tuberculosis, 1,369 due to pneumonia, 918 to typhoid fever, 601 to influenza and 618 to all other germ diseases, making a total of 5,002 deaths and disabilities out of a total of 17,921 claims. This is a rather remarkable condition when one considers the average age of membership is below thirty years."

The most serious vocational hazard of firemen is that of injury to the eye. Many men who would regard the loss of an arm or a leg or even loss of life with comparative calm, would shudder and shrink with horror



from threatened injury to the eyes. No more dreadful prospect confronts a human being than the possibility that the light will be shut away from him and that he may pass the rest of his life groping in a world of darkness.

Temporary or permanent injuries to the eye from exposure to excessive light are inevitable, especially when excessive light and excessive heat join in the attack upon the delicate structure of the human eye. The development of cataracts among glass blowers is so common as to have produced the term "glass blowers' cataract." The same disease manifests itself among locomotive firemen, especially those who have been on long night runs.

In addition to the effects of heat and light upon the eye, the enginemen are subject to an extraordinary menace of accidents to the eye through the bursting of a water glass or a lubricator glass; through being struck by a piece of steel; a piece of coal; a hot cinder and other flying fragments of mineral.

One of the most pitiful records that a man of human sympathies could examine is made up of the statistics of claims for total and partial blindness, which have been paid by the Brotherhood of Locomotive Firemen and Enginemen, caused by accidental injury or the gradual development of cataracts. Columns of figures and names are unemotional things. But the record of the "light that failed" for a long list of men, most of them in the prime of life, is a record of unmitigated tragedy that could not fail to impress any man of ordinary human sympathy.

Practically all firemen are required to take a physical examination, particularly in the matter of eyesight, and it is to be assumed, therefore, that the average member of the Brotherhood of Locomotive Firemen and Enginemen who applies for insurance had good eyesight when he went to work, or he would not have been employed. Yet we find, over a recent period of ten years, that the Brotherhood medical examiner was forced to reject 1,357 applicants for insurance on account of defective vision. The conclusion cannot be escaped that the vision of a large majority so rejected had been injured during a brief service as a fireman.



The hazard of a locomotive fireman's work is probably little understood, not only by the public, but by the young men who apply for jobs, with little consideration ordinarily of anything except the general conditions of work and the amount of wages to be expected. But after a man has been firing a locomotive for a few

months, the hazards of his work, as well as his possibilities of advancement, will become food for much thought. He will learn that promotion is slow; that many years will pass before he has a secure job that will pay wages upon which he can support a family decently. He will find that he is a bad insurance risk. He will see men around him suffering disabling injuries with alarming frequency. He will see even young men tossed into the scrap heap. He will see older men struggle with physical disorders, even seeking to conceal them, in order that they may hold their jobs and resenting physical examinations that may reveal their disabilities. He will see still older men pathetically seeking to remain in the harness, until such time as they may be able to give up physical labor, of which they are really no longer capable, and retire on a pension that will, at least, provide some food and shelter. About this time the young fireman will either begin looking around for another job, or he will begin agitating for better pay, or better working conditions in the job he has.

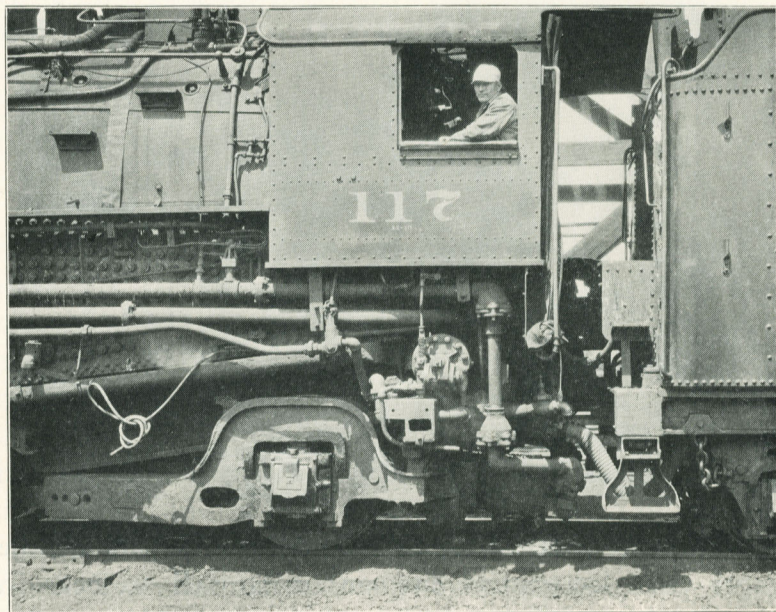
The younger men in the firemen's organization are always just as active as the older men in demanding improved conditions and better wages; and there is a reason. They have not reached the seniority which will assure them of even fair average wages. Also they have not reached the condition of "toleration," whereby human beings, after sufficiently long experience, somehow adapt themselves and become resigned to working and living conditions that at the outset seem intolerable. The young men are particularly full of hope and ambition. They are married, or want to get married. They want to look forward to a life that will be worth living. They are not willing to look forward to month after month of hard work and exposure to danger, to month

after month of over-strain of their physical powers, with only the hope that perhaps by the time they reach middle life they may be a little safer, a little better paid, a little more secure in their employment, but still unable to give themselves or their dependents anything that may honestly be called a comfortable existence. So the young men, at times even more than the older men, agitate for better conditions and for better wages, most of all for better wages, because somehow the average person is willing to undergo almost any hardship or suffer any risk if he feels he is being adequately paid for it.



For these reasons, in considering the matter of the wages paid locomotive firemen, it is well to bear in mind the hazards of the occupation. Some times stolid men, with little imagination, perform hard and dangerous work for small compensation. But a man intelli-

gent enough to be a locomotive fireman is not of the stolid, unimaginative type. He is bound to be a man who thinks and dreams a little. A man who has ambitions. A man who has his own standards of justice, his own sense of what is right and fair. That sort of man is certain to feel, and demand, that he be paid wages that are somewhere near compensatory for the service he performs, with due consideration for the daily strain on the mental and physical faculties and for the daily risk of loss of that bodily vigor which he must preserve, not only in order to do his work, but in order to enjoy life and, in the old phrase, to "pursue happiness."



CHAPTER VIII

Wages

It is not easy to present a clear picture of the amount of wages earned by a fireman, because there are such wide variations, not only in the rates of pay, but in the number of hours work per day which a man may perform and the number of days in the year during which he may work.

The Federal Eight Hour Commission reported:

"In no group of employments are average wage statistics more deceptive than in describing the earnings of train operatives. Not only is the range between highest and lowest earnings unusually wide, but daily, weekly, or even monthly earnings are a very unsafe index to an employee's annual income. Furthermore, the relation of nominal income to real income, after deducting what might be called occupational expenses, such as those occasioned by detention away from home, vary greatly in different branches of railway service."

The most recent, reliable report upon the earnings of locomotive firemen is that of the former United States Railroad Labor Board, giving annual earnings in the year 1923. Out of a typical group of 4,560 freight firemen, 345 earned under \$120 a year; 467 earned from \$120 to \$480; 635 earned from \$480 to \$1,200; 2,744 (a majority of the 4,560) earned from \$1,200 to \$2,400; 364 earned from \$2,400 to \$3,000; and 5 earned from \$3,000 to \$3,240.

The freight firemen are on the average a higher paid group than any other. Perhaps the following percentages may give a clearer picture of the average pay.

33% of *all* firemen earned less than \$1,200 a year; 27% earned between \$1,200 and \$1,800; 33% earned between \$1,800 and \$2,400; 7% earned over \$2,400—of whom a very few earned around \$3,000.

Since this report of the Labor Board an increase of about 5% in wages has been generally granted so that the following percentages represent wages in the year 1926:

Under \$1,200	30%
\$1,200 — \$1,800	25%
\$1,800 — \$2,400	36%
Over \$2,400	9%

Generally speaking, the younger men earn the smaller amounts. So that the men earning from \$150 to \$200 a month may be regarded as the men long in service; and the smaller percentage who may earn from \$200 to \$250 a month are probably all men who have at least qualified as engineers. The major number are undoubtedly demoted engineers.

It will be seen, therefore, that the rewards of the physical skill and mental ability and long training required to obtain the highest possible pay for a locomotive fireman, are not very great. But it must be at once pointed out that even the figures given are deceptively large. Although they represent the *gross* earnings of a fireman, they do not represent his *net* earnings because, in order to earn a steady income, a fireman is required, as a rule, to spend a great deal of time away from home and to incur expenses for food and shelter, which subtract considerably from his pay checks.

Careful studies made, from time to time, of actual expenses show that the percentage of earnings expended

for meals and lodgings away from the home terminal average about $12\frac{1}{2}\%$ of monthly earnings. The relation of the expense to the amount of wages is reasonable, because to a large extent the more a man earns, the more time he spends on the road and, therefore, the more time he spends away from home. Furthermore, it is natural in all walks of life that men will treat themselves a little better if they are making more money, and improved conditions of living are certainly a logical result of improved earnings. So we ought to revise our figures heretofore given by deducting $12\frac{1}{2}\%$, as follows:

30% earn under \$1,050
25% earn between \$1,050 and \$1,575
36% earn between \$1,575 and \$2,100
9% earn over \$2,100

If anyone likes to use an average, although averages are very deceptive, we may point out that 61% of the firemen earn between \$1,050 and \$2,100 a year. So



the "average wage" of the majority of firemen may be regarded as about \$1,575 a year; less than \$132 a month, or let us say \$31 a week.

However, a statement of what a fireman earns may be hastily assumed to mean a statement of what he is paid for working an eight hour day, and six days a week.

The eight hour law, which the public may imagine means eight hours of work, means only that the standard basis of pay is eight hours. But men may be worked as long as sixteen hours; the sixteen hour limit having finally been fixed by a federal law passed in 1907.

It is impossible to get a fair view of the wages earned by firemen without giving consideration to the number of hours worked. To compare a fireman's monthly earnings with the earnings of another worker who puts in $5\frac{1}{2}$ or 6 eight-hour days per week means absolutely nothing. The question is: How much does the fireman make for an eight hour day compared with another worker?

Some years ago certain railroads published the earnings of a few firemen and engineers to make the point that they were highly paid. But when these earnings were analyzed, it appeared that in fact these workers were very poorly paid for an eight hour day.

These statements are fully supported by the report of the United States Railroad Labor Board heretofore quoted. Out of the typical group of 5,756 road firemen reported upon, the four highest paid men received between \$3,120 and \$3,239 in the year 1923. These four worked the following number of hours:

Fireman A—over 3,840 hours equals 19 months of normal work.

Fireman B—over 3,600 hours equals 18 months of normal work.

Fireman C—over 3,360 hours equals 17 months of normal work.

Fireman D—over 2,880 hours equals 14 months of normal work.

Two firemen earned between \$3,000 and \$3,119. They worked the following hours:

Fireman E—over 3,360 hours equals 17 months of normal work.

Fireman F—over 2,640 hours equals 13 months of normal work.

Firemen A, B, C, D and E were the highest paid freight firemen and Fireman F was the highest paid passenger fireman. The following is what these men would have earned at the same rate of pay for a normal year's work of 300 days of eight hours:

Fireman A—less than \$2,046.36—deduct expense equals \$1,790.58 net earnings.

Fireman B—less than \$2,160.00—deduct expense equals \$1,890.00 net earnings.

Fireman C—less than \$2,206.30—deduct expense equals \$1,930.52 net earnings.

Fireman D—less than \$2,777.16—deduct expense equals \$2,430.02 net earnings.

Fireman E—less than \$2,188.20—deduct expense equals \$1,914.68 net earnings.

Fireman F—less than \$2,880.00—deduct expense equals \$2,520.00 net earnings.

Thus we find the *six highest paid men* in a hazardous occupation requiring skill, responsibility, intelligence and hard work, after probably twenty years' ex-

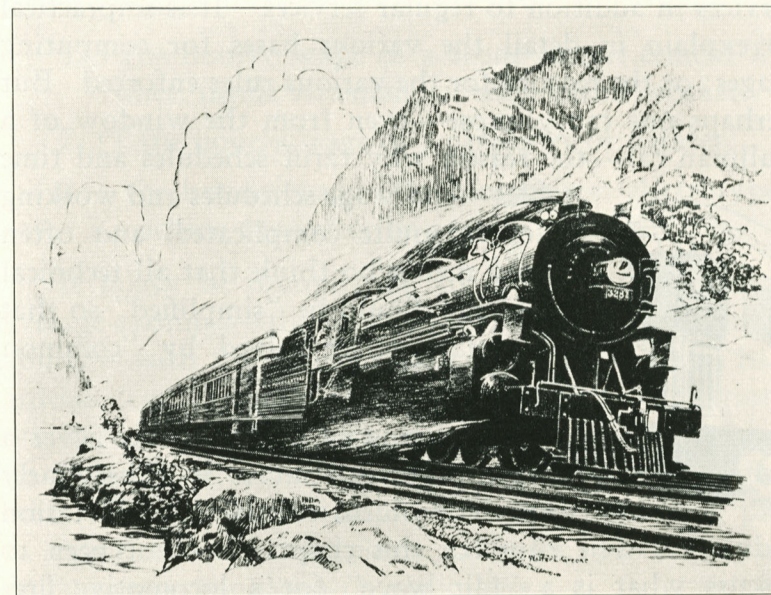
perience, making less than \$150 to \$210 a month—or about \$35 to \$50 a week for eight hours' work—six days a week. We say "less than" these amounts because pay of time-and-one-half for over-time entered into the total gross earnings so that if only an eight hour day had been worked at straight time these firemen would have earned considerably less than the mathematical percentage of total earnings which has been computed.

There are thousands of firemen who earn less than \$15 a week. There are thousands more who earn less than \$25 a week. There are thousands who earn between \$25 and \$35 a week. There are thousands who earn more than \$35 a week—but very few as much as \$50 a week. The lower earnings are not a test of fair wages because these are obtained for part time labor (usually of limited experience). The higher earnings are not a test of fair wages because these are obtained for over-time labor (always of long experience). To determine whether the wages of such a labor group as this are "fair" we should ascertain the earnings of the man of average experience working an eight hour day—not more than six days a week.

Persons unacquainted with railroad operation are apt to become impatient with the difficulties in the way of understanding wage computations and operating rules and to suggest "simplification" of wage schedules and rules. But if their attention is directed to the tariff schedules and time tables of the railroads, they may understand that the conditions of the transportation industry differ from all others.

This business is not conducted within four walls. Its operations cover thousands of miles. A fixed product is not being made. A service is being rendered—not to a group of customers but to millions of people. Traffic

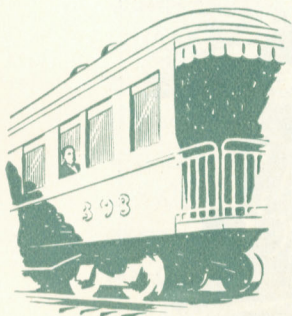
fluctuates not only by seasons, but from day to day. The number of passengers and the tons of freight to be transported cannot be accurately anticipated. Only averages and probabilities can guide the operators. The official force, itself scattered over a large territory, must constantly rely on the exercise of intelligent judgment by the employes (particularly those in train service). The conductor is in charge of the train as a whole. The engineer is in charge of the engine. The fireman is re-



sponsible for burning up coal which costs many times the amount of his wages. "I must have the good will of the enginemmen," said a railroad president recently; "they can save me a million dollars a year." In truth the good will of the employes is worth, in hard cash, as much as the railroads pay in dividends—and more.

The labor of feeding coal into a passenger locomotive running on a fast schedule is continuous and straining. The more miles covered in an hour the harder a

fireman must work. It is generally the miles and not the hours which measure his labor. But here is a great freight engine dragging a train half a mile long at the rate of ten or twelve miles an hour. The fireman is working all the time. It is usually the hours and not the miles which measure his labor. There are many varieties of service called for between these two extremes. There are through and local passenger and freight service, and yard service. There are some allowances for peculiar special services in addition to regular services. It is impractical to explain in detail the various bases for computing wages; or the reasons for the various rules enforced. But perhaps one can glimpse—even from the window of a Pullman car—the reason why tariff schedules and time tables—and wage schedules and working rules are quite complicated, and often annoy men who think that all technical problems should be “simplified” so that they may all be solved by “common sense.”



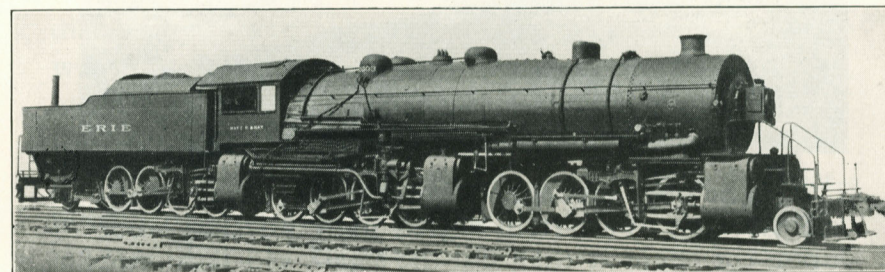
The fixing of fair wages is never a simple problem, but it is a peculiarly difficult problem in the transportation industry. The effort of this chapter has not been to discuss what is a “fair wage” for a locomotive fireman, but merely to give an idea of what the wages of firemen actually are. If an effort had been made to describe the wage schedules in detail and to explain the methods of computing wages and the reasons for all the working rules that affect wages, it would have been impossible to avoid confusing the general reader. What has been attempted has been to use authoritative figures that will show the really important fact—the amount of money which a man can reasonably expect to earn for

the support of himself and family if he becomes a locomotive fireman.

This amount is not very large today—as wages go. The average hourly wage of a locomotive fireman in 1926 bears approximately the following relationship to other occupations:

- $1/2$ the hourly wage of a bricklayer or plasterer.
- $5/8$ the hourly wage of a plumber or structural iron worker.
- $3/5$ the hourly wage of a stone-cutter, cement finisher, inside wireman, or sheet metal worker.
- $7/11$ the hourly wage of a carpenter or painter.
- $2/3$ the hourly wage of a compositor, electrotypist, machine typesetter or granite cutter.

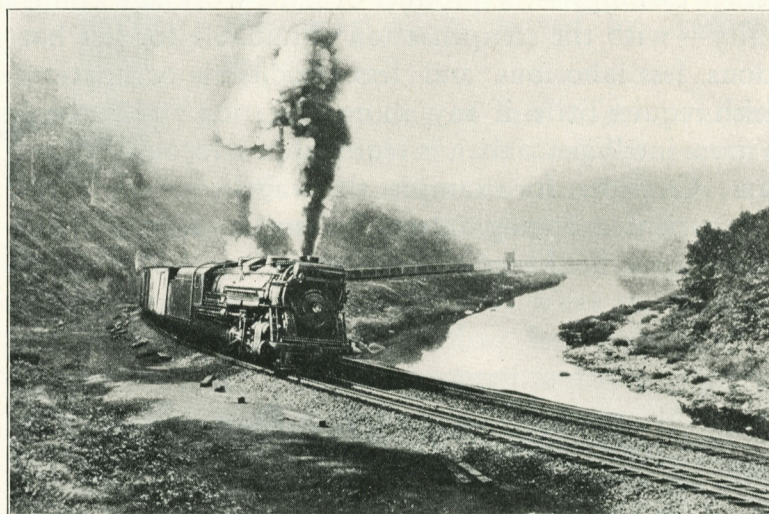
It might be illuminating to compare the fireman's average earnings—the product of hard work and trained ability—with the compensation obtainable for less hazardous, less laborious and less responsible occupations, which require little, if any, more education and certainly no more intelligence than is required of a locomotive fireman. Consider, for example, the wages commonly paid to experienced stenographers, salesmen, private chauffeurs, nurses, bookkeepers, and others.



The fireman of 1926 may have reached the "subsistence level" of wages but he is still a long way from the "comfort wage" described by President Harding as the just wage that will provide "for education, for recreation and a margin of savings."

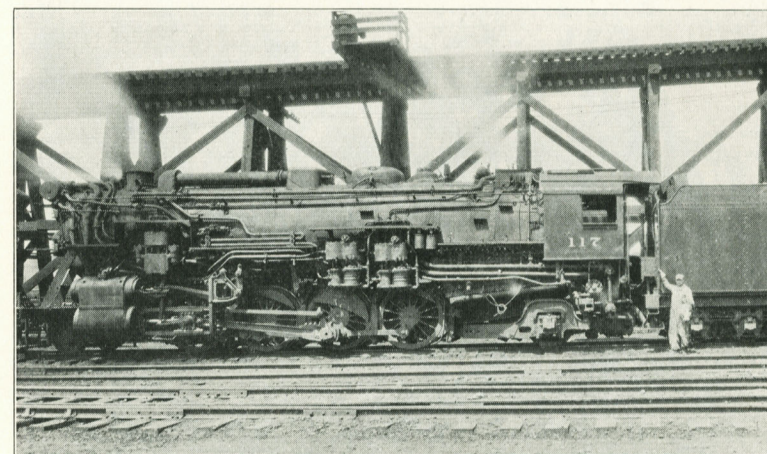
There is also to be considered today the large percentage of locomotive firemen who earn less than the "average wage" of \$31 a week. Most of them work less time than they are ready and willing to work. There is a smaller percentage who earn more. But most of them work longer hours than they are desirous of working and longer hours than should be imposed upon men who undergo the constant and severe strain imposed upon a fireman.

The attitude of the locomotive fireman is well set forth by an impartial student in the Eight Hour Commission report:



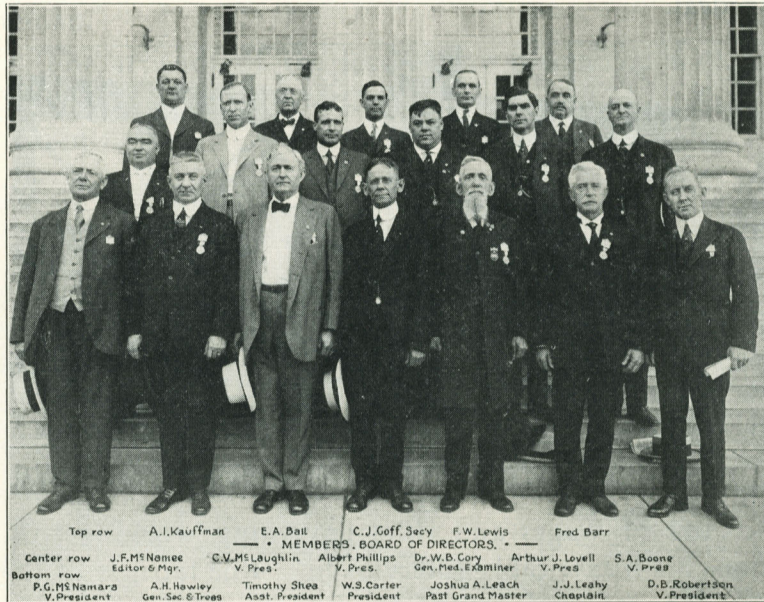
"The huge modern engine imposes more responsibility and, to a certain degree, more physical labor upon the engineer than did the small, old-fashioned

locomotive. But the relation between physical effort and the size of the locomotive and weight of the train to the *fireman* is immediate. His job is to shovel enough coal to keep a full head of steam. Just how engine capacity may best be measured is a highly technical matter; but on the general principle there is substantial agreement that the larger the locomotive the more arduous is the work of the fireman. Whether he shovels 10 tons of coal in a day's run of 10 hours, 20 tons in a period of 16 hours or is called upon to handle 7 or 8 tons within the space of 2 hours on a fast express, is to him a matter of great importance. Questions of physical overstrain and exhaustion are raised which differ from any of the problems with which the other brotherhoods have to deal."



Rates of wages and rules governing working conditions are inextricably interwoven. The fairness of the wage cannot be determined without a knowledge of working conditions. The fairness of the rules governing the working conditions can not be determined without a knowledge of the wage payment. The Brotherhood of Locomotive Firemen and Enginemen, representing the firemen, helpers, hostlers and outside hostler

helpers, has been waging a steady warfare against a combination of excessive labor and inadequate wages. At the same time this organization has been supplying its memberships with protection for their lives and their livelihoods and with incentives and satisfactions that are most valuable in preserving their interest in their work and their interest in being what may be broadly described as "good citizens."



Officers—1919

CHAPTER IX

Self-Organization

THE Brotherhood of Locomotive Firemen and Enginemen is in a very real sense a fraternal organization. The preamble of its Constitution is not a mere formal statement but expresses the living spirit of the organization which animates the triennial convention of elected delegates (the supreme authority of the organization) and controls the action of the officers who are selected to enforce the laws and to put into effect the policies established in convention.

"Preamble

For the purpose of uniting Locomotive Enginemen and Hostlers, elevating their social, moral and intellectual standing, for the protection of their interests and the promotion of their general welfare, the Brotherhood of Locomotive Firemen and Enginemen has been instituted as an international organization; having as one of its aims the desire to cultivate a spirit of harmony between employer and employe. Realizing that our vocation involves ceaseless peril, the necessity of making suitable provision for ourselves, our families and those we feel obligated to aid, against those disasters which almost daily overtake us, and of extending to each other the hand of charity, becomes self-evident, and hence the Brotherhood has adopted as its motto:



Protection
Charity, Sobriety
and
Industry."

For the information of those not acquainted with the usual forms of trade union organization, it may be explained that firemen join the Brotherhood through a local organization called a "subordinate lodge," which is chartered by the central, international organization. This local lodge is self-governing within the laws of the Brotherhood and is, generally speaking, the original source of the policies adopted and authority vested in Brotherhood officers. Each local lodge elects a delegate to the Grand Lodge Convention, which meets every three years and exercises supreme and complete authority, revising the constitution, adopting policies and electing officers who serve until the next convention as the executives to carry out its directions.

In order to fulfill the purposes expressed in the preamble of the Constitution, several departments have been set up in which the activities of the subordinate lodges and of the Grand Lodge officers are co-ordinated.



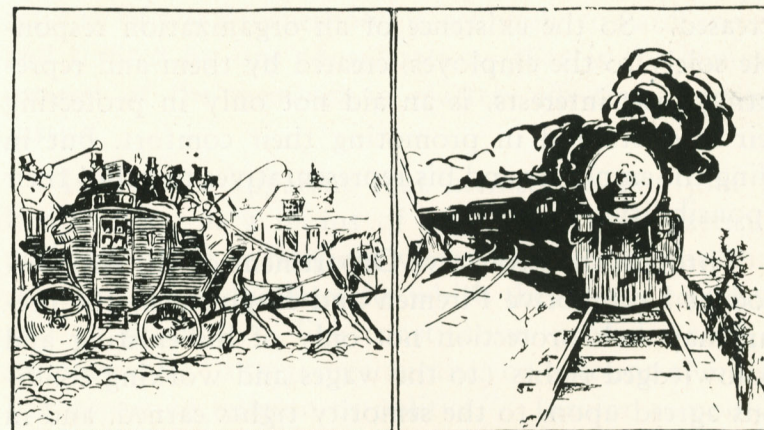
A General Grievance Committee

In the PROTECTIVE DEPARTMENT, provision is made for protecting the members in their employment relations. Each subordinate lodge elects a "local grievance committee." Out of these local committee chairmen are organized "general grievance committees" to represent the entire membership on a railroad in controversies with the management. These general griev-

ance committees can be federated into associations for action in a geographical district or for a concerted movement regarding wages and rules either in a district or nationally.

Through these committees protection is given to the individual member and to groups of members against all forms of unjust treatment. The individual member may suffer from unfair discipline or improper computation of wages or through a misinterpretation or misapplication of the agreement governing payment of wages and working conditions. Groups of members may seek relief from what they regard as unfair interpretations or applications of the existing agreement or they may seek to have changes made in prevailing working conditions or rates of pay. The Protective Department of the organization is the means for satisfying these needs.

The conditions of work on the railroads are constantly changing. The general development of the transportation industry, the development of particular railroads, the effect of mechanical improvements, the effects of social and industrial changes resulting in new traffic conditions; these and similar factors are at work altering the conditions of employment from day to day. New



Stage Coach Travel in 1750

A Modern Express Train

rules will be proposed by management and employes to meet these changing conditions. New wages will be proposed as social and economic conditions change and as the amount of service rendered and the measures of compensation change. For the efficient, economical and harmonious operation of the great transportation machine (that is "95% human," according to the president of a great railroad system), it is necessary that there shall be constant readjustments in wages and rules. Also it is inevitable that in the employment of thousands of human beings to work in an exacting service under the direction of other men, there will arise an infinite variety of minor disagreements.

If the individual employe felt himself helpless or dependent upon favor to gain a fair consideration of his problems, his needs and his legitimate interests, his discontent with his work would be constantly aggravated. If the employer, on the other hand, were required to meet his problems without the aid of dealing with genuine representatives of employe interests, his responsibility in deciding in a paternal manner what is "good for the other fellow" would be increased. At the same time his temptation toward natural human favoritism would be increased. So the existence of an organization responsible solely to the employes, created by them and representing their interests, is an aid not only in protecting their interests and in promoting their comfort, but in aiding the employer and his representatives to fulfill their responsibilities.

Through the Protective Department of the Brotherhood of Locomotive Firemen and Enginemen, the fireman may seek protection not only of his existing and acknowledged rights (to the wages and working conditions agreed upon, to the seniority rights earned, and in

general to fair treatment in accordance with previous understandings) but also he may look forward to improvement of working conditions and wages, to a more tolerable and more profitable employment, coincident with progress in the industry and with a rise in the general welfare.

The work of the Protective Department of the Brotherhood is supplemented and broadened in the work of the LEGISLATIVE DEPARTMENT. Provision is made for the creation of legislative boards in every State in the United States and a similar board in the Dominion of Canada. There is also a National Legislative Board, composed of the chairmen of the State Legislative Boards and headed by a vice-president, the national legislative representative. Through these means the membership of the organization is able to express itself in favor of legislation which is desirable and in opposition to legislation which is undesirable, according to the interests of the members *as workers* and is able to exercise a similar, intelligent judgment regarding candidates for public office. The political activity of the Brotherhood is definitely toward one end and limited by one consideration; that is the common interest of the members in matters affecting *industrial justice*.



It is quite apparent that firemen do not join the Brotherhood as a means of expressing their particular political, social or religious views, but because they have common, economic interests which they desire to protect and to promote. The constitution provides that no member shall "antagonize another on account of his belief respecting religion or politics." Insofar as political

action may affect their economic interests, they have a common basis for political action and the Legislative Department is organized as the necessary machinery for safe-guarding and advancing these common interests so far as there may be hope of improvement or threat of injury to them through political action.

Although the activities of the Protective and Legislative Departments of the Brotherhood are of great importance and attract much public attention, those Departments which have been established to insure the individual fireman and his family against the hazards of his work and the unescapable hazards of life itself also have great importance with the members of the Brotherhood. These departments emphasize particularly the fraternal character of the organization.

The BENEFICIARY DEPARTMENT provides insurance to be paid upon the death of a member to his designated beneficiary, under nine classes of certificates, providing for payments of from \$500 to \$4,500. It is not even necessary to die to obtain the benefit of this insurance, because when the insured suffers the loss of a hand or a foot, or of the sight of one eye, or reaches the age of 70 years, he receives the full amount of his beneficiary certificate.

The Brotherhood of Locomotive Firemen and Enginemen has \$150,000,000 of insurance in force, and in the year 1926 paid out nearly \$1,650,000 in death and disability claims.

In this connection it should also be stated that the funeral expenses of even a non-beneficiary member are taken care of.

Then there is the RELIEF DEPARTMENT of the Brotherhood, through which provision is made that a member, permanently disabled from performing manual

labor on account of various diseases and accidents to which firemen are particularly susceptible, is entitled to receive \$50 a month so long as he lives and remains so disabled. Provision is also made (of a character which no insurance company could provide) for action by the Board of Directors of the Brotherhood granting "relief allowances" for needs that do not come within the "claims" payable under the laws of the Brotherhood. Thereby a sum not exceeding \$50 a month for a period to be fixed by the Board, may be paid to members whom the directors may regard as fairly, although not legally, entitled to aid.

There is also relief afforded to members disabled on account of consumption of the lungs when a change of climate or other form of treatment may be found necessary. For this a sum not to exceed \$100 per month will be paid, provided the afflicted member shall enter and remain in an established, supervised sanatorium of *his own selection*, but approved by the general secretary-treasurer. This allowance will be paid directly to the sanatorium, but in addition the member will be paid \$15 per month for personal expenses. On the other hand, if sanatorium treatment is not obtained, a payment of \$75 per month will be made to the member. These consumptive allowances continue so long as members are afflicted. Sanatorium payments continue so long as members are under treatment and are taking the care necessary in attempting to arrest the disease.

More than one-half million dollars annually is paid to members from the Relief Fund.

Next should be considered the ACCIDENT INDEMNITY DEPARTMENT, which issues policies to members between 18 and 60 years of age, providing for weekly indemnities (not to exceed $\frac{3}{4}$ of average weekly income)

and for the payment of a principal sum of \$1,000 or \$2,000 in the case of death or loss of a hand, a foot or the sight of one eye.

The Accident Indemnity Department has been in operation only a few years, but it is rendering wonderful aid to the members who participate therein.

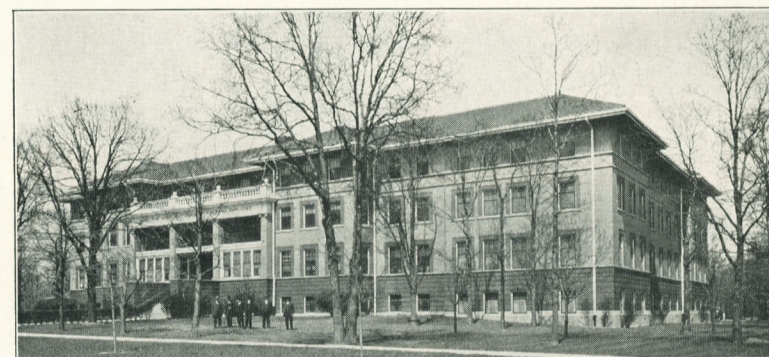
The Brotherhood has also established a PENSION DEPARTMENT to which members under the age of 40 years are eligible, provided their monthly compensation exceeds \$60. On two occasions, Conventions of the Brotherhood have opened the way, through special dispensation, effective for a period of six months, for the admission into the Pension Department of members under the age of 60 years. Any member of this Department who, after two years' membership, is permanently disabled from working in engine service, either from physical or mental cause, will receive a monthly pension and all members retired from active service on account of age, or who have attained the age of 65 years and elected to retire, are entitled to a pension. It is interesting to note that no member is entitled to a pension for "disability caused while under the influence of intoxicants or narcotics or while participating in war, riots, disreputable or unlawful acts." The amount of the pension paid depends upon the length of time during which pension assessments have been paid by the beneficiary, rising from a pension of \$30 per month after paying assessments from two to five years, to \$70 per month for a member who has paid assessments for more than 40 years. The assessment, by the way, is only 50c a month for a member entering between the ages of 18 and 30.

Thousands of the members take advantage of the additional form of insurance provided by the Pension Department. A member may participate in the Pension

and Relief Departments and receive benefits from both funds, if his disability comes within the laws governing the respective departments.

The WIDOWS' PENSION DEPARTMENT, effective January 1, 1926, provides for a pension of \$35 per month for the widow of a member so long as she does not re-marry.

Finally, mention should be made of the BROTHERHOOD HOME for Aged and Disabled Railroad Employees, which is maintained at Highland Park, Illinois. In ownership and cost of maintaining the Home, the Brother-

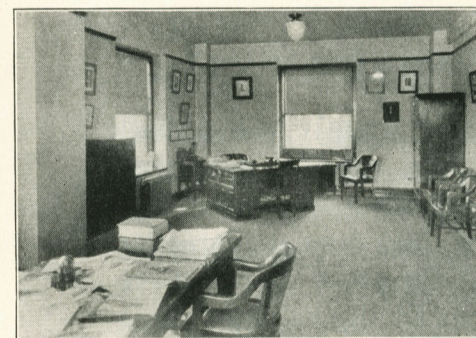


hood of Locomotive Firemen and Enginemen is equally interested with the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen. Here is provided that last measure of relief for the living, a home for the old and crippled worker whose days of self-support are over and who is alone in the world.

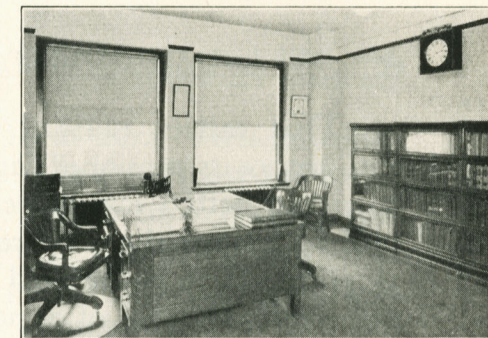
Reviewing the various activities of the Brotherhood of Locomotive Firemen and Enginemen, it should be obvious that here is carried on, without profit, an enormous business, whereby a great group of workers protect themselves and their families to a large extent against the hazards of their life and work. They perform a real

social service by insuring that they shall not become charges upon society. They provide protection for themselves and for the communities in which they work and live, at the lowest possible cost, by eliminating all profit-making from the furnishing of protection. The finances of the Grand Lodge of the Brotherhood have been built up to provide the necessary reserves to protect the insurance of the members. The books and records showing the collection and payment of millions of dollars each year are not only open to the entire membership, but the details of the collection and payment of every dollar of these vast funds are audited by expert accountants and published regularly so that each member may know where every dollar came from and how every dollar is spent.

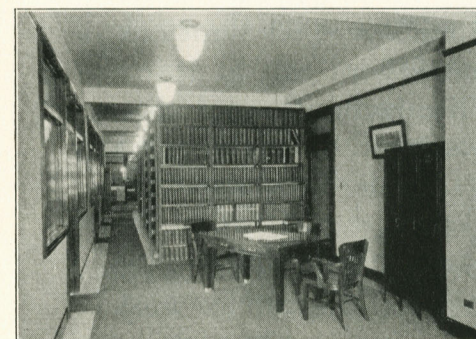
It is not surprising that self-respecting and intelligent workers, organizing for self-protection and self-advancement, assessing themselves for their own welfare, collecting and distributing several million dollars a year with exact and detailed accounting to themselves, working together and paying together to protect their own lives and the lives of those dependent upon them—it is not surprising that such men distrust and reject suggestions that their employers or other persons over whom they have no control shall provide insurance and pensions and other necessities for them. The members of the Brotherhood of Locomotive Firemen and Engineers decide what they want to get from their own organization. They pay for it. But they see that they get it. They know that, no matter what is offered them from other sources, in the end they will pay for it, but with control in their own hands, they will be able to decide just what they shall get, and to make sure that they get all that they pay for.



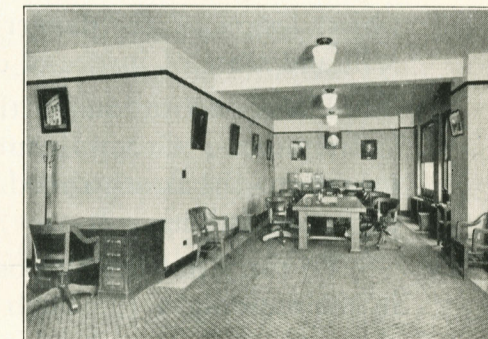
President's Office



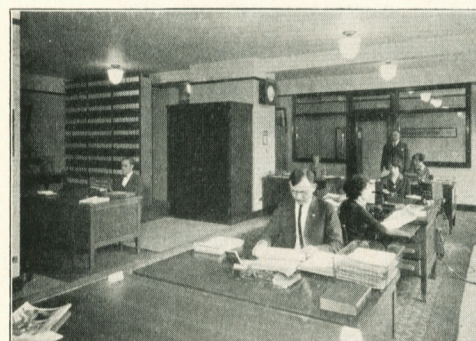
Assistant President's Office



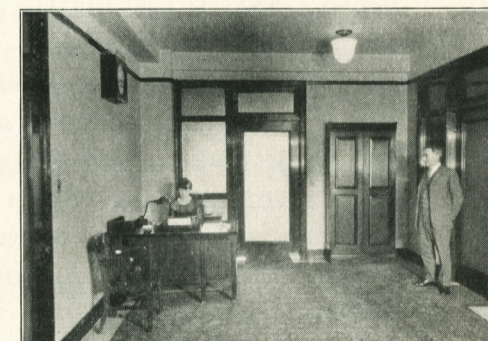
Reception Room



Board of Directors' Room



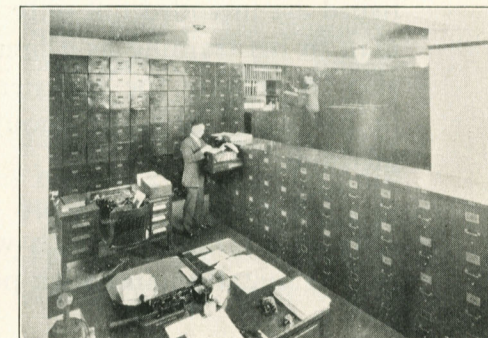
General Correspondence Room



Chief Clerk's Room



Statistical Room



Filing Room

That eastern railroad which recently called back into service its pensioned enginemen, penalizing a refusal to return with a loss of pension, throwing retired firemen back upon the resources of their own organization to protect them in their old age, furnished an object lesson worth volumes of argument of the value of "self-organization" to men who work for a living and an object lesson of the danger of relying upon the goodwill and sense of justice of other men.

The Constitution of the Brotherhood states that, " 'Employer's Group Insurance' will be considered a menace to the Brotherhood." This is the voice of experience speaking.

To carry out the purpose of the organization to aid in maintaining a thorough understanding of its work throughout the membership, there has also been established a MAGAZINE DEPARTMENT, which issues an official monthly publication. The Editor and Manager of the Magazine is an elected officer and in this official publication appear all notices of assessments and other notices and reports which are thus officially communicated to the entire membership to whom the magazine is sent. Every month a large amount of technical material is published to keep the firemen well informed regarding technical and mechanical progress in the industry which otherwise it would be difficult for him to follow. The articles published are intended not only to aid the inexperienced fireman in his training as a fireman and as an engineer, but also to prepare the experienced man for those changes in his work brought about by new devices and new methods.

Through the magazine, firemen in all sections of the country are kept in touch with the general activities of the organization and with political, industrial and social

developments of special interest to them. Thus the coherence of the organization, its unity of purpose and a well informed common understanding of common problems, are maintained. The amount of interesting material of a general nature which is published in the magazine, alone gives it great value to the members of the Brotherhood. On top of this the technical information and the statistical material, reporting the efforts and accomplishments of the organization and accounting for the expenditure of funds, makes the publication truly indispensable. The Constitution requires the publication of a magazine of not less than 48 pages and the fact that the publication is usually twice this size gives indication of the amount of available material and its interest to the membership.

The Brotherhood also joins in the publication of "Labor," a weekly newspaper, published in Washington, which goes to every member of the organization and is read by practically every railroad employe in the country. Here is a most valuable means of obtaining and maintaining a common understanding and harmonious action in regard to the interests of labor in the transportation industry.

A volume could be written in an attempt to describe adequately the activities of the Brotherhood. Only a superficial outline is possible within the space of this chapter. Some mention should be made of the Employment Bureau maintained to provide work for unemployed members. The organization policies deserve a long review. Here is an organization supporting the proud claim that it has never broken a contract, rigidly disciplining its members for violation of obligations to each other, or to the organization, or for violation of obligations assumed by the organization. One article

of its Constitution, covering some 17 pages, provides for "charges, trials and penalties," whereby the members of this organization, containing more men than live in



"Labor" Building—Washington

many of our large cities, have set up their own courts and their own rules of procedure for self discipline; and have also provided that no member or subordinate lodge

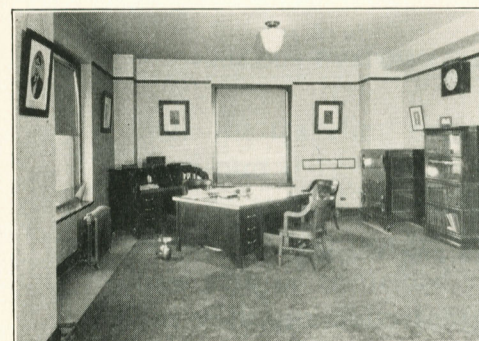
shall resort to the civil courts to redress a grievance or to secure rights until the remedies provided in the organization laws shall have been exhausted. Here is an organization providing standards of conduct for its membership, providing for the expulsion of men found guilty of drunkenness, immoral practices, improper treatment of family or "other conduct unbecoming a member"—not only providing the standards, but enforcing them, in order that a fireman may take pride in himself, in his work and in his organization and may demand that respectful consideration from others, to which a man is entitled who sets and maintains for himself a high standard of personal conduct.

In concluding this brief review of the work and purposes of the Brotherhood of Locomotive Firemen and Enginemen, it should be pointed out that all this work is financially supported by payments which are necessarily deductions from the wages earned by firemen. These payments of dues and assessments, payments for the protection of fair working conditions, payments for the protection of the worker and his family against accident and disease, even the smaller proportion of payments which go to the improvement of wages and working conditions, are in a real sense "occupational expenses," which might have been properly deducted from the wages computed in the previous chapter. These expenses were not deducted principally because the wage earner must determine for himself the extent and character of the deductions which he feels he should make from his own income to protect his livelihood and to advance his interests. Nevertheless, some consideration should be given to these payments in determining a fair wage.

Self organization is a necessity for the modern

worker. Chief Justice Taft wrote accurately in a recent opinion of the Supreme Court of the United States that labor unions "were organized out of the necessities of the situation. A single employe was helpless in dealing with an employer." The Federal Eight-Hour Commission report, referring to the mistaken notion that railroad workers as a class are highly paid, pointed out, regarding those who were best paid, that "this compensation they have attained by the most compact and complete organization handled with a full appreciation of all strategic values." The long struggle of the locomotive firemen to raise their wages above the mere subsistence level gives ample evidence of the necessity for their self organization. The large returns in health and comfort which the firemen have obtained from their organization demonstrate its value to them.

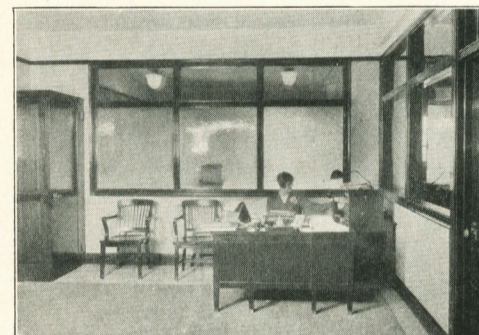
These men use their organization not only to protect and promote their own interests, but also to protect and promote the common interest of all the members of a community in eliminating social charges resulting from the hazards of industry and from the inevitable breakdown of the human machine. So it is fair to say that the Brotherhood not only makes for the good citizenship of its members, but also is a social agency which is a powerful force in conserving and promoting the general welfare.



General Secretary-Treasurer's Office



Chief Clerk and Cashier's Office



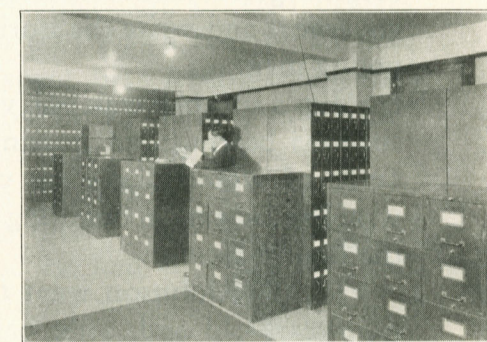
Reception Room



General Medical Examiner's Office



Stock Room



Filing Room



Magazine Editor and Manager's Office



Magazine Mailing Room

CHAPTER X

One Fireman's Life and Work

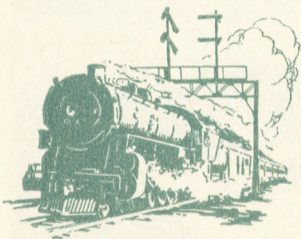
NOW after a long introduction, here is a short story of the life and work of a locomotive fireman.

Once upon a time there was a young man named Jim Johnson who applied for a job as a locomotive fireman. He was twenty years of age. He had stopped going to school when he was fourteen because his father, who worked in the railroad shops, only made \$15.85 after working ten hours a day for six days a week. His father was not very strong, so he could not work sixteen hours a day, the way the men do who become great manufacturers and bank presidents and governors and write the stories of their lives to encourage young men.

Jim's mother was not very strong either and while she was bearing and nursing and training six children (two of whom died) she did not feel able to take in washing or run a boarding house or otherwise add to the family income.

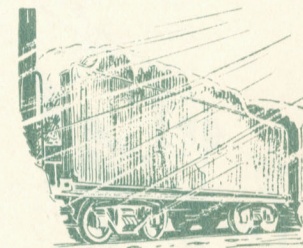
So, Jim Johnson went to work when he was fourteen years old and, after being a newsboy, a messenger boy, a shipping clerk and working with a road gang, he decided that it would be great to sit in the cab of an engine and to ride through the country waving his hand to people at the highway crossings.

Jim Johnson was tall and broad and strong and had good eyes, so he was given a job and started in to learn to be a fireman. This was in the year 1910 and



when the traveling engineer employed Jim Johnson he asked him if he would stick on the job or quit after a week or two. The traveling engineer said he had employed 240 firemen in the preceding six months and less than fifty of them had stayed for sixty days. He told Jim Johnson that if he was afraid of hard work and was looking for an easy job he had better not try to become a fireman.

Jim had a lot of pride, so, after he had told the traveling engineer that he would stick, he went to work with his jaw set tight. But it did seem to him for a long time as though the railroad company was doing its best to make him quit. He started firing in the winter and after he had shoveled one or two tons of coal an hour during trips of from ten to fourteen hours, sweating and straining in front of the firebox, and after he had crawled out on the tender into a temperature of two degrees below zero several times to pull down coal or to take water, and after he had spent his "leisure moments" leaning out of the cab window into a freezing raw wind, squinting for signals—after days and weeks of this sort of thing—oh, how he longed for the gentle spring time! But when the summer came and he had to shovel coal in heat that would fry an egg, with the thermometer far away "in the shade" running from 90 degrees to 100 degrees, it seemed that he would give a lot for a few cool breaths of winter wind. But Jim Johnson stuck to the job, largely because his pride had been aroused and he was ashamed to quit.



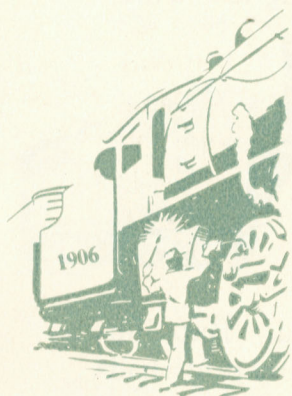
Jim was living in a city remote from his home town. He roomed with two other firemen, and together they bought some books from a correspondence school, and

some others specially recommended to them and, when they weren't too tired, they studied locomotive operation and railroad practice and air brake mechanics in preparation for the first year mechanical examination. Jim had expected to send a little money back home, but with a pay check that didn't average \$11.50 a week he could not seem to lay enough aside to make it really worth while; although sometimes he sent a postage stamp to mother to emphasize his request that she would "write soon."

Jim Johnson passed the first year mechanical examination in good shape. He kept on firing and passed the second year examination. After four years' work he took the "third year examination," consisting of several hundred questions, which required five days to answer in writing. He had lost one of his room-mates, Fred Stone. The year before Fred had failed to pass the eye examination, although when he began firing he had perfect eyesight. The thought of what two years of firing had done to Fred Stone's eyes used to worry Jim

when he got a hot cinder in his eye or when, after facing the glare of the fire-box for long hours on a night run, his eyes would ache and blur the following day. Sometimes Jim wished he were working at a job where he would not always have the feeling of impending danger, especially danger of hurting his precious eyes. But he was young and he did not worry long.

Jim's second room-mate, Joe Beeson, failed sadly on the final examination. Joe had the reputation of being a good fireman, but he never was much on "book learning" and somehow he never could absorb all that long-worded stuff about valves and pressures and



the complicated mechanical construction of a high-powered modern locomotive. After Beeson failed he was very gloomy. He thought the "boss" didn't like him and when he explained his feelings more precisely he was "given the air." "Lucky Joe," they called him years afterward when he "struck oil" in Oklahoma.

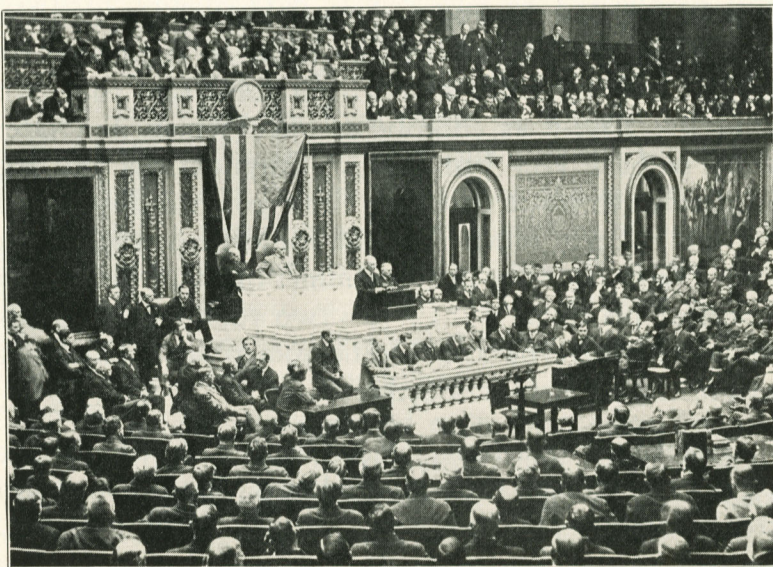
So Jim Johnson, after four years' hard work as a fireman, had qualified himself to become an engineer. He felt that he had not done so badly. He was not making much money. Sometimes \$15.00 a week, sometimes as much as \$20.00, sometimes less than \$15.00. But now he was on the way to promotion. He had made good as a fireman. He had educated himself and passed examinations showing that he was qualified to be an engineer. Not bad for a young fellow of twenty-four.

Jim Johnson was very fond of a certain girl. He had been going with her quite steadily for a year or so. Now he had lost his room-mates. He had jumped the big hurdles and was on his way to be an engineer. He was not making much money, but folks said that two could live nearly as cheaply as one (which Jim later found to be a very bad joke). Anyhow, he and the girl decided to try it together. The girl had a little job that did not pay much; but she could keep working at it for a while. So, in the summer of 1914 Jim had a "home of his own" . . . two rooms in a boarding house where he and Mollie sometimes spent three days or nights a week together.

Just about this time somebody shot somebody else in a place in Europe that Jim had never heard about and after a while some "big men" started a war about it. Before long the "big men" all over Europe were having

a big war and prices in America began to go up. But wages on the railroads did not go up and Mr. and Mrs. Jim Johnson had a terrible time making both ends meet. Along about this time Jim read an editorial in a "big newspaper" which said that the railway employes were among the "highest paid workers in America" and criticised them for listening to "agitators" who made them discontented with their high wages and made them ask for higher wages, which, the editorial explained, the railroads could not afford to pay.

There was a meeting of the firemen's lodge to which Jim belonged a few nights later and on Jim's motion the secretary was directed to write the editor of the "big newspaper" about the amount of pay which Jim and the other locomotive firemen were really getting. Jim thought that maybe the editor would print another editorial explaining that he had been mistaken. Probably the secretary did not write a good letter. Anyhow it was not published.



P. & A. Photos

Prices kept on going up and wages bought less and less and then in 1917 the United States entered the World War. A lot of Jim's friends volunteered. Jim thought he ought to volunteer. Jim talked it over with Mollie. He tried to persuade her that she would have as much to live on if he were in the army as if he kept on working for the railroad. But Mollie could not see it that way. She was thinking not only of herself but of little Jim and of the probability that there would be another little one. She said that, if the railroad men insisted, they could get better wages, although the "big men" were all saying this would be "unpatriotic." Mollie was quite radical. She used to ask Jim if it was patriotic for him to starve his family, which stirred Jim up a great deal.

Jim sat down and wrote a letter to the President of the Brotherhood of Locomotive Firemen and Engineers in which he said "The run I am on pays me about \$21.00 a week. Before the war was started, I could just get along on that amount, but now with everything sky-high, it is impossible." Then he listed his expenses: Rent, coal, food, clothing, the bare necessities of life. Nothing left for doctor's or dentist's bills. How could he keep up his insurance? "Meat," he wrote, "we do not see very often and when we do it is the cheapest that can be had." He could not buy much butter at 46c a pound or eggs at 50c a dozen. He was in debt about \$200.00 and he wanted to know just how long this condition would last. He thought about his friends too, because he added, "The boys that are getting \$15.00 a week must be pretty near down and out."

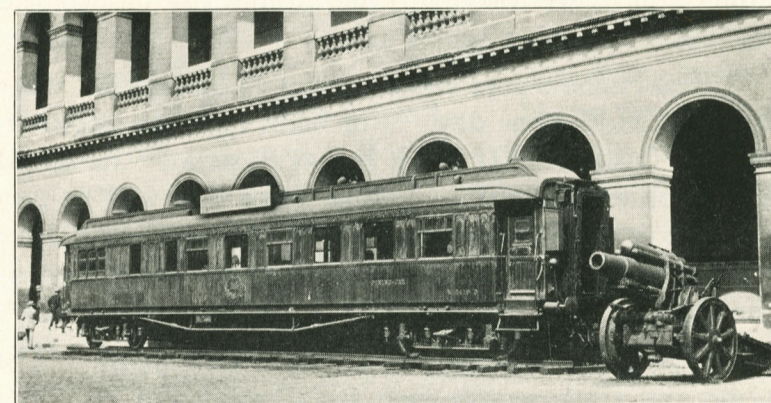
From all over the country firemen were writing to the officers of their organization demanding that something should be done to make it possible for them to live

and to support their families. Just about this time the general superintendent on Jim's road sent out a bulletin to the employes calling attention to the terrible conditions of transportation and saying: "No inconsiderable part of this condition arises from the loss of transportation due to thoughtless and indifferent employes. We have every evidence that the actions of indifferent and careless men are not approved by the great majority but more decided action is necessary to bring home to the offenders the seriousness of their offenses. The railroads are being operated for the general good, without thought of individual profit, but in the interests of our country and the great struggle in which we are involved."

The railroad men, like Jim, who received this bulletin swore fluently. Thousands had volunteered. Thousands had gone in the draft. Ten thousand of the firemen's Brotherhood were under arms. The rest were earning less than the cost of living, were running in debt and trying, with the handicap of thousands of inexperienced, underpaid new employes, to keep the transportation machine going. The old employes were in no mood to be lectured or to be made the scapegoats for managers who didn't seem to appreciate the amount of effort the men were contributing already to operate the railroads "for the general good."

The Government took over the railroads and brought order out of chaos. Jim's wages were increased by Government order about half the amount which the general manager of his road said he ought to get. But he was a little proud of being underpaid. "I'm doing my bit," he said, "even if I can't fight." But sometimes when he heard himself called a "labor profiteer," he would clench his fists; and as his debts increased he

sometimes thought it might be better to "take the cash and let the credit go" as did the men who were really profiteering.



Car in which Armistice was signed

Then the war ended and Jim and Mollie celebrated Armistice Day, figuring out that if prices went down and Jim didn't get pushed too far down the seniority list (on account of older men coming back from military service), they would get out of debt in a year or so. But prices went up instead of down and for a year and a half Jim struggled along with less pay and higher prices until finally in 1920 he got an increase of \$1.00 a day, enough money, he figured, to pay his debts in a year; and after that there would be better times ahead. And then—a year later half this increase was taken away.

A few months later Jim had an accident. He had been hurt many times before. But this time it was his right wrist. "Cracked the bone," said the doctor. "You've got to take care of that or you may have a poor wrist for life." That was bad news to a fireman and a prospective engineer. Jim stayed home and helped Mollie with the kids. Little Jim had been sick

and now Jane was in bed and Mollie was a tired woman. Seven years of married life had been no picnic for her. She was only twenty-nine but she looked nearer forty. It hurt Jim to see the tired lines around her mouth and eyes.

"Mrs. Nichols says there's going to be another wage cut," said Mollie one day. Jim hadn't spoken about it. His face flushed. "If there is, we'll strike," he flared out. Mollie looked sick. "Just when you will be getting back to work?" she suggested. "Maybe," said Jim; "I hope we won't have to; but we can't stand for another cut." "No," she said; "I don't see how we can."

Fortunately for Jim there wasn't any strike. The engine and train service men stood solid and the "big men" who had announced that labor must be "deflated" decided to "deflate" some of the workers who were not quite so solidly organized. So it was the shopmen instead of the enginemen and trainmen who had to strike against the second cut in wages and Jim was able to go back to work when his wrist healed. Then luck seemed to come his way for the next four years.

In 1925 Jim Johnson had been working for fifteen years as a fireman. He was high up on the seniority list. He had a good run and was making over \$35 a week. Even when he deducted his away-from-home expenses he could count on nearly \$140 a month and a little better was in sight on account of a 5% increase in wages that the firemen had just been granted after a year of negotiation. Several times during that year the fear of a strike had been very close. Jim didn't want to strike. But he told Mollie that he had to think of the thousands who were worse off than he was—"We're easier now," he said, "but we've got to think of the fellows who are going through what you and I went through." "You're

right," said Mollie, biting her lip. She was really thinking about little Jim and Jane.

Then one day Jim came home with a queer look on his face. "What's happened?" asked Mollie. "I'm promoted," he said. "You're going to be an engineer at last," she cried. "Yep," he said. "I'm going to be an engineer. Gosh! How I dread it!" He sat down slowly like a tired old man. But Jim was only thirty-five. "You see," he explained, "it's like starting all over again. I'll go on the 'extra board.' I won't have a regular run. I can't tell how much I'll make. Lots of 'em don't make as much as a regular fireman. When traffic goes down and engines go out of service, I'll be shoved off the extra board and have to go back to firing as a demoted engineer—pushing down the senior fireman. We've got a tough time ahead old lady. I hope that \$162 in the savings account will see us through." "I'll have to tell Jimmie he can't go to that boy's camp next summer," said Mollie. "We may need the \$100 that Uncle Henry left me." "I'm afraid so," said Jim.

"Must you take the promotion?" asked Mollie.

"Sure," he answered, "you know the rule. Well, let's not worry. I've got my health. I've got you and the two kids. I'm beginning to be an engineer—after fifteen years. I'm better off than the average. Guess I'm ahead of the game. But it's a slow game, Mollie. Even when you're lucky it's a long, hard pull up-grade . . . and not much of a view at the top of the hill."

"We'll find something better for little Jim," said Mollie.

"You bet we will," he agreed. "I won't put him in this game unless they change the rules and increase the stakes a lot before he goes to work."

And so, as he is about to become an engineer, we will leave Jim Johnson, the fireman, who has played the game well and who has won the reward of long and hard and faithful service. We will leave him "looking ahead"—estimating his own future and planning for the future of his boy.

