be understood that when the oil is poured over the packing it must be equally distributed to cover the entire surface of the packing contained in the storage tank. The oil rooms should be kept clean and free from dust and other foreign matter, and no dry waste or wiping towels allowed to be carelessly thrown in or mixed with the packing.

In addition to these tanks, it is necessary to have a metal container to hold rolls that have been made up of dry waste, after which they have been submerged in oil. These rolls to be used without carrying much oil, or in other words, moderately dry, in order to have same ready to apply to boxes as needed. The standard dimensions of these rolls is two and one-half inches in diameter by about eleven inches in length. These rolls assist in better excluding the dirt in the back of boxes as well as holding the oil in the box.

A standard dope bucket should be used for handling prepared packing and nothing else. After a train of cars had been gone over by the yard or shop doper, all packing remaining in the bucket should be placed back in the storage tank until necessary to go over the next train of cars.

A standard packing iron should be adopted with sharp forked end, and the forked end of this packing iron should be maintained in its original condition, as continual use wears down this end. The packing iron should also have a lug about twelve inches from the hand hold which is used to open box lids. A suitable pulling back hook is required for each doper on the shop tracks as well as in the train yards. A doper's outfit should consist of the following standard equipment: Dope bucket, packing iron and pulling hook.

Method of Packing Journal Boxes.—First place the prepared roll in the mouth of the box, the doper using care that he has centered the roll, then with packing iron it should be shoved back evenly under the journal so that it is in proper position when it reaches the extreme back of the box. The packing should be picked up by hand and placed across the entire mouth of box. This is absolutely necessary in order to keep the packing evenly distributed in the operation of placing same in the box. This method insures an even distribution while being placed in the box, due to feeding the packing in a continual strand under the journal (not on the sides) until the box is completely packed to the center line of the journal, straight down from the inside face of the collar. No packing should be allowed to extend beyond the end of the journal. It has been proven that the elimination of the so-called front waste plug affords the inspector a better opportunity to examine the contained parts of the journal box, as well as assisting the doper to know that when packing extends beyond the journal collar, that there is either surplus packing in the box or else the packing has worked outward. In either case, the remedy is immediately applied.

When wheels are applied, the journals should be thoroughly cleaned and the bearing surface of the brasses coated with oil. In this connection no waste, either dry or saturated, should be used in oiling the journal bearing, this to avoid any particle of waste or foreign substance remaining on the journal bearing when it is applied. Tight fitting dust guards should be applied in all cases when wheels or journal boxes are applied. Where new journal boxes or integral truck sides are applied, the interiors of the boxes should be free from scale and sand or any other foreign substance.

Care of Packing in Journal Boxes.—All passenger equipment cars are to have the packing removed, bearings examined and the boxes repacked in accordance with the foregoing instructions, as the cars go through the shops for general overhauling, or where terminal facilities will permit. Passenger equipment cars operated in through and important service must have the packing removed, bearings inspected and boxes repacked once every six months thereafter; letters "N. P.," together with the date and initials of the place to be stencilled on the right-

hand corner of outside of the truck when so repacked.

Journal boxes of freight equipment cars must have the packing removed, bearings examined and boxes repacked as the cars go through the shop or on repair branches if the stencilling indicates that they have not been repacked within nine months. When newly packed or repacked, they must be stencilled as to the date and place of repacking.

The most important part of the work for the successful lubrication of equipment is intelligent attention to the condition of the packing in the journal boxes, which, briefly, consists in loosening up the packing to avoid the hardening and glazed condition resulting from too long a contact with the journal, then loosening packing by pulling forward from sides and working it back under the journal at the center. If new packing is needed, it should be worked back under the journal from the center by this method, thus raising the portion on the sides, care being taken that it is not lifted above the center line of the journal on either side.

When a car is found with a hot box or with a mark indicating a hot box, a careful inspection must be made to ascertain the cause of heating. If the journal is smooth, apply a new brass and repack with fresh packing. If the journal is rough, a new pair of wheels must be applied. Under no circumstances must a journal which has been heated be reapplied to a car unless it is in a perfectly smooth condition. A journal which has been heated sufficiently to discolor it must never be reapplied to a passenger equipment car regardless of its condition in other respects.

The inspection and application of journal bearing wedges is a very important matter, and the writer is free to say without fear of contradiction that not more than one-half of one per cent of the journal bearings applied have the wedges renewed, and this renewal is done only where the wedge lugs are badly bent or broken. This condition would indicate that the proper inspection is not made to ascertain whether or not the wedge has any crown. All new journal bearing wedges have a crown of about one-sixth of an inch and same should be maintained to obtain good results.

Reclamation of Journal Box Packing.—All packing when removed from journal boxes should be pulled into a bucket, avoiding contact with the ground or any other place where it may pick up dirt, and taken to points designated on the several divisions for reclamation. In reclaiming packing, it should first be picked over carefully, the heavy dirt, metal, etc., shaken out, the knotted strands of waste pulled apart and then placed in the hot oil compartment of the "reclaiming tank." Not more than six to eight inches in depth of packing should be carried in the hot oil tank at any one time, as this insures thorough cleansing. Ten to fifteen minutes in the hot oil is sufficient. The temperatures of the oil must not exceed 180 degrees nor be less than 150 degrees. The height of the oil in the hot oil compartment should be maintained to within about six inches of the top so that the waste may be washed in a pool of hot oil as it is removed.

After removal from the hot oil bath it is placed on the drainage rack on the hot oil side of the reclaiming tank and allowed to drain until the oil and water are well out of it. Only a small amount of packing should be carried on the drain rack at one time in order to facilitate drainage. After proper drainage has been effected, the waste should be transferred to the cold oil compartment for resaturation, this requiring about twenty or thirty minutes. When removed from the cold oil compartment, the packing should be placed on the drainage rack in the cold oil side of the reclaiming tank and allowed to drain until it has reached the proportion of four pints of oil per pound of waste (this condition being determined by the flow of oil under light pressure between thumb and finger), when it must be placed in a storage tank to prevent further drainage.

The hot oil compartment should be cleaned at intervals of two weeks or

oftener where the volume of material handled warrants it. Oil should be extracted and all sediment removed, by pressure or drainage, and the oil thus extracted should be run through the "separator" and then returned to the hot oil compartment of the reclaiming tank.

The reclamation of journal box packing answers two very important purposes. First, it insures the material removed from boxes being placed back in them in a very much improved condition, so much so that the results obtained from its use where new journal bearings are applied have been very gratifying. These results are due in a measure to the reclaimed material more thoroughly saturated than new, also forming a more compact body, thereby conveying the oil to the journal more readily. Second, it is a check against the shop doing this work; for example, a certain shop receives 10,000 pounds of prepared packing in a given period; you should expect nearly the same amount removed from boxes as compared with that applied. If there is not received back a reasonable amount, investigation will develop that the boxes repacked have not been handled in accordance with instructions; in other words, the boxes have been overpacked, or else the material removed has been carelessly thrown away.

Truck conditions contribute very materially to the cause of journals heating on freight cars, as, for example, the absence of nuts from column bolts and box bolts. Where the nut is missing from a column bolt, invariably the arch bar springs up, throwing the weight on the journal box and putting the box out of line. Where box bolts nuts are missing on trucks passing over low joints and crossovers, it has a tendency to allow the journal bearing to become unseated from time to time with the result that packing becomes wedged between journal and bearing, also causing the journal bearings to become broken. Arch bars worn at the column and box bolt holes, allow boxes to cant inward, causing the journal bearings to ride partially on the sides of the journals. This defect of worn bolt holes is due primarily to nuts missing from bolts or nuts not drawn home, which allows the bolts to keep working upward and downward, and also to turn when the cars are in motion.

Another matter that contributes to journals heating is the absence of grease on center plates and friction side bearings. This has been found to be the case where the body side bearings wear into the truck side bearings, causing the trucks to bind, thereby throwing the weight to one side. All empty cars making shop track movement should have their center plates and side bearings greased, also loaded cars where trucks have been removed. The proper time to correct these conditions is when the cars are on home tracks.

In order to maintain standard instructions and practices at all points on any one railroad, an experienced man with authority should be assigned to follow up this work exclusively, and where this is done, a performance of approximately one hundred and fifty thousand miles per car per hot box on passenger equipment cars and thirty thousand miles per car per hot box on freight cars has been obtained. The basis upon which this performance is compiled includes cars arriving at terminals which have caused no delay, as well as those which have caused delay to the transportation department.

*The above discussion, giving directions for preparing oil and waste for packing journal boxes, also for reclaiming old packing removed from cars, also directions for the inspection of cars to the end that lubricating trouble may be kept down to a minimum, was read as a paper at the April meeting of the Car Foremen's Association of Chicago. The author is special inspector of the New York Central, Buffalo.*

# "Oh! What Will the Harvest Be?"

By LYSLE M. FORNEY, Brakeman, Joplin

DID you ever see this poster—"Prevent Loss and Damage to Freight and Avoid Claims"? It seems as though this has about as much effect on some people employed in the handling of freight as pouring water on a duck's back. It is these people who are directly or indirectly responsible for the issuance of this poster. It is a popular pastime of a few to rear back and wink a knowing eye and say, "I know," but they are the least interested. If they were serving in a capacity where rough handling, loss and damage occurred, they would surely do what was in their power to eliminate this unnecessary fault, or carelessness, whatever the poster is intended to mean, and do something to prevent it instead of saying, "I know."

Recently I saw an article published in an Eastern paper of train crews costing the railroads many thousands of dollars annually by loss and damage to freight by rough handling. The writer of this article might conscientiously say this, and probably has seen it, but train crews are not directly responsible. It is admitted that cars, especially merchandise cars, are ofttimes "kicked" or handled too rough, but they are not directly responsible for the greater portion of the damage. Merchandise cars are usually handled more on a trip than any other cars of a train. It doesn't take a Sherlock Holmes to detect where the loss and damage starts from, but don't attribute too much to train crews. Understand, I am not saying that they are immune from rough handling, but if you want to be thoroughly disgusted, make a trip on a local merchandise run. I've seen cars to be opened at the first breaking station with two or three cleats on a door—cleat nails—not nails, spikes, driven into the door so far that when last cleat from car was pried loose, you couldn't get door opened for spikes gouging into sacks of sugar, or whatever happened to be in the door, and it was utterly useless to try to open the opposite door, for merchandise looked as though it had been blowed in there instead of trucked.

Well, after you take up twenty or thirty minutes of valuable time opening the door, your real fun commences. Two men boost you up into the car on top of the merchandise to look for the station's pieces. You have to be a contortionist to wiggle through some of the tight places looking for your two pieces. Your great trouble is not in unloading, but in finding. In the door is stacked Ft. Scott, Wichita and Columbus merchandise, and you are looking for Kansas City stuff. You invariably have to unload the car and find pieces you want up in the corner. Then you reload the car. You try as you reload to separate it into the places where it belongs. This requires handling. By the time this is gone through with three or four times, merchandise is not in the condition it was when it left its originating point, but its originating station checks merchandise in O. K. It is, at the time, but when you have to go through with this improper loading several times, what does it do? You have lost thirty or forty minutes, handled the merchandise a number of times, and the result is the poster—Prevent Loss, etc.

According to cars I have seen unloaded, when they were originally loaded the person who did the loading evidently could not have told you whether Columbus was in the U. S. or Asia. Your great trouble is not in unloading, but finding and excess handling, and it is always taken for granted by a train crew that a car will have to be practically unloaded three or four times before the contents could be arranged in shipshape.

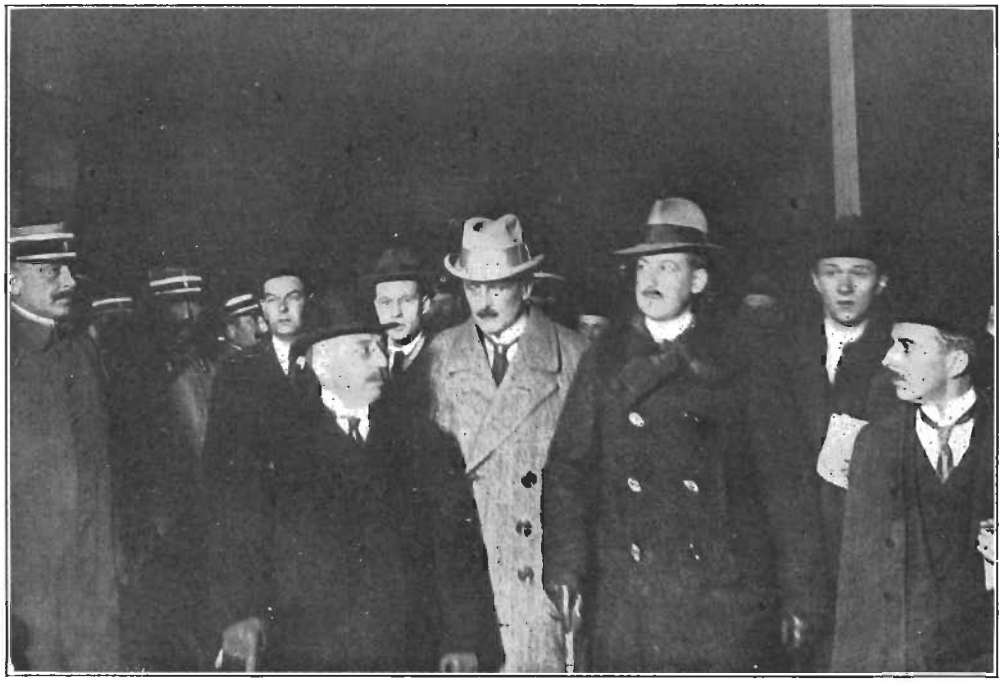
When you find a car in this condition, and you have one piece for the station at which you have arrived, you search for the one piece about ten or fifteen minutes, and cannot find it. You are losing time. You let it go, hoping to find it at the next station, and so on, with the result that it is oftentimes not found, and when it is, it is in a smashed-up condition and results in a loss.

I've heard certain men say, "Yes, we are going to remedy this," but invariably

conditions are not bettered. I can cite instances, one in particular, where a train was delayed one hour and thirty minutes in locating and unloading four pieces of perishable, P. H. O., weighing 139 pounds. Someone or something was at fault. Where was it? What was this unnecessary delay caused from? Rough handling? No. Go back to the loading of the car and you will find the trouble in a majority of cases.

Show one division, or part of a division, over which an exclusive merchandise run plies and where cars are properly loaded, and you have shown a division or sub where very few delays occur, and where there is very little damage and loss to freight. On the other hand, where there is carelessness in loading it, breeds carelessness in unloading, and a continued disinterestedness and indifference is brought out and no one seems to care.

It is just as easy to load cars properly. Suppose I went to a concern for employment, produced my recommendations and was employed. I started to work, and did it as carefully as I knew how. I find, after several weeks, carefulness is not a thing to be considered, but in its stead things were done sufficiently well to "get by." Someone or something is at the bottom of this. There is a root to all evil, and to justify your conscience, if you have any, or your position, this root should be eliminated, but I am not the man to eliminate it. I am merely a cog in a large machine. I am not endowed with the authority to stop it. I might make suggestions, but my suggestions are too often not taken seriously. I can see it, but I can't stop it, and so it continues. With no restraining hand to stop this waste, I gradually and unconsciously fall into the rut or pace set by my more experienced fellow-workers. I abide by their teaching, I am weak to do this, but nevertheless, I am following them. Then there comes a man to investigate conditions. He sees them to a certain extent, but he probably has not served in the position of one that sees these practices day after day—no practical experience. Immediately he issues bulletin posters to stop this evil. He instructs the man in command to stop



THE FIRST PICTURES OF THE ARRIVAL OF GERMAN PEACE DELGATES IN PARIS

This is the first picture to arrive in this country of the arrival of the German plenipotentiaries in Paris, April 29th. In the center, with the light overcoat, is Count Brockdorff Rantzau; to his left is Baron Von L. Ersner. The short man with the derby, to his right, is Chaleil, who is the prefect of the Seine et-Oise district.