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THE HANDLING OF EXPEDITED FREIGHT

BY

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CHAPTER I.

THE HANDLING OF FAST FREIGHT.

I. THE HANDLING OF FAST FREIGHT.

Up to eight or nine years ago the movement of freight traffic was influenced quite largely by the varying and discriminatory rates offered by the railroads, by the granting of rebates, by the issuing of free passes as a consideration to obtain traffic, and by other practices that have been widely ventilated; and the question of the handling of merchandise or less-than-carload shipments was a secondary consideration. Today, owing to the strict regulation of freight rates by the Interstate Commerce Commission and by the various State Commissions, the common carrier has no particular inducement to offer in respect to rates. The railroads are more than content to maintain a common standard of rates and the competition between the different roads is in service and facilities rendered. Therefore in the solicitation of business, the carrier must present to the shipping public features representing the quality of transportation rather than the price thereof; and special attention must be given to the receiving, loading, expeditious transportation and delivery of less-than-carload freight. The service should be rendered commensurate with the rates charged therefor and shippers and receivers should obtain as equitable service, both on carload and less-than-carload shipments, to local as well as to competitive points as physical conditions and intelligent management will permit.

As has been said, the railroads since the Hepburn Act of 1906 have had nothing to offer but service, and service means not only the mere handling of goods offered for movement from one point to another, but to receive these goods at the point of

origin and to actually deliver them at the point of destination in the same good order and condition in which they are received; the railroad, if called upon, must furnish the consignor or consignee with any information wanted with reference to the shipment, either while in transit or after transportation has been completed, and in the event of a failure to deliver the goods at destination in the same condition in which they were received, to then and there discharge the liability for all loss or damage for which it might be responsible.

Freight is classified according to character of service into: Expedited or Quick Dispatch, Time Freight, Slow Freight, and Local Freight.¹

Expedited or Quick Dispatch freight usually includes perishable freight, live stock, freight in bond, and all mixed lots of merchandise, whether in carloads or less. It is handled by special-service trains which are so loaded as to permit fast time being made. As the trains are scheduled, regular movement, in addition to fast movement is secured. Provision is made for a special service in the way of re-icing, heating, etc., in the case of perishable freight and for the feeding and watering of live stock.

Freight which requires regular movement rather than fast movement is classified as Time Freight. Each time-freight train is run on a schedule and it is possible for the consignor to determine, with reasonable accuracy, the time required for the movement of freight from the point of origin to the point of destination.¹

¹ Byers-"Economics of Railway Operation", p. 452.

Slow freight consists principally of raw materials, such as coal, ore, broken stone, pig iron, etc., the usual requirement on the part of the consignee being the receipt of a certain quantity of this class of freight at certain definite intervals of time, rather than the receipt of any particular car-one car of coal of the same quality answering the purpose as well as any other car.¹

Freight which makes its first movement from the point of origin to the first terminal yard enroute, or its last movement from the last terminal yard enroute to the point of destination is classified as local freight. It is moved on regular scheduled trains which are expected to stop at all points where freight is to be received or delivered.

Freight is classed according to quantity as car-load or less-than-carload shipments. The car-load shipments are loaded by the consignor and unloaded by the consignee, the cars being delivered for loading and unloading at the various team tracks or industrial tracks, as the case may require. Less-than-carload shipments are delivered by the consignor to the freight-house of the railroad company, and are delivered by the railroad company to the consignee at the freight-house, the handling from the freight-house to car and from car to freight-house being performed by the railroad company at its expense; consequently, the rate for less-than-carload shipments is higher than the rate for carload shipments.²

The scheduling of special service trains of Quick Dispatch, Time and Local freight is a very important step in the

¹ Byers, "Economics of Railway Operation," p. 452.
² Ibid., p. 451.

development of a railway freight service. The effectiveness of freight service depends upon the skill and efficiency with which this work is performed. Many conflicting conditions are to be met with and the resulting schedules should represent the most perfect operating practices that can be obtained.

In any fast freight service the traffic and transportation officers should co-operate in their endeavors to establish and maintain a system which will be so attractive to the shipping public that they will have no hesitancy in offering their goods to the railroad for transportation. The local shipments, or rather the shipments to local non-competitive points, must be given the same consideration that is given to the large competitive centers as far as the volume of traffic and economical operation will permit.

In the development of an expedited freight service two distinct features must be borne in mind: first, there must be a prompt and regular service; second, there must be a system for keeping in touch with the movement of the freight so that the consignor or consignee can be informed in regard to the location of any particular shipment.

To establish a prompt and regular service, the scheduling of the fast freight trains must be given the most careful consideration. There must be a definite time allowed for transit and it is essential that the prescribed speed be such as can be maintained with regularity. The capacity of the engine that is to haul the train should be such as will enable it to make approximately the average grade speed of five miles per hour on maximum grades. A proper inspection should be made to prevent other than the

authorized commodities going in the fast freight trains. Cars traveling in fast freight trains should be readily distinguished by red side-cards and red way-bills should be used; the color immediately attracts the attention and prevents the overlooking of the car. Authorized fast-freight should be kept out of trains of ordinary freight and there should be an agreement with connecting lines for prompt and complete delivery of fast freight from or to such lines. Full information must be given in the case of icing, heating, etc., for the protection of perishables and for the feeding and watering of live stock.¹

Necessary preference should be given to all fast freight at the division yards so as to avoid stops and delays. Proper switching facilities should be provided and the changing of engines and crews should be prompt.

In order that the consignor or consignee may be kept informed as to the movement of any particular car, the movement of each individual car must be followed from the time it leaves the point of origin until it is delivered at the point of destination. To this end, the agent at the point of origin telegraphs to the office, which supervises the handling of fast freight, the numbers, initials, contents, and destination of each car of fast freight at his station ready for movement, and the yardmaster wires the number and initials of each car of fast freight in each fast freight-train leaving his yard. Full reports and records are made of all cars set out short of destination for any reason and prompt action is taken to have them moved as soon as possible. Reports are

¹ Droege, J. A., "Freight Terminals and Trains", p. 165.

also made of the forwarding of these cars. When a train arrives at the end of its run, a telegraph report is sent to headquarters giving the number of fast freight cars in the train on arrival, together with the number picked up and set out enroute.

All of these telegraphic reports made by the station agents, yard masters, or conductors handling the expedited freight are transmitted to the central office in charge of the superintendent of transportation, superintendent of car-service, or any other proper official and the information given makes it possible to check and follow up the movement of each individual car.

Two general methods of control from the central office are in use--the manifest train board and the loose-leaf record.

One type of manifest train board is that used by the Great Northern Railway. The board, which is about sixteen feet long, is divided into sections representing each operating district or division, the names of all the principal terminals being shown on it; small iron rods run across the board and on these are carried boxes containing the car numbers, each box representing a train. The upper half of the board is used for eastbound trains and the lower half is used for westbound trains. As the train proceeds and reports are received from the designated stations the box is moved to show the location of the train. The symbol numbers are placed on the ends of blocks and each block carries a number of paper slips, on the uppermost one of which is noted all necessary information, such as the car number, originating point, contents, destination, and memorandum of delays. The advantage of this type of board is that all the necessary information is carried with the

symbol number, and no time is lost in looking up information relative to delayed cars.¹

Another type of manifest train board is used by the Atchison, Topeka & Santa Fe Railway, the Illinois Central, the Chicago, Burlington and Quincy, the Grand Trunk and various other roads.² As usual there is a long board, with the train districts and terminals indicated on it. Whenever a report is sent to the car service agent's office, showing the forwarding of fast freight in a certain train, a train is made up on a board 7 in. x 7½ in., which is bored full of holes to contain the plugs which are marked with the code letter and number corresponding to the code letter and number assigned to each coding station. After the train is made up it is hung on the board between terminals, in accordance with the location of the train. The board remains in this location until its train is reported out of the next terminal, when the board is again moved. When the train arrives at some terminal and cars are delivered, the plugs representing these cars are placed in cases provided for them. If a car is set out between terminals, or fails to go forward from a terminal in its proper train for any reason whatever, a set-out report is made and sent to the office; this report is plugged, together with the code letter, number and destination in the manifest train board at the point where the car is set out and remains there until a report is received showing the forwarding of the delayed car. A car of fast freight which has started must appear somewhere on the board, either in a train, in a

¹ "Railway Gazette", vol. xxxix, Sept. 8, 1905, p.222.
² Ibid, Sept. 1, 1905, p. 208.

terminal yard, or set out at some intermediate station. After the various reports, which are sent in to show the movement of the train, are checked with the board, they are filed in drawers for reference.

The loose-leaf record method may be illustrated by the practice of the St. Louis and San Francisco Railroad, the Erie Railroad, and the Rock Island Lines.¹ The St. Louis and San Francisco substituted the loose-record sheets in place of the train board because the latter did not give a permanent record which could be consulted easily later on. The loose-leaf record method makes it possible to answer tracers days or weeks after a fast freight train has reached its destination. Each sheet shows the number of cars in each manifest train, the symbol, initial, number, contents of each car, point of origin, consignee, final destination, point where the car leaves the line and the route beyond, the time of arrival and departure at each symbol station and the date of set outs and pick ups. One of these sheets is used for recording the day's movement of manifest freight from each manifest station. The sheets are bound in book form for filing. A sample of the loose leaf record used by the Rock Island Lines to record the movement of "Red Ball" freight is given on page 9.

¹ "Railway Gazette", vol. xxxix, Nov. 17, 1905, p. 467.

In the handling of expedited freight, the leading railroads of the country have adopted various systems by which this class of freight is handled by special and regular train service; distinctive freight billing methods have been devised. The St. Louis and San Francisco Railroad--popularly known as the Frisco--has made special arrangements to facilitate the movement of fast and merchandise freight by classifying freight of this nature as "Red and Green Ball Freight" and the system of handling Red and Green Ball Freight is known as the Red and Green Ball system. The Atchison, Topeka, and Santa Fe Railroad classifies fast freight as "Red Ball" freight. The Chicago and North Western Railway designates its fast freight system as "Time Freight System"; the Chicago, Burlington and Quincy Railroad, as "Time and Expedite Freight System"; the Illinois Central, as "Manifest Time Freight System"; the Erie Railroad, as "Manifest Freight System"; and the Rock Island Lines, as "Red Ball" and "Gold Ball" system. The classification, in each case, is made according to the class of service to which the freight to be handled is entitled.

A description of the Red and Green Ball system of the Frisco system is given in chapter 2. In chapter 3 a description of the Santa Fe Red Ball system is given and the features of various other systems of handling expedited freight are pointed out.

CHAPTER II.

THE RED AND GREEN BALL SYSTEM OF THE
ST. LOUIS AND SAN FRANCISCO RAILROAD.

II. THE RED AND GREEN BALL SYSTEM
of the
ST. LOUIS & SAN FRANCISCO RAILROAD.¹

The present time freight system of the St. Louis and San Francisco Railroad, which has been in continuous use since July 1, 1907, was designed to supplement the Red and Green Ball system of maintaining a telegraphic record and supervision over the movement of important carload shipments. Under the old scheme, less-than-carload merchandise was handled as Red Ball freight when moving from the large commercial centers to destination, junction point, transfer or break-bulk point, but the system only extended to the arrival of merchandise at destination, transfer or breaking point; after complaints of delays to merchandise had been received, it was almost invariably found that the delay in moving from the large centers to destination, breaking or transfer point was not as great as was the delay in placing the car to the merchandise platform and unloading the freight at destination, or transferring it at the transfer point, or distributing it on the proper trains from the breaking point. It was found that there was absolutely no system or method by which the delays that were most frequent could be guarded against. The delays were not discovered until the shipper or consignee had made complaint.

It therefore became necessary to design a system that would not only supervise the movement of less-than-carload merchandise from the point of loading to destination, transfer or breaking point, but a system that would also supervise and check the

¹ E.D.Levy, "Modernized Merchandise Handling--The Result of Specialization", Proceedings of St.Louis Railway Club, June 13, 1913.

subsequent handling and actual unloading of merchandise at the various destinations. To maintain a telegraphic record and supervision over the movement of carloads of perishables and other important freight is a comparatively easy matter; but to maintain similar supervision and record of the movement of package freight is a more difficult proposition. In the case of perishables and other high-class loads, a telegraph record of the car number is kept. In the case of less-than-carload merchandise, however, the car number is of no particular significance so far as any individual shipment is concerned. Since it was absolutely impracticable to maintain a telegraph record of each waybill for less-than-carload merchandise shipments similar to the telegraph record of carloads of the Red and Green Ball system, it became necessary for the operating officials to devise a system that would accomplish approximately what a telegraph record of every individual waybill covering less-than-carload merchandise would accomplish and yet not carry with it the immense detail that such a record would entail.

The first step, in the perfecting of the new method of supervising the handling of less-than-carload merchandise, was the reorganization of the central office. Under the old organization, practically all of the time of the chief clerk was taken up in supervising the work of the subordinate clerks; in handling special matters and a mass of miscellaneous detail. Realizing the fact that the chief clerk did not have the time available to devote to the subject of merchandise handling in less-than-carload lots, the Superintendent of Transportation of the Frisco organized his office with a general chief clerk and the following heads of departments termed chief clerks of these particular departments:

Chief Clerk, Red Ball and Tracing;
Chief Clerk, Freight Car Distribution;
Chief Clerk, Passenger Car Distribution;
Chief Clerk, Merchandise Bureau;
Chief Clerk, Weighing Bureau;
Chief Clerk, Bureau for Handling Perishable
Freight and Refrigeration;
Chief Clerk, Tonnage and Train Performance.

These department chief clerks report directly to the Superintendent of Transportation when he is in his office. When he is out of the office, they report to the general chief clerk. The advantages of this departmental organization is that each department head is educated to specialize in his particular line of work. With the department heads reporting to the officer in charge, he is kept better informed and can personally direct the handling of various important matters which formerly he would have had no personal knowledge of. Each departmental head has a sufficient force under him to properly conduct the work of the department, with the exception of the stenographic help which is pooled for the entire office--the dictaphone system being used.

Under this organization, it will be seen that there is a chief clerk, with his assistants, whose sole duty is to look after the handling of merchandise in all of its ramifications. This chief clerk specifies the schedule loading at each merchandise center and changes the schedule cars from time to time as conditions warrant. He checks the cost of handling merchandise at each loading and transfer point and follows the actual performance of the handling and movement of the merchandise in every way. Having nothing else

to do but to look after the merchandise, it follows that he should perform this duty exceptionally well and that the merchandise traffic should carry with it everywhere the earmark of supervision and intelligent management.

Under the old scheme it was seen that the system did not supervise and stimulate the movement of goods beyond the arrival of the car at breaking point. Beyond that point the car and its contents were left to the tender mercies of the yardmaster and agent. This lack of supervision often resulted in serious delays which were brought to the attention of the operating officers only after claims had been filed. The principal merit claimed for the present plan is that it makes possible the effective supervision not only of the movement of less-than-carload merchandise but of the handling of the merchandise from the time of its arrival in the yard at the Red Ball destination to its unloading on the platform for the city delivery of local offerings. The plan also expedites the work at the transfer platform and facilitates the forwarding and handling of the transfer offerings.

The commodities handled are divided into two classes-- the Red Ball classification and the Green Ball classification. Perishables, carloads of package freight, less-than-carload merchandise, all carload freight from and for California and the Pacific Coast States and for export via the Pacific Coast ports are designated as Red Ball freight. The Green Ball classification, which takes precedence over ordinary freight but not over Red Ball freight, is larger and includes new agricultural implements, ammunition, canned goods, crockery, dries fruits and vegetables, machinery, architectural and structural iron, furniture, etc. In Appendix I

will be found a complete classification of Red and Green Ball freight as issued in Circular No. 4 by the St. Louis and San Francisco Railroad.

Prior to July 1, 1907, merchandise was loaded in station order at the merchandise loading centers to peddle on local trains starting from the local terminal points. This practice was discontinued and the merchandise centers now load station-order peddler cars for local trains diverging from their own stations; the balance of freight is loaded in cars known as scrap or transfer cars and the following stations are known as transfer or break-bulk points: Springfield, Mo.; Memphis, Tenn.; Birmingham, Ala.; Monett, Mo.; Ft. Smith, Ark.; Hugo, Okla.; Paris, Texas; Dallas, Texas; Ft. Worth, Texas; Tulso, Okla.; Enid, Okla.; Sapulpa, Okla.; Oklahoma City, Okla.; Wichita, Kan.; Chaffee, Mo.

The transfer stations load set-out and peddler cars for local trains diverging from their stations and for local trains starting from other points. These cars are handled from the transfer points to the local freight train terminals in through trains during the night for movement in the local trains on the following day. The merchandise loading stations load freight, for all points served by the diverging locals from the transfer points, in scrap cars for the transfer stations. Under this plan St. Louis, Kansas City, Chicago, Springfield and other designated points make "straight" cars for stations to which the movement of traffic is large enough to justify them and make "peddler" cars for movement on diverging local trains. In addition, the large shipping stations scrap the loads to transfer stations, located as indicated above. The scrap loads consist of shipments consigned to points on the lines diverg-

ing from the transfer stations to which the business is not heavy enough to justify the loading of a straight car for any one station. When these scrap loads are received at a transfer station, they are loaded into the schedule-cars for the different stations, straight cars being made for the heavier receiving stations and Red Balled to such stations; peddler-cars are loaded in station order for the less important stations. The schedule is adjusted so that the peddler-cars will not be overloaded; this practice enables station order loading and makes it possible to set out cars at stations which regularly receive heavy tonnage, but not in sufficient volume to justify a straight car being loaded for the station. The benefit of this method of scrap loading is that the handling of the merchandise by the local train crews on the road is discontinued to a large extent. This enables the local trains to get over the road with regularity and eliminates delays and loss and damage to the merchandise. For illustration, before this system was inaugurated, a local train leaving Springfield, Mo., running south on the Willow Spring sub-division to Willow Springs, Missouri, would have one or more cars that were loaded at Springfield, two or more loaded at St. Louis, one or more loaded at Kansas City, one or more loaded at Chicago and one or more loaded at Memphis. In other words, it might have six to twelve cars of less-than-carload merchandise and practically each one might have to be opened at every station and the freight for each station dug out of each car. Under the present system a local train leaving Springfield and running to Willow Springs has merchandise cars from one point only, namely, Springfield, and Springfield loads the merchandise in a way that will best enable the local crew to deliver it at the stations with

the minimum amount of handling on the part of the train crew and with a minimum amount of damage to the freight. The distance from Springfield to Willow Springs is 91 miles, the stations in order from Springfield are: Hays, Turner, Palmetto, Rogersville, Fordland, Diggins, Seymour, Cedar Gap, Mansfield, Macomb, Norwood, Mountain Grove, Dunn, Cabool, Sargent, Sterling.

The local train from Springfield carries each day the following schedule cars:

Car No. 27, containing freight for Hays, Turner, Palmetto and Rogersville, the car being set out at Rogersville.

Car No. 127, containing freight for Fordland, Diggins, and Seymour, the car being set out at Seymour.

Car No. 28, containing freight for Cedar Gap, Macomb, Norwood, Dunn, Sargent and Sterling.

Car No. 29, containing freight for Mansfield only.

Car No. 30, containing freight for Mountain Grove only.

Car No. 32, containing freight for Cabool only.

Thus, it is apparent that the three large stations, Mansfield, Mountain Grove and Cabool, receive solid cars, which are placed to the platforms by the local train crews, and Rogersville and Seymour receive practically the same service, cars being set out there, the freight not being handled by the train crews. The crews unload the freight at the smaller stations and only one scheduled car is opened at each station. When there is not sufficient freight to justify a car being loaded for one station only, the freight for two or three stations is loaded in one car, the freight for station A being loaded near the doorway, for station B in one end of the car, and for station C in the other end. Freight

for stations A and B is unloaded at these stations and at station C the car is set out.

As has been said, under the old scheme the Frisco had in use the Red and Green Ball system for maintaining a record of important carload freight by telegraph. Not wishing to maintain a separate and distinct arrangement for supervising the less-than-carload merchandise, the merchandise system was merged into the Red and Green Ball system. Under the Red and Green Ball system there are sixty-six stations at which Red and Green Ball freight can be billed, each station being designated by a symbol letter; for instance, St. Louis is "Q N"; Springfield, "S P"; Kansas City, "K C"; Memphis, "A U"; etc.

The Red and Green Ball billing stations symbol each car of Red or Green Ball freight moving out in trains, and give it a symbol number, commencing at 1 and running up to 1000. Each station uses its numbers consecutively, regardless of whether Red or Green Ball freight is carried, commencing with the lowest number and starting again with "one" and the same symbol letter when the highest number has been reached. The cars are reported to the office of the Superintendent of Transportation at Springfield, Mo., on the "Consist 23 Report" which shows the symbol letters, number, car initial and number, point of origin, destination and, if destined to a point beyond the Frisco, the junction point and routing beyond. This "Consist 23 Report" is telegraphed to the office within thirty minutes after the train has left the station. The information contained in this report is entered in the record book. A sample "Consist 23 Report" is shown on page 19.

CONSIST 23 REPORT

Sending Operator **gt-a** Receiving Opr. **y** Time filed **10:30 P** Time sent **11:12 P**

From Station **"A" St. Louis** Date **5/17/13 "B"** 191.....

Superintendent Transportation.....

Train No. **"C" 35** Engine No. **"F" 1345** Departed at **"G" 10:00 P** M

Following cars RED AND GREEN BALL freight left this station on

Symbol Letter and Number	CAR		CONTENTS (Use clear abbreviation)	POINT OF ORIGIN (In full)	CONSIGNEE (Initials only)	DESTINATION (Full and clear)	If final destination is to a point beyond our line, give	
	Initials	No.					Junction point where it leaves our line	Routing beyond
"H"	"J"	"K"	"M"	"D"	"N"	"Q"	"R"	"S"
x-126-Q	SF	120768						
X- 48-Q	SF	120519						
QN-126-Q	KCMB	27170						
QN- 48-Q	FSM	27319						
X- 226-Q	PLE	10353						
X-26-Q	PLE	10443						
QN-26-Q	ATSF	43038						
Qn-226-2	PLE	8849						
X-27-Q	SF	41032						
QN-27-Q	PLE	9619						
X-31-Q	SF	122968						
QN-31-Q-	PLE	2730						
X-113-Q-2	MSL	6830						
X-113-Q-1	SF	34732						
QN-113-Q	GBQ	107131						
X-15-Q	CRIP	49832						
QN-15-Q	CMSP	78298						
X-28-Q	SF	145424						
QN-28-Q	SF	12508						
QN-30-Q	SF	28097						
X-30-Q	PLE	7572						
X-115-Q	SF	145225						
QN-326-P	PLE	7928						
QN-426-P	DRG	13464						
QN-227-P	PLE	3358						
QN-313-L	LSMS	27542						
QN-228-P	CMSP	63328						
QN-724	CEL	1058	paper	Chicago	APCo	Dallas, Tex	Paris,	SFT
QN-725	N & W	90421	steel	Allentown Pa	UIW	Joplin, Mo		
QN-726	WGTW	2	Tank	Chicago	EWD	" "		
QN-727	HTC	12018	Stoves	St. Louis	TBCH	Houston	Dallas	H&TC
QN-728	LR Co	1471	beer	"	JICS	Joplin		
QN-729	NCSTL	9705	twine	E. St. Louis	JMD	Cherryvale, Ks		
QN-730	FSM	27604	machy	Whitseburg	Ill BFS	Buckeye, Tx	Dallas	H&TC
QN-731	L&N	56816	bananas	Mobile, Ala	JBK	Pittsburg, Ks		
QN-732	L&N	56756	"	"	PPCo	"		
QN-733	SF	94490	St. Car	St. Louis	ACT Co	San Fran	Ellsw	UP
QN-734	ABA	10156	trailer for 94490	SF				
QN-735	SF	94478	St. Car	St. Louis	ACT Co	San Fran	Ellsw	UP

INSTRUCTIONS—This Consist Report to be made up from information shown on face of Red or Green Ball Way-Bills before each train handling Red or Green Ball freight leaves the station and to show only such cars as are handled as Red or Green Ball. Operator must telegraph this report within one hour after train has left station.

To serve the purposes of the less-than-carload merchandise system, the symbol numbers 1 to 300 are assigned to the different symbol stations, the extent of their use depending upon the size of the station. In other words, the numbers 1 to 300 inclusive are used as merchandise symbol schedule numbers, and for Red and Green Ball freight, the numbers 1 to 1000 inclusive are used.

The handling of the merchandise differs from the Red and Green Ball system in that a permanent symbol number is assigned to each scheduled merchandise car, the number indicating the breaking point or destination. The fact that the merchandise symbol numbers are followed by an alphabetical suffix designating the day on which the car was loaded and the further fact that all the reports pertaining to the handling of the merchandise omits reference to contents, origin, destination, routing, etc., preclude the possibility of any confusion.

The date symbols which are used as the suffix indicating the date on which the car is loaded are as follows:

<u>Date</u>	<u>Symbol</u>	<u>Date</u>	<u>Symbol</u>	<u>Date</u>	<u>Symbol</u>
1st by	A	11th by	K	21st by	U
2d by	B	12th by	L	22d by	V
3d by	C	13th by	M	23d by	W
4th by	D	14th by	N	24th by	X
5th by	E	15th by	O	25th by	Y
6th by	F	16th by	P	26th by	Z
7th by	G	17th by	Q	27th by	BG
8th by	H	18th by	R	28th by	BH
9th by	I	19th by	S	29th by	BI
10th by	J	20th by	T	30th by	CJ
				31st by	CK

The merchandise cars are reported on the "Consist 23 Report" by the loading station's symbol and number, followed by the date suffix. This gives all the information that would be given if

all of the columns on the "Consist 23 Report" were filled out. For example, the car or cars loaded at the St. Louis Seventh Street Station, each day, for Springfield are given the schedule car number 9, and the record for one of the cars on the Consist 23 Report might be "St. L. & S.F. 121600, QN 9, B". The "QN" indicates that the car was loaded at the Seventh Street Station, the "9" indicates that it was loaded for Springfield, and the "B" indicates that the car was loaded on the second day of the month.

Again using St. Louis as an example, if this station should load a straight car for any station that the schedule does not provide, which would be necessary on account of 5000 pounds or more of merchandise for that station, it would be given the symbol number of the schedule car into which the freight would ordinarily be loaded, with 100 added to the assigned schedule number, and the destination written in full, following the symbol.

In order that cars containing merchandise may be distinguished from those loaded with ordinary freight, a distinctive card printed in red is tacked on the doors on both sides of each schedule merchandise car. The card shows the point of origin, the schedule car symbol and number, car initial and number, gross weight of car in tons and destination. For peddler cars the breaking point instead of destination is given. The card is easily seen by all of the yard employees and indicates to them the nature of the freight in the car and the train in which it must be forwarded. A sample card is shown on page 22.

FRISCO LINES

SPRINGFIELD, MO., SCHEDULE CAR-SYMBOL S P 4

Car Initials StL + SF No. 126903 Date Carded 3-10- 1913

DESTINATION St. Louis, Mo.
(BREAKING STATION)

DETACH AT FINAL DESTINATION

MERCHANDISE

One of the important features of the Frisco method is that, as a general proposition, all waybills must accompany the freight. The agent at the billing or transfer station encloses in a "Frisco Fast Merchandise Red Ball Envelope" all waybills covering the freight loaded in a car or transferred to a car. Waybills are securely fastened together and if the car carries freight for more than one station, the waybills for each station must be fastened together. The waybills must accompany each car, conductors being forbidden to move a car unless the waybills covering it are in the envelope and the blank spaces on the latter are properly filled out. The envelopes carry, among other necessary information, the forwarding station symbol letter and number, as shown on the sample envelope on page 24; symbol letters and numbers are not placed on the waybills, they appear only on the envelope.

USE ONLY FOR SCHEDULED MERCHANDISE, MEAT PEDDLER AND LOCAL PICK UP REFRIGERATOR CARS.



Fast Merchandise Red Ball Freight WAY-BILL ENVELOPE

CAR NO. 126919 INITIALS St. L. & S F.

TRANSFERRED TO NO. _____ INITIALS _____

AT _____ DATE _____ 191

FROM St. Louis

TO Cheltenham

(Breaking Station.)

FINAL DESTINATION Valley Park

TRAIN NO. 41 TRAIN SYMBOL B

FORWARDING STATION SYMBOL LETTER AND NUMBER QN-1-A

	WEIGHT		
25	18	7	
GROSS	TONS, TARE	TONS, NET	TONS

INSTRUCTIONS.

Conductors are positively prohibited from moving a car Scheduled Merchandise, Meat Peddler Car or Local Pick up Refrigerator Car unless the Revenue Way-Bills covering are in this envelope, and blank spaces properly filled in.

When Merchandise Scheduled Red Ball Freight or Meat Peddler Car is received from connecting lines on way-bills of foreign line issue, Agents will fill out one of these envelopes and enclose the foreign way-bills, securely fastened together, making separate envelopes for each car.

When more than one way-bill for a car containing Merchandise Scheduled Red Ball Freight or Meat Peddler Car, all the way-bills must be securely fastened together and enclosed in this envelope. And on Local Pick up Refrigerator and scheduled Pick up Merchandise Cars. Conductors handling will securely fasten bills together and enclose in this envelope as the freight is picked up.

Originating agents must carefully fill in all the blank spaces.

Conductors and Yard Clerks must check the way-bills in this envelope with the Agents' endorsement and know that they agree before leaving a station or yard.

Originating Agents must keep an impression copy of envelope to assist in locating errors.

The freight covered by this envelope must not be delayed, except on account of bad order car. After it has been delayed once, great care must be taken to see that it is not delayed again en route.

Whenever it becomes necessary to set out this car on any account, Conductor or Yard Master must attach hereto a "Set Out-Car" report.

R. S. HOXIE,
Auditor Freight Accounts.

T. B. COPPAGE,
Superintendent of Transportation.

NOTE—When used for MEAT PEDDLER, LOCAL PICK UP REFRIGERATOR Car, etc., Agents will enter on blank line below any SPECIAL INSTRUCTIONS following car, such as icing, Reicing and Ventilating enroute, etc.; and on Local Pick up Refrigerators, any SPECIAL INSTRUCTIONS on set outs for loading, partly unloading, movement by Red Ball Trains, etc.

When the merchandise is scheduled to reach its destination early in the morning, not allowing sufficient time between the arrival of the car and the usual time of delivery to permit the expensing of the waybills without causing delay to the delivery, the car is moved on the "Card Waybill Envelope." This is used for fresh meat, packing-house products, fruit, vegetables and Frisco fast merchandise only.

In connection with the Red Ball system certain stations have been designated as "passing stations." These stations report to the office of the Superintendent of Transportation the arrival and departure of all merchandise and Red and Green Ball freight. These reports, known as the "Passing 52 Reports," are telegraphed immediately after the departure of the train. The reports are recorded in the loose-leaf record book, opposite the car number and symbol which were entered in the book when the Consist 23 Report was received. A "Passing 52 Report" is shown on page 26.

100M 10-13-27956

Form C. T. 127 Standard

PASSING REPORT "52" REPORT

Sending Operator AO	Receiving Operator H	Time Filed 6.30 P	Time Sent 7.15 P
		M	M

ASST. GENERAL MANAGER

From "A" **Monett**
 Date "B" **5/13** 191**3**

Freight with Way-Bills carrying following Symbol Letters and Numbers passed this station as shown below:

SYMBOL LETTER AND NUMBERS		MOVEMENT					
Lowest No.	Highest No.	Arrived			Left		
"C"	"D"	Train		Date	Train		Date
		No.	Time	"H"	No.	Time	"M"
		"F"	"G"	"J"	"K"		
QN-26-L	L	35	4.00P	13	35	6:15P	13
QN-226-L	L	"	"	"	"	"	"
X-26-L	L	"	"	"	"	"	"

Cause of Delays "K"

.....

.....

.....

O.W. Bruton. Agent or Yard-Master

INSTRUCTIONS.— This Report to be made by Agents or Yard-Masters at designated stations and telegraphed to Assistant General Manager immediately after the cars have departed. In making up the report use the lowest and highest symbol numbers with letter shown on the "Red and Green Ball Freight" Way-Bills. Make separate entries when break occurs in consecutive order.

This report must be telegraphed within 30 minutes after departure of train.

The "Set Out 21 Report" is telegraphed to the main office whenever a car is cut out of its scheduled train. The report is entered in the book record and then placed on the desk of the chief clerk of the merchandise bureau whose duty it is to see that the car is picked up by the next schedule train. A "21 Report" is shown herewith.

50 M. 5-10.-14167.

Form 100.
(Form C. T. 129-Uniform.)

SET OUT REPORT

This report to be used to report Red and Green Ball freight, set out for any reason.

Sending Operator.	Receiving Operator.	Time Filed.	Time Sent
CA	H	12:20P _{M.}	1:30P _{M.}

Spfld 21 REPORT. 5/14/13

From "A" _____ Date "B" _____ 19__

SUPT. TRANSPORTATION.
The following cars loaded with **Red and Green Ball** freight have been set out at this station:

Symbol Letter and No. as shown on Way-Bills.		By Train.		ON ACCOUNT OF (Give here exact cause for each car set out).
From Lowest No.	To Highest No.	No.	Time.	
"C"	"D"	"F"	"C"	"K"
QN-31-L-1		35	12.01P	Bad Order

Signed G.G. Thorne Position.

* Yardmasters and Conductors will use this form to report set out cars containing Red and Green Ball freight, and will be governed by Rule 21, See "Note." Give Symbol Letters and Numbers only when referring to these cars on this report.
This Report must be telegraphed within 30 minutes after being filed for transmission.

When a delayed car has been forwarded, a "Delayed Cars Forwarded 24 Report" is wired to the office of the Superintendent of Transportation. The report is entered in the book record and it is then passed to the chief clerk of the bureau who compares it with the set-out report. The chief clerk then handles by correspondence the responsibility for the car being set out, if it was set out erroneously, or without sufficient cause. A "24 Report" is shown below.

DELAYED CARS FORWARDED

This report to be used when forwarding any cars loaded with Red and Green Ball freight which has been delayed from any cause.

Sending Operator CA	Receiving Operator H	Time Filed 6.30P	Time Sent 7.10P
		M	M

24 REPORT

"B"

From "A" **Spg** Date **5/14**

ASS'T GENERAL MANAGER,
OR
SUPERINTENDENT TRANSPORTATION,

The following cars loaded with Red and Green Ball freight which have been delayed at this Station, went forward this date.

Train "C" **33** Engine "D" **3312**
6:00P
Time Forwarded "F"M.

Signature "G" **WBG**

Position "H"

SYMBOL LETTER AND NO.		SYMBOL LETTER AND NO.	
FROM	TO	FROM	TO
"J"	"K"	"J"	"K"
QN-31-L-1			

These reports, "23 Consist", "52 Passing", "25 Arrival", "21 Set Out", and "24 Report", are the forms used in the Red and Green Ball system. They were merely utilized to report merchandise symbols in approximately the same manner in which Red and Green Ball symbols are reported. The record book for the merchandise movement is maintained in a different book from the Red and Green Ball symbols and numbers, but in identically the same manner.

The clerk, whose duty it is to keep the merchandise record, must check the movement of each car. He must see to it that he receives the passing and arrival reports at the time that they are due or find out why they are not at hand. All of this is done by wire. In this way a very close supervision is kept over the movement of each individual car of merchandise from the loading station to the point of destination, junction point with a connecting line or breaking or transfer point.

A "96 Report" is made at 7 a.m. each day by all terminals and junction points with connecting lines to show the cars of merchandise, Red Ball and Green Ball freight on hand for forwarding. Besides a report being given of delayed cars, a report is made of the cars waiting for a connection. The "96 Report" is first checked by the merchandise bureau and delays to merchandise are handled by wire; the report is then passed to the Red and Green Ball department for similar handling. The "96 Report" is shown on page 31.



"96 Report"	Sending Opr. 21-22 HO	Receiving Opr. H	Time Filed 7:50A M.	Time Sent 8:15 A M.
Supt. Transportation or Car Accountant.....				
From Station "A" <u>Tower Grove</u> Date "B" <u>5-20-13</u> 191.....				
Following Cars, Red and Green Ball Freight, on hand at this Station 7:00 a. m. <u>5-20-13</u> 191.....				

Symbol Letter and Number	CAR		Date Rec'd	Hour Rec'd	Hours on Hand	Contents	Point of Origin	Consignee	Destination	Cause of Delay
	Initial	Number								
"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"	"L"	"M"
QN-12-S	M&O	403	19	7PM	12					Bad Order
	UTL	9190		6PM	13	ETank	B-Ind	SOCo	Neodesha	After 37
	M&O	45039				BMatl	Humbolt	QLCo	Republic	
	DRG	63479				Roofg	C-0	TPM	Mingus Tex	
	LSMS	86598	19	730P	12	Sash	Detroit	OWG	Okmulgee	After 37
	B&O	194118		6P	13	Autos	Toledo	WOC	Lake Charles	"

INSTRUCTIONS:—This report to be filed for transmission promptly each morning. Operator must give report best possible service, using symbols in transmitting

The "Transfer Station 32 Report" is sent from the transfer stations each day by mail to the office of the Superintendent of Transportation, reporting on the left-hand side, under the caption "Cars Received and Worked"; car initial and number, forwarding station symbol, number and date, date and hour of arrival of train bringing car to transfer station, the number of the train, date and hour at which the cars were placed at the platform. From this information the merchandise bureau can learn if there was any delay in placing the cars at the platform and in the working of the cars after they have reached the transfer station. On the right-hand side of the report, under the caption, "Cars Worked Into and Forwarded" the following information is shown: initial and number of car, symbol, number and date symbol of the cars worked into, the date and hour at which the work was finished, date and hour the train was forwarded, and cause for delay in spotting the cars. This report shows at a glance whether or not the cars have been received and worked on schedule; it also shows the schedule cars sent from each transfer station. The "Transfer Station 32 Report is shown on page 33.

In Appendix II will be found instructions covering the handling of all Red Ball Reports, as issued in Circular No. 1080 by the St. Louis and San Francisco Railroad.

TRANSFER STATION 33 REPORT.

St. Smith Ark

May 16 13

T. B. COPPAGE,
Superintendent of Transportation,
Springfield, Mo.

From Station Date

Following Cars Frisco Fast Merchandise Red Ball Freight received at this Transfer Station, worked into Schedule Cars and forwarded as indicated below:

CARS RECEIVED AND WORKED													CARS WORKED INTO AND FORWARDED										CAUSE OF DELAY IN SPOTTING CARS
CAR		Forwarding Station Mdn. Loading Schedule			ARRIVED.			Loaded at Platform		Available for Day Delivery		CAR		Transfer Station		Finished Working		FORWARDED					
Initial	Number	Symbol	No.	Symbol	Date	Hour	and Symbol	Date	Hour	Date	Hour	Initial	Number	Station	Time	Date	Hour	Initial	Number	Train No. and Symbol			
SF	126803	AU	48	M	5-15	5	A 743	5-15	2	16	9	BRP	2349	FS	1	P	5-16	630	5-15	11	X 734		
IC	131523	QN	28	N	5-16	4	A X727		7	16	11	IC	131523	FS	2	P	"	630	"	11	"		
BRP	2349	QN	228	M	5-16	4	A X727	"	7	16	9	C&EI	61763	FS	102	P	"	"	17	11	74-		
FRL	1182	X	28	N-2	5-16	4	A X727	"	7			B&O	65512	FS	3	P	"	"	"	"	"		
FRL	1469	X	28	N-1		4	A X727	"	7			IC	54362	FS	4	P	"	"	16	6	767		
A&V	21179	PB	111	I		2	A X741	"	7			SF	126748	FS	6	P	"	"	14	8	767		
SF	7941	KC	40	N		2	A X741	"	7			MoP	22585	FS	16	P	"	"	8		739		
												SK&T	12731	FS	9	P	"	"	16	8	739		
												SF	7941	FS	8	P	"	"	17		745		
												PPE	2873	FS	9	P	"	"	16		739		
												PRR	80397	FS	100	P	"	"	16		"		
												SOU	11596	FS	11	P	"	"	16		"		
												CNW	86938	FS	12	P	"	"	16		"		
												RI	50483	FS	13	P	"	"	"		"		
												FS	421	FS	113	P	"	"	"		"		
												IRC	61349	FS	14	P	"	"	11		X734		
												MoP	22585	FS	16	P	"	"	8		739		

INSTRUCTIONS.

This Transfer Station 33 Report to cover cars worked and made at Transfer Stations previous 24 hours, and must be mailed to Assistant General Manager not later than 12 hours after scheduled departure of last local freight, or at such hour as may be instructed to cover special local conditions at each Transfer Station.

Each Merchandise Car received at and forwarded from each Transfer Station must be reported on one of these blanks, with full information as called for, using as many lines as necessary to give all information. Special Care must be taken to fill in all the information called for, and use as many blanks as necessary to make the report clear, concise and intelligible, covering all Merchandise Cars received at and forwarded from Transfer Station reporting.

In reporting hours, show the nearest even hour, i. e., 4:20 o'clock should be shown as 4 o'clock; 4:31 o'clock should be shown as 5 o'clock. A. M. or P. M. should be indicated by drawing pen through A or P, as the case may be, i. e., in reporting hour as 4 A. M., draw pen through the A. In reporting 4 P. M., draw pen through the P.

Under "Cause of delay in spotting Cars," explain any unusual delay—either in spotting car to platform after arrival in yard; delay in working car; delay in pulling car from platform after ready for forward, or delay in forwarding. Also any special condition, such as omission of scheduled freight for any one or more stations, giving cause, etc.

If the date when a certain less-than-carload shipment was forwarded from a large shipping point is known it can be traced quickly through the transfer station to its arrival at destination or to its delivery to a connecting line. Under this system an immediate reply to any tracer is possible, and a check of the actual handling accorded the shipment may be made at once by wire. Frisco officials state that as a result of good handling it is now unusual for tracers for less-than-carload freight to be received.

Transfer stations make a special report of all "over" and "short" shipments and this report is promptly investigated for correction. These reports were originally handled by wire, but the merchandise is now moving so satisfactorily that the reports are sent by company mail. Transfer stations and heavy receiving stations are also required to make a daily report of the tonnage of merchandise cars loaded. This gives a daily check on merchandise loading and enables the Superintendent of Transportation to adjust the schedule of cars from time to time so as to handle the freight satisfactorily at the transfer and heavy receiving stations. The transfer stations are also required to make monthly statements of the cost of handling merchandise per ton. These statements include tonnage received, tonnage forwarded, tonnage transferred, total tonnage handled and the aggregate wages paid to the men employed in this work; figures covering the same information for the previous month and the same month of the previous year are also given.

Important stations are required to render a "Delay Report" covering merchandise received behind schedule, with full waybill reference, the car number and initial of the car in which the merchandise was originally loaded and full reference to transfers is given. This makes possible prompt investigation of indivi-

dual shipments that may have been delayed by erroneous loading or otherwise.

Statements of performance of the different fast merchandise trains are rendered semi-monthly, creating a spirit of friendly rivalry between the different superintendents. This practice has contributed materially to bringing the service up to a high standard of efficiency and makes possible an approximate schedule delivery at all points. Semi-monthly reports are also made to show the performance of the local freight trains on each division; these reports are of great value in checking the local trains so as to secure movement and delivery of package freight approximately on time.

When a schedule merchandise car is forwarded on a local freight train from a transfer station to a set-out point served by the local train or is forwarded to be peddled out by the local train, it is reported on the Consist 23 Report, the same as if it had been forwarded from one of the large merchandise centers. No arrival report is made at destination or where the car peddles out; but should the car for any reason be set out short of destination or the point where the last shipment in the peddler car is to be unloaded, the agent makes out a "Set Out 21 Report!"

Through the operation of this system the merchandise bureau can tell a shipper the location of a less-than-carload shipment while it is in transit, without having to trace the shipment by wire or letter. It is done in this way: If a shipper in St. Louis should, on the afternoon of June 13th, ask for the location of a box of shoes shipped from St. Louis on June 10th destined to Byhalia, Mississippi, the bureau would know that all freight from St. Louis

for Byhalia scrap loads on Memphis, and that the car loaded at St. Louis on June 10th for Memphis, reported on a Consist 23 Report as QN-45-J, is due to arrive at Memphis on the afternoon of the first day from St. Louis or June 11th. The car is worked at the Memphis platform on the morning of the second day from St. Louis or June 12th. The book record of the movement of the merchandise car would show if the car did actually arrive at Memphis, and the bureau knows that Memphis should load the shipment for Byhalia in its schedule car number 24, which sets out at Byhalia. The car from St. Louis should be transferred at Memphis on June 12th and the merchandise for Byhalia forwarded in the Memphis schedule car number 24 on June 13th, being reported under symbol AU-24-L, which means that the car was loaded at Memphis for Byhalia on June 12th, and scheduled to arrive at Byhalia at 10:03 a.m., June 13th. The bureau would have the Consist 23 Report which showed the forwarding from Memphis of car AU-24-L and would immediately wire or write to the party who made the inquiry that the shipment had arrived at Byhalia at 10:03 a.m., on June 13th. If the freight was delayed in reaching Memphis the record book would show this information, and if there was a delay in forwarding from Memphis, this fact would likewise be shown. If the car was set-out of the local train No. 941 before reaching Byhalia, there would be a set-out report to show this. After the inquiry has been answered from the records in the office the bureau asks the agent at destination, by mail, to advise if the shipment has arrived. If the shipment was delayed in any way and if it develops that the information given to the inquirer was erroneous, the bureau immediately wires or writes a correction explaining the error. To check up this practice in order to

determine its accuracy, all of the inquiries and mail confirmations from the agents are saved and it has been found that over 99 per cent of the information obtained from the records is correct. This fact alone indicates that, through the operation of the present plan of the Frisco, the less-than-carload merchandise is handled remarkably well. The fact that the system is operated efficiently is evidence of its practicability. The scheme confirms the idea that supervision with comparatively simple instructions is much better than multiplied instructions with less supervision. Of course this plan of merchandise handling and supervision, as outlined in this chapter, cannot be applied, in toto, to the other railway systems without a careful study of the conditions prevailing on the road to which it is proposed to transplant the plan. On some lines, a more elaborate method might be desirable, while on others, a more simple system might meet the need for a plan which would supervise the handling and movement of package freight.

CHAPTER III.
RED BALL SYSTEMS
OF
HANDLING EXPEDITED FREIGHT.

III. RED BALL SYSTEMS OF HANDLING EXPEDITED FREIGHT.

The Red Ball System of the Atchison, Topeka and Santa Fe Railway. About thirteen years ago the Atchison, Topeka and Santa Fe Railway put into general use the Red Ball system for handling all high-class and special freight with regular scheduled train service between Chicago, Galveston, Denver, El Paso, San Francisco and San Diego.¹ The list of commodities handled under this system includes nearly every class of general merchandise and perishable goods; and unless by special instructions, or in order to fill up a train to the tonnage rating of the locomotive, no dead freight such as lumber, coal, wheat, cotton or similar classifications, is handled in Red Ball trains.

Certain of the more important stations, about 100 in all, have been designated as Red Ball billing stations. Each Red Ball station is designated by a letter or letters and is assigned a series of numbers beginning with one and running up to 20 in the case of small loading stations and up to 1000 for the large loading stations, the numbers assigned depending on the number of loaded cars forwarded. These numbers are used in numbering the envelopes which carry the waybills for the cars loaded with Red Ball freight. Each billing station uses its numbers consecutively, commencing with the lowest number; when the highest number in the series assigned has been reached, the serial numbers begin over again with one and this is repeated indefinitely. These letters and

¹ "Railway Gazette", vol.xxxix, August 25, 1905, p. 184.

numbers used consecutively constitute the symbols employed in the forms and telegraphic reports used in connection with the Red Ball system.

The instructions, issued by the Santa Fe, relative to the use of these forms and reports are as Follows: ¹

Use Numbers Consecutively. Each billing station will use its numbers consecutively, commencing with the lowest number; when the highest number has been reached, start again with one and repeat indefinitely.

Red Ball Cards. The standard form Red Ball card is to be attached to every car of Red Ball freight, one on each side, by the agent at the Red Ball billing station. The card has been made 7 x 9 inches, and has set in the Red Ball, in white letters, the train number on which the car must travel. On arrival at destination these cards must be removed.

Red Ball Envelope for each Car. The Red Ball Freight Envelope must be used to enclose way-bills that accompany each car of Red Ball freight, and every empty car that may be handled as Red Ball freight, to destination; when waybills are forwarded by mail, the Red Ball card waybills must be used to accompany each car and are to be enclosed in the Red Ball card waybill envelope.

Red Ball Envelope, how numbered. The Red Ball Freight envelope or card must not be given a symbol letter and number until all of the cars which are to be forwarded as Red Ball freight are ready. The envelope covering the car for the nearest destination should be given the opening symbol number, and the envelope for each succeeding destination should be given the succeeding numbers conse-

¹ The Atchison, Topeka & Santa Fe Railway, "Circular A-227"

cutively in the same order; for example, Chicago forwards Red Ball freight on a train as follows: 1 car for Joliet, 3 cars for Pekin, 5 cars for Galesburg and 4 for Nemo; the envelopes for these cars would bear the Chicago symbol letters, i. e., "CH", the opening symbol number being one, should be given to the car for Joliet; two, three and four to the cars for Pekin; five, six, seven, eight and nine to the Galesburg cars; and ten, eleven, twelve and thirteen should be given to the cars for Nemo. The opening number for the next envelope for Red Ball freight from Chicago would be fourteen.

Consist Report. The "Consist 23 Report" is to be used by the agents at all Red Ball billing points to report by wire the forwarding of all cars of Red Ball freight. This report will be made up from the information given on the face of the Red Ball Freight Envelope. All symbol letters and numbers, and all other information called for, must be given in the proper columns and the former car number and initials must be shown if shipments have been transferred.

Set-Out Car Report. The "Set-Out Car 21 Report" must be made out and attached to the face of the Red Ball freight envelope traveling with the car of Red Ball freight wherever it is necessary that such cars be set out. This form is of a distinctive color, and will indicate to every one, when attached to the Red Ball Freight envelope, that the car has been set out and must not again be set out except on account of bad order. This report, with the envelope attached thereto, will be left by the Conductor with the telegraph operator at the point where the car is set out, and the operator will immediately wire the information given thereon to the Car Accountant. All of the information called for on this

form is to be shown thereon by the conductor leaving the car, when it is set out between terminals; when the car is held out of its proper train, at any yard, the Yardmaster fills out the form. If a car is set out at a blind siding, the report will be left at the next telegraph station, and the agent at that point must immediately notify the proper officers that the car has been left at the blind siding. Should the freight be transferred to another car, the necessary information must be entered on the Red Ball freight envelope in the place provided therefor, but no change is permitted in the original symbol letter and number; the original symbol and letter must identify the shipment to its destination.

Conductors Notify Train Masters of cars Set Out. Conductors must notify the Trainmaster by message, from the point at which a car traveling as Red Ball freight has been set out, giving initials, car number, contents, destination and cause for the car having been set out. It will be the duty of agents at points where cars are set out to immediately see that the proper officers are notified of the fact, and that everything possible is done to forward them with the least possible delay.

Delayed Cars Forwarded Report. The "Delayed Cars Forwarded 24 Report" will be used by all agents and yardmasters to report by wire to the Car Accountant the forwarding of all cars of Red Ball freight which have been delayed, showing new car number and initials opposite the symbol if the load had been transferred. The form is also to be used by all yardmaster in reporting the forwarding of cars delayed, for whatever cause, when not sent out in the proper train.

Passing Report. The "Passing 52 Report" is used by the agents or yardmasters at the following stations: Chillicothe,

Shopton, Marceline, Argentine, Ottawa, Chanute, Emporia, Newton, Dodge City, La Junta, Pueblo, Raton, Las Vegas, Albuquerque, San Marcial, Gallup, Winslow, Seligman, Needles, San Bernardino, Barstow, Bakersfield, Arkansas City, Purcell, Shawnee, Wellington, Waynoka, Canadian, Amarillo, Clovis, Vaughn, Belen, Sweetwater. The reports are telegraphed to the Car Accountant for the purpose of advising him of the passing of trains and cars carrying Red Ball Freight.

Arrival Report. The "Arrival 25 Report" is used by agents to report the arrival of cars at destination, except that Red Ball freight destined to local and branch line points is followed only to the district terminal or branch line junction point. The agents at the district terminals and junction points use the Passing 52 Report to report the arrival and departure of such freight. The agent, trainmaster and superintendent must see to it that such cars are forwarded to destination on the first proper train, and that it arrives at destination as nearly on time as possible.

Freight from Intermediate Points. Intermediate stations, i.e., stations between district terminals, forward Red Ball cars by local train to the first district terminal, there to be switched into proper Red Ball trains. Agents at non-Red Ball billing stations, having cars entitled to such billing, advise the agent at the first Red Ball billing station on the route of this fact. When the car arrives at the Red Ball station, the agent there applies the Red Ball cards, and makes all the reports relative thereto, in the same manner provided for cars originating at the regular billing stations.

Local Freight to District Terminals. Local merchandise cars traveling as Red Ball freight are redballed to the last terminal reached before distribution begins; the car then travels on a local train. For example, Chicago may load a car of local freight for points between Newton and Dodge City; this car will be redballed to Newton, where it is set out and travels on a local train to Dodge City. Agents at district terminals, where such cars are taken from the Red Ball trains and forwarded in local trains, properly report the arrival and departure of the cars on the "Passing 52 Report".

Designated Trains. Red Ball freight is handled only on trains designated to handle it, and all Red Ball freight is bunched, as far as possible, at the district terminals for movement therefrom in such trains.

Samples of the forms and reports which are used to govern the movement of the Red Ball freight are shown in Appendix III. It will be seen that they are similar to the reports used in supervising the movement of Red and Green Ball freight on the Frisco.

Under the Red Ball system of the Santa Fe, trains carrying Red Ball freight and originating at Chicago, Kansas City, Denver, El Paso, Galveston, San Diego and Richmond are known as symbol trains and bear symbol letters which show the date of departure in addition to the train number. The following key indicates the symbol letter for these trains on dates of departure:

Date	Symbol	Date	Symbol	Date	Symbol
1	A	11	K	21	U
2	B	12	L	22	V
3	C	13	M	23	W
4	D	14	N	24	X
5	E	15	O	25	Y
6	F	16	P	26	Z
7	G	17	Q	27	BG
8	H	18	R	28	BH
9	I	19	S	29	BI
10	J	20	T	30	CJ
				31	CK

For example, train No. 33 leaving Chicago on the first day of the month carries the symbol 33A clear through to San Diego, where it arrives 9 days later. The same train leaving on the second day of the month is known as 33 B and so on for each day. These symbols are used in reporting the trains or cars in the trains and in all tracing.

By giving to each car an individual waybill and number, it will be seen that such a car secures a separate and distinct identity and its movement is surrounded by checks which make it possible to immediately detect any irregularities in service and to prevent any unnecessary delays to shipments.

The system, besides checking the movement of individual cars, makes it possible to follow the movement of trains over the different divisions for the purpose of seeing that they make their running time; and to locate the division or terminal points where these trains fail to run up to their schedule.

The object of the whole system is to run all important freight through with a minimum amount of red tape and telegraphic reporting and to insure prompt delivery at destination. The Superintendent of Transportation is at all times kept informed of the location of all Red Ball freight on the road and the reason for

any delays. By running trains of high class freight through solid to destination and by bunching consignments to intermediate points it is possible to maintain maximum train loads. When necessary any train can be run in two or more sections and the deficiency in the loading of the last section can be made up from cars of dead freight consigned to the same points, a supply of which it is attempted to maintain at all times.

The Santa Fe's Red Ball system is of great value to the traffic department in the solicitation of business since this department is able to give special information to patrons regarding the movement and location of cars. Through the careful working of this system the operating department is able to bring quickly to light any improper handling of business along the line.

Another feature of the system is that the indiscriminate tracing of freight by officials, agents or anyone who may desire information, has been entirely done away with. Before the present system was put into effect it was no uncommon thing for an agent to receive four or five telegrams from different people in regard to the same shipment. Now if any information is wanted application is made directly to the Red Ball office.

1

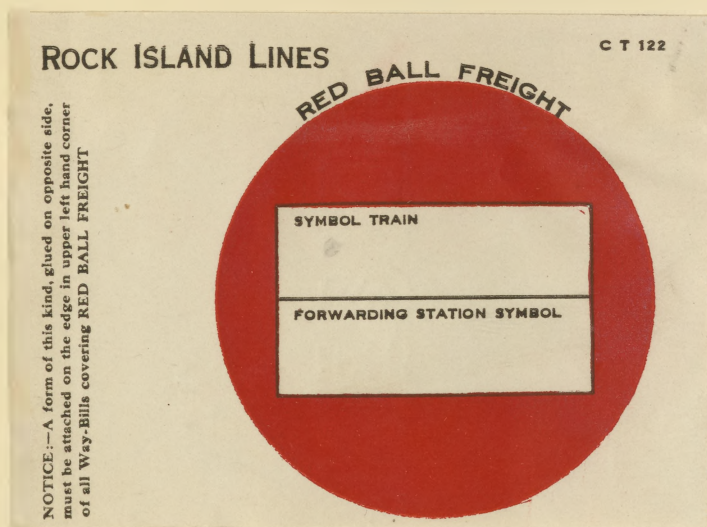
THE RED BALL SYSTEM OF THE ROCK ISLAND.

The Santa Fe's system of billing exists on various other railroads; each, however, has its own variations. The Rock Island Red Ball freight includes Asiatic freight, freight destined to or from the Pacific coast, El Paso, or south of El Paso; all

1

Dewsnup, "Railway Organization and Working," p. 458.

perishable freight; all freight in refrigerator cars under ice; all freight in bond; and mixed lots of merchandise. A special classification known as Gold Ball is given to all fruit from the Pacific coast. The methods of handling and supervision are very similar to those of the Santa Fe. However, there is one interesting exception: instead of placing the waybills, which cover the Red Ball freight, in a Red Ball Freight envelope, a Red Ball freight "sticker" is pasted on the waybill. A sample sticker is shown below.



It is claimed that the sticker attracts sufficient attention to the fact that the waybill, to which it is attached, covers Red Ball freight and that it eliminates the duplication of work which is required in filling out the Red Ball Freight envelopes.

For the purpose of keeping the agents and solicitors informed of the daily movement of all Red Ball freight, the Rock Island issues a report known as the "Daily Four O'Clock Report". The information sent in on the Consist, Set-Out, Delayed Cars Forwarded, Passing and Arrival reports is tabulated and shown in this daily report. The reports are mailed to all agents and solicitors

and the information contained therein enables them to inform shippers and consignees regarding the movement of any individual car.

SOUTHERN RAILWAY TIME FREIGHT.¹

Southern time freight is known as Manifest freight. Although nominally there is only one class of manifest freight, including all kinds of perishable freight, all merchandise, carloads or less-than-carload of package freight, machinery and live stock, and a number of other articles, as a matter of fact perishable goods really constitute a special class within the general class. Special forms are provided for the record of the movement of perishable freight and also for the record of merchandise freight in case the latter becomes delayed in transit. Except for these two items the general system corresponds quite closely to the Red Ball Freight system of the Santa Fe, which has been explained.

CHICAGO & NORTH WESTERN TIME FREIGHT.²

The general system used by the Chicago and North Western Railway in its supervision of the handling of time freight corresponds to the Santa Fe's Red Ball scheme. The Chicago & North Western has only one class of time freight which includes in all 161 articles of a valuable, perishable or otherwise urgent nature. A point of difference with the several time freight systems in use on other railroads is that the Red Ball envelope is not used. The waybills are of a distinctive color, which is all that is considered necessary to call attention to the fact that the waybills cover time freight.

1. "Railroad Gazette", vol. xxxix, Sept. 29, 1905, p.300

2. Ibid., Sept. 1, 1905, p. 208.

ERIE RAILROAD MANIFEST FREIGHT.¹

The system of handling and keeping a record of the movement of fast freight on the Erie Railroad differs fundamentally from any of the systems previously described. In order to simplify the telegraphic reporting, cars containing freight of similar classification from one point to another point are grouped together and one "manifest" or waybill is made out for the entire group, instead of one waybill being made out for each car.

All freight on the Erie is classified into four general classes--quick dispatch, time freight, continuous movement freight, and ordinary freight. Each class is billed for movement on specified trains. Quick dispatch and time freight are designated as manifest freight. The quick dispatch consists of the highest class of freight. It moves on fast through trains which are given preference over all other freight trains. The time freight moves on a slower schedule. It consists of fourth-class carload freight and certain other specified shipments of lower class freight.

Manifest freight can be billed from twenty-six authorized stations. Each manifest station numbers its manifests commencing with "1" each day. In telegraphing to the superintendent of transportation a record of these manifests, the station calling precedes its call letters by the date of the month and follows by the number of the manifest. For illustration: the first manifest reported from Jersey City on October 1st. would be sent 1-JC-1 and the tenth manifest on October 2nd., would read as 2-JC-10. The manifest covering cars for the nearest destination is given the

¹ "Railroad Gazette", vol. xxxix, Nov. 17, 1905, p 467.

lowest number, and manifests for succeeding destinations are given successive numbers. Where cars are loaded for points off the line, they are manifested under the same shipment of cars to the junction point.

Red-card bills are used for both the quick dispatch and time freight to distinguish the same from the green-card bills of the continuous movement freight and the yellow manila card bills of ordinary freight. These card bills accompany the car in transit and are delivered by the conductor to the agent at destination. If the car is set out before reaching destination the card bill is left at the set-out station with the agent and delivered by him to the conductor picking up the car on the following train.

When the train of manifest freight is ready to be made up the yardmaster or agent makes out a manifest form for each consignment of one or more cars to the different stations on the line. They are numbered consecutively and give full information as to the car numbers, initials, contents, destination, etc. They are made out in triplicate. One copy is furnished to the conductor of the train in which the cars covered thereby are to go forward. The second copy is transmitted by telegraph to the office of the superintendent of transportation within one hour after the train has departed. The third copy is indorsed with the train number, time and date cars were forwarded; this copy is sent to the agent at destination by train mail so as to reach him before the cars arrive if possible. Separate manifests are always made out for quick dispatch and time freight shipments even if the cars go forward in the same train to the same destination. The conductor's copy of these manifests accompanies the card waybills and is en-

dorsed by each conductor on the back with the time received and time delivered to the next conductor taking the train forward.

When a car is set out which is only part of the manifest, the manifest goes forward with the remainder of cars, the conductor endorsing on the face of the manifest particulars of the time, place and cause of set out. If a number of cars constituting an entire manifest are set out, the conductor's blank is left with the agent at the point of set out and it is properly endorsed with the time, place and cause of set out as before. The conductor on the following train picks up the cars, takes the manifest and delivers it with the cars at destination.

When a train handling manifest freight has departed, the yardmaster or agent fills out a "Manifest Freight Report" which shows all of the manifests forwarded on a specified train and all of the cars left behind. This report is telegraphed to the superintendent of transportation. One of these reports is made after the departure of the train from each authorized station, and this serves as a passing report. The Conductor's Manifest Freight Report is made out when the train arrives at division points; if any cars have been set out or added, this fact is noted on the report and this serves the purpose of a set-out report and a delayed cars forwarded report.

It will be noted that the essential features of the various systems of handling expedited freight described above are similar in most respects. The forms and records used are practically the same. While each system for supervising fast freight movement has several interesting and important characteristics, it must

be remembered that each method had been devised to meet the demand of a particular railroad for a fast freight service which can be handled successfully under the prevailing operating conditions of the railroad. It must be borne in mind that the fast freight service which is successful on one railroad might be a failure if the system were adopted by another road since operating conditions and practices vary on each railroad in this country.

In the handling of expedited freight the railroads have not merely given attention to the development of methods which effectively supervise and check the movement of fast freight. As has been pointed out the competing railroads now vie with each other in providing faster service and better service for competitive traffic.¹ As the great volume of such traffic is still between the principal centers of industry and commerce, more trains and faster trains are run between these cities, and as the speed of service increases the expense of service increases at a far greater ratio. Within recent years the efforts of railway operating officials have been continually directed toward improvements in equipment and in operating practice with the end in view of producing the highest class service with a low operating cost.

The improvements in equipment and in track have had a direct effect upon the handling of fast freight since a better and faster service can be provided. Developments have been made in locomotive practice to increase the economy of the locomotive so that it can haul more freight with less expenditure. The increased capacity of the locomotive, produced by the introduction

¹ Logan G. McPherson, "Railway Competition and Combination" a lecture delivered at The John Hopkins University in May, 1914.

of various types of valve gears, the application of superheated steam and the adoption of the mechanical stoker, has brought about the possibility of hauling heavier trains of freight with a fast and regular service. Attention has been given to freight-car construction and the improvements have brought about cars of greater capacity and better construction. Improvements have been made in the track and roadbed. Grades have been reduced, heavier tracks have been laid and the roadbeds have been improved. The facilities for handling the fast freight trains in the various terminal yards have been increased by providing special tracks for the classification of fast freight trains and for the arrival and departure of these trains.

In short, to operate a fast freight service successfully it is evident that besides a system which supervises and checks the movement of the freight, a great amount of attention must be given to the improvements and distribution of equipment, to the proper maintenance of track and road-bed and to improved terminal facilities.

APPENDIX I.
CLASSIFICATION
OF
RED AND GREEN BALL FREIGHT.

ST. LOUIS AND SAN FRANCISCO RAILROAD

JAMES W. LUSK, W. C. NIXON, W. B. BIDDLE, RECEIVERS

OFFICE OF SUPERINTENDENT TRANSPORTATION,

SPRINGFIELD, MO.

- CIRCULAR No. 4 -

EFFECTIVE APRIL 1ST, 1914, SUPERSEDING CIRCULAR No. 30

AND ALL SUPPLEMENTS THERETO.

- CLASSIFICATION -

- OF -

- RED AND GREEN BALL FREIGHT -

- ISSUED BY -

T. B. COPPAGE, SUPERINTENDENT TRANSPORTATION.

- O -

ALL CONCERNED:-

EFFECTIVE APRIL 1ST, 1914. THE FOLLOWING NAMED COMMODITIES
WILL MOVE UNDER RED AND GREEN BALL CLASSIFICATION TO BE BILLED BY AGENTS
ON FORMS PROVIDED THEREFOR:

RED BALL

ALL PERISHABLE FREIGHT.
ALL CAR-LOTS OF PACKAGE FREIGHT OR MERCHANDISE.
ALL CARLOAD FREIGHT FROM AND FOR CALIFORNIA AND
PACIFIC COAST STATES AND FOR EXPORT VIA PACIFIC COAST.

AUTOMOBILES.

BEER.

COFFEE.

CREAMERY AND DAIRY PRODUCTS.

EMIGRANT OUTFIT (HOUSEHOLD GOODS AND STOCK, OTHER-
WISE KNOWN AS ZULU.)
EGGS.
EXPLOSIVES.

FISH, OYSTERS AND CLAMS (FRESH).
FRUITS (FRESH).

GAME AND POULTRY (LIVE AND DRESSED,)

HIDES (GREEN).
HORSES.

ICE.

LIME.

MEATS (FRESH AND CANNED.)
MULES.

NURSERY STOCKS.
SUGAR.
TREES - NURSERY STOCK.
TABACCO,

PACKING HOUSE PRODUCTS.

VEGETABLES (FRESH).

GREEN BALL

ALL OIL TANKS, LOADED AND EMPTY, (COTTON SEED
OIL TANKS MOVE IN PREFERENCE TO ALL OTHER
GREEN BALL FREIGHT).

ALL CARLOAD FREIGHT FOR EXPORT, REGARDLESS OF COM-
MODITY OR POINT OF ORIGIN, EXCEPT FOR EXPORT VIA
PACIFIC COAST, WHICH MOVES ON RED BALL BILLING.

AGRICULTURAL IMPLEMENTS (NEW).
AMMUNITION.
AMMONIA.

BAKING POWDER,
BICYCLES.
BOOKS (SCHOOL AND CATALOGUE).
BOTTLES.
BULLION.
BAGS (FLOUR AND BURLAP OR CLAYED).
BLOOD (DRIED).
BROOMS.

CEMENT.
COTTON SEED, MEAL AND CAKE.
COTTON TIES,
COTTON BAGGING,
COTTON BATTING.
CANNED GOODS, PRESERVES, ETC.
CARS - EMPTY STORE DEPARTMENT SUPPLY CARS.
CARS - ALL EMPTY BEER CARS.
CARS - ALL H. J. HEINZ EMPTY CARS.
CARS - ALL SCALE TEST CARS.
CARS - GAS TRANSPORT.
CORN.
CREOSTE OIL.
CHEMICALS.
CONFECTIONERY.
COFFINS OR CASKETS.
COTTON (DESTINED TO ASIATIC POINTS).
CEREALS (BREAKFAST FOOD, OATMEAL, ETC.)
CROCKERY (QUEENSWARE AND EARTHWARE).

EGG CASE MATERIAL.

FERTILIZER.
FEED (ALL KINDS).
FIRE APPARATUS (HOSE, CARRIAGES, CARTS, FIRE ENGINES).
FIREWORKS.
FISH. (DRIED, PICKLED, SALTED OR SMOKED).
FRUITS AND VEGETABLES (DRIED).
FRUITS JARS AND FRUIT TOPS.
FRUIT PACKAGES.
FLOUR.
FURNITURE.

GLASS AND GLASSWARE.
GLUCOSE.
GLYCERINE.
GRAIN AND GRAIN PRODUCTS (DESTINED TO SOUTHEASTERN
POINTS, MEMPHIS AND BEYOND, AND POINTS IN TEXAS).
GRITS.

HARDWARE.
HARNESS.
HIDES (DRY).
HEATING APPARATUS.
HOUSEHOLD GOODS (WITHOUT STOCK).
HORSE SHOES.

IRON AND STEEL SHIPMENTS.
IRON ROOFING.
IRON-BAR.
IRON-PIPE.
IRON - STRUCTURAL AND ARCHITECTURAL.
IRON - SHEET.

KAFFIR CORN.

LEAD (SUB AND PIG).
LEATHER.

MARBLE (SLABS).
MALT LIQUORS AND LIQUIDS.
MACHINERY (NEW AND SECOND HAND).
MATCHES.
MEDICINE (ALL KINDS).
MINERAL WATER.
MILL PRODUCTS (BRAN-FLOUR-MEAL-FEED-CHOPS-MIDDINGS-
MIXED FEED, SHORTS AND GRITS).
MUSICAL INSTRUMENTS.

NUTS.

OILS (ALL KINDS).

PAPER.
PAINT.
PAPER HANGINGS.
PLASTER.
POULTRY BOX MATERIAL.
PUMPS.

RICE.

SASH AND DOORS.
SADDLERY.
SEEDS.
SOAP.
STAMPED OR TIN WARE.
STOVES - STOVE FURNITURE, FURNACES AND STEAM
HEATING APPARATUS.
STEEL (BAR AND SHEET).
STREET CARS.
SYRUP.

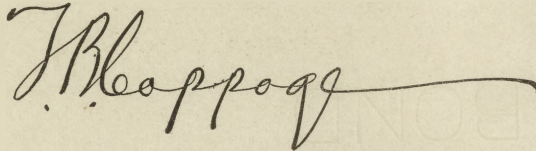
TINWARE.
TIN PLATE.
TOYS.
TRUNKS.
TWINE.
TANKAGE.

VARNISH.
VINEGAR.
VEHICLES AND PARTS THEREOF (NEW).

WINDMILLS, PUMPS AND TOWERS.
WIRE.
WHITING.
WOODENWARE.

AND OTHER COMMODITIES AND CARS AS ARE SPECIFIED
FROM TIME TO TIME BY SPECIAL INSTRUCTIONS.

THE ABOVE CANCELS AND SUPERSEDES ALL PREVIOUS RULES AND
SUPPLEMENTS IN REGARD TO COMMODITIES ENTITLED TO RED AND GREEN
BALL BILLING.

A handwritten signature in cursive script, reading "J. Blappog". The signature is written in dark ink and is positioned above the typed name of the Superintendent of Transportation.

SUPERINTENDENT TRANSPORTATION.

A P P E N D I X I I .

I N S T R U C T I O N S C O V E R I N G T H E H A N D L I N G
O F R E D B A L L R E P O R T S .

C I R C U L A R N O . 1 0 8 0 .

SAINT LOUIS AND SAN FRANCISCO RAILROAD
OFFICE OF ASSISTANT GENERAL MANAGER

CIRCULAR NO. 1080 SUPPLEMENT 2

~~REVISED INSTRUCTIONS COVERING THE HANDLING OF RED BALL REPORTS~~
~~CANCELLING ALL PREVIOUS INSTRUCTIONS~~

Springfield, Mo., January 5, 1914.

ALL CONCERNED: -

"23" CONSIST REPORT FORM CT-123

23 consist report must be rendered this office from the red ball symboling stations named below, covering all cars of Red and Green Ball commodities forwarded, as per circular No. 30 and supplements, which have not already been symbolized, whether or not the loads originate at such station. All information called for on this report must be shown in all cases.

(Reports to be sent by wire from the following stations)

Aberdeen	Paris	Irving	East Thomas
Birmingham	Tupelo	Ellsworth	Dallas
Snyder	Yale	Ft Worth	Oklahoma City
North Ft Worth	Altus	St Louis	Hope
Harvard	Chaffee	Wichita	Medora
Kansas City	Hayti	Hugo	Quanah
Sherman	Waynoka	New Albany Miss	

(Reports to be sent by mail from the following stations)

Ocmulgee	Seligman	Ft. Scott	Neodesha
Madill	Afton	Jonesboro	Cherryvale
Clinton Mo.	Tulsa	Memphis	Holly Springs
Monett	Sapulpa	Arkansas City	
Fayetteville	West Tulsa	Enid	
Ft Smith	Snyder	Joplin	

Symbols must be shown separately and in numerical order at all times and an accurate record kept to preclude the possibility of symbols being duplicated.

This report should be made in duplicate and a copy retained for records.

When cars are picked up by passing trains, during the night when the agent or a representative is not on hand, Conductors are required to leave a slip in the waybill box

showing time car went forward in order that consist 23 report may be made showing the exact time of departure.

EXCEPTIONS

It will not be necessary to render 23 consist report covering Red and Green Ball short loads. A short load is a car that is destined to a point on the Sub-division on which the Red Ball symbol station is located.

When a short Red or Green Ball load is set out a 21 set out and 24 forwarding report should be made and instead of symbol show initial and number of car, origin, destination and commodity.

SYMBOLING WAYBILLS AND WAYBILL ENVELOPES

All symbol letters must be applied to waybills and waybill envelopes covering Red and Green Ball freight by station symbol stamp. Should station symbol stamp become lost, make regular requisition to replace same immediately and advise this office. In the absence of stamp symbol numbers must be applied to waybills and waybill envelopes with ink; pencil must not be used under any circumstances.

Symbol numbers commence with No. 1 and run consecutively to 999, starting with symbol No. 1 the first day of each month.

Agents at non-symboling stations will leave a space for station symbol letters and numbers, blank space to be filled out at first symboling station enroute; and conductors should refuse to handle any car of Red and Green Ball freight beyond first symboling station, unless it bears station symbol letters and number.

Above instructions cover all Frisco Fast Merchandise regular schedule cars, except that it will be sufficient to insert symbol letter, number and date symbol letter on face of waybill envelopes in which waybills are enclosed, and not necessary to insert this symbol on each waybill.

"25" ARRIVAL REPORT FORM CT 128 STANDARD

25 arrival report must be rendered this office as outlined below on arrival of cars of Red and Green Ball Freight at final destination or where delivered to connecting lines.

When cars are set out during the night, or when the Agent or a representative is not on hand, conductors are required to deposit a slip in the waybill box showing the exact time car was set out.

(Reports from the following stations to be sent by wire)

<u>Station</u>	<u>Time to be filed</u>	<u>Station</u>	<u>Time to be filed</u>
Ft Worth	7:00 AM	Sherman	6:00 AM & 6:00 PM
Dallas	7:00 AM	Wichita	8:00 AM
New Albany	6:00 AM	Tupelo	6:00 AM
Tower Grove	7:00 AM, 3:00 PM & 11:00 PM	Chickasha	7:00 AM
Oklahoma City	12:00 Noon	Sapulpa	6:00 AM & 6:00 PM
Tulsa	6:00 AM & 6:00 PM	West Tulsa	6:00 AM
Blytheville	7:00 AM	Chaffee	9:00 AM & 9:00 PM
Kansas City	7:00 AM, 3:00 pm & 11:00 PM	Hugo	7:00 AM
Okmulgee	6:00 AM	Harvard	7:00 AM & 7:00 PM
Yale	6:00 AM & 6:00 PM	Ft. Smith	7:00 AM & 7:00 PM
Poteau	6:00 AM	Enid	8:00 AM
	Waynoka - As soon as cars arrive		
	Muskogee do		

Where only one time is shown, it means that only one report a day should be rendered; where two times are shown it means two reports and where three times are shown it means three reports; which cancels your present instructions to render arrival reports as soon as cars arrive.

Reports from the stations on the following subdivisions should be rendered by wire:

- Sherman Sub
- Arkinda & Aramore Sub
- Arthur Sub (Money Jet to Paris, Inclusive).
- Burrton Sub
- Chickasha Sub
- Hobart and Enid Subs
- Birmingham Sub
- Leachville Sub
- Hoxie Sub

Reports from all other stations should be forwarded by mail.

"52" PASSING REPORT FORM OT 127 STANDARD

52 Passing Report must be rendered by all stations listed below, covering all cars of Red and Green Ball freight after cars have departed from such stations.

(Reports to be sent by wire from the following stations)

Sherman	Hugo	Francis
Paris	Oklahoma City	Hayti
Afton	Snyder	Madill
Chaffee	Yale	Sapulpa
Harvard	Beaumont Jct.	Wichita

(Reports to be sent by mail from the following stations)

St. Louis	Joplin	Olathe	Mountain Grove
Dallas	Heodesha	Enid	Fayetteville
Cape Girardeau	Tulsa	Seligman	Muskogee
Winfield, Ala	West Tulsa	Aurora	Ft Smith
Beaumont Jct.	Vinita	Monett	Rogers
Carl Jct.	Daxter	Jonesboro	
Columbus	Ft Scott	Willow Springs	

"21" SET OUT REPORT FORM 100

21 Set out Report must be rendered by Agents or Yard Clerks, covering all cars of Red and Green Ball Freight set out at intermediate stations and terminal points where "96" reports are not made covering cars delayed for any cause. Copy of set out report must be attached to billing. Reports covering merchandise and perishable must be rendered this office by wire and the balance should be forwarded by mail.

"24" DELAYED CARS FORWARDED REPORT FORM 104

24 delayed Cars Forwarded Report must be rendered by Agents or Yard Clerks by wire covering all cars of merchandise and perishable freight, which have been delayed for any cause and covering which 21 set out report has been rendered. 24 reports covering all other cars should be sent by mail.

"96" REPORT FORM OT 112

96 Report should be rendered at 6:00 PM from stations noted below covering Red and Green Ball loads on hand at that time, whether or not they be symbolized, except where permission has been secured to close report at a different hour. All information called for on the report must be shown in all cases and

special care should be exercised to see that the true cause of delay is shown.

Afton	Amory	Enid
Chaffee	Crystal City	Fayetteville
East Thomas	Ft Smith	Francis
Fayette Jct.	Ft Scott	Kansas City
Hugo	Jonesboro	Monett
Lebanon	Madill	Olathe
Memphis-Harvard-Yale	Newburg	Paris
Hoodesha	Okaulgee	Springfield
Oklahoma City	Sherman	Thayer
Sapulpa	Tupelo	Waynoka
Tower Grove	Wichita	
W.Tulsa - Red Fork	Birmingham	

- - N O T E - -

Great care should be exercised in compiling red ball reports. Symbol letters and numbers must be clearly shown. If this feature is watched closely, considerable confusion and unnecessary correspondence will be obviated.

In order to make a success of this plan of mailing reports, it is very essential that the reports be made out on the prescribed forms and enclosed in the proper envelope and forwarded on the first passenger train. Station name should be written out in full and reports must be dated.

If you haven't a supply of red ball forms on hand, make requisition at once.

E. D. Levy,

Assistant General Manager.

A P P E N D I X I I I .

S A N T A F E R E D B A L L F O R M S A N D R E P O R T S .

SANTA FE.

RED BALL FREIGHT

THIS CAR MUST BE KEPT IN

TRAIN

CARDING STATION

CAR INITIAL _____ NO. _____

DATE CARDED _____ 19____

DESTINATION

<p>WEIGHT OF CAR AND LOAD IN TONS.</p>
--

THIS CAR MUST NOT BE DELAYED EXCEPT ON ACCOUNT OF BEING IN BAD ORDER.

Use Black Ink in Issuing Red Ball Cards and Envelopes
FORM 1848 STANDARD.

Santa Fe

Way-bill No. R. B.

RED BALL FREIGHT

Initials _____ Car No. _____

Transferred to _____ Car No. _____

At _____ Date _____ 191 _____

From _____

To _____

Final Destination _____

Routing _____ R. R.

Contents _____

Consignee _____

Consignor _____ Weigh at _____

Stop Car at _____ For _____

ICING, VENTILATING OR SPECIAL
INSTRUCTIONS

Stated Refrigeration \$ _____

Train No. _____ Symbol Letter _____

Forwarding Station Symbol Letter and No. _____

WEIGHTS AS BILLED.

In this space Billing Agent will enter weight of car (tare), weight of load and total.

Of Car _____

Of Contents _____

Total _____

SCALE WEIGHT AT

Gross _____

Tare _____

Net _____

REFERENCE TO REGULAR WAY-BILL } Date _____ 191 _____ No. _____
Station from _____
Reported _____ Week _____ 191 _____

READ INSTRUCTIONS ON OTHER SIDE.

Agent will enter on blank lines below, any SPECIAL INSTRUCTIONS following Car, such as stopping for ICING Etc.

B I B L I O G R A P H Y .

BYERS, M. L., "Economics of Railway Operation!"

DEWSNUP, E. R., "Railway Organization and Working!"

DROEGE, J. A., "Freight Terminals and Trains!"

JOHNSON & HUEBNER, "Railroad Traffic and Rates!"

LEVY, E. D., "Modernized Merchandise Handling--the Result
of Specialization!"

"Railway Age Gazette", vol. xlvii, Oct. 29, 1909, p. 799.

"Railway Age Gazette", vol. xlix, Aug. 26, 1910.

"Railroad Gazette", vol. xlii, Feb. 15, 1907, p. 212.

"Railroad Gazette", vol. xxxix, Aug. 25, 1905, p. 184.

"Railroad Gazette", vol. xxxix, Sept. 8, 1905, p. 222.

"Railroad Gazette", vol. xxxix, Sept. 29, 1905, p. 300.

"Railroad Gazette", vol. xxxix, Sept. 1, 1905, p. 208.

"Railroad Gazette", vol. xxxix, Nov. 17, 1905, p. 467.

"Railroad Gazette", vol. xxxix, Aug. 18, 1905, p. 158.

"Railroad Gazette", vol. xxxix, Nov. 17, 1905, p. 467.

I N T E R V I E W S .

Interviews were held with the following Railway officials in regard to the various methods used by the different railroads in the handling and supervision of expedited freight:

- Mr. C.B.Strohm, Superintendent of Transportation, Santa Fe.
- Mr. J.R.Pickering, Superintendent of Car Service, Rock Island.
- Mr. J.A.Middleton, Vice-President, Lehigh Valley Railroad.
- Mr. G.W.Kirtley, Superintendent of Transportation, Erie Railroad.
- Mr. L. Harold, Superintendent of Transportation, Grand Trunk.
- Mr. J.M.Daly, Superintendent of Transportation, Illinois Central.
- Mr. W.L.Barnes, Superintendent of Transportation, C.B.& Q. RR.
- Mr. E.E.Betts, Superintendent of Transportation, C. & N. W. Ry.

Communications were carried on with Mr. E.D.Levy , General Manager of the St. Louis and San Francisco Railroad in regard to the Red and Green Ball system in operation on the Frisco.